ADB

Technical Assistance Consultant's Report

Project Number: 38117
February 2006

TA 4387-INO: Preparing the Urban Nutrition Project
(Financed by the Asian Development Bank)

Prepared by: British Council

For Asian Development Bank

Asian Development Bank

ASIAN DEVELOPMENT BANK

FINAL REPORT
PPTA 4387
URBAN NUTRITION PROJECT

REPORT AND RECOMMENDATION

OF THE

PRESIDENT

TO THE

BOARD OF DIRECTORS

ON A

PROPOSED LOAN

TO THE REPUBLIC OF INDONESIA

FOR THE

NUTRITION IMPROVEMENT
THROUGH COMMUNITY EMPOWERMENT PROJECT

Volume 1: Main Report

February 18, 2006

CURRENCY EQUIVALENTS
(as of February 2006)

Currency Unit	–	rupiah (Rp)
Rp1.00	=	$0.000101
$1.00	=	Rp 9,900

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
APBN	–	Anggaran Pendapatan dan Belanja Negara (National Budget)
APBD	–	Anggaran Pendapatan dan Belanja Daerah (Local Government) Budget
BPOM	–	Badan Pengawasan Obat dan Makanan (Food and Drug Control Agency)
Bappelkes	–	Balai Pelatihan Kesehatan (Health Training Center)
BAPPEDA	–	Badan Perencanaan Pembangunan Daerah (Regional Planning and Development Agency)
BAPPENAS	–	Badan Perencanaan Pembangunan Nasional (National Planning and Development Agency)
BCC	–	Behavior Change Communications
BCR	–	Benefit Cost Ratio
Binkesmas	–	Directorate General of Community Health
BKP	–	Badan Ketahanan Pangan (Food Security Agency)
BME	-	Benefit Monitoring and Evaluation
BPGD	–	Badan Perbaikan Gizi Daerah (Regional Nutrition Improvement Board)
BPS	–	Badan Pusat Statistik (Central Bureau of Statistics)
BULOG	–	Badan Urusan Logistik (National Food Logistics Board)
CBO	–	Community Based Organization
CBINP	–	Community-Based Integrated Nutrition Program
CDD	–	Community Driven Development
CEA	–	Cost-Effectiveness Analysis
CFT	–	Community Facilitator Teams
ComG	–	Community Groups
CPMU	–	Central Project Management Unit
CPSU	–	Country Programming
CTST	–	Central Technical Support Team
CSR	–	Corporate Social Responsibility
CWSSP	–	Community Water Supply and Sanitation Project
Dana Kompensasi BBM	–	Fuel Subsidy Compensation Fund
Dasawisma	–	10–household units
DCT	–	District Coordinating Team
DHS	–	Decentralized Health Services Project
DIPA	–	Daftar Isian Pengeluaran Anggaran (Budget Document)
DKP	–	Dewan Ketahanan Pangan (Food Security Council)
DPD	–	Dewan Perwakilan Daerah (Regional Representative Body)
DPMU	-	District Project Management Unit

DHS	–	Demographic Health Survey
Dinkes	–	Dinas Kesehatan (District and City Health Departments)
DPR	–	Dewan Perwakilan Rakyat (People's Assembly)
EA	–	Executing Agency
ECD	–	Early Child Development
EIRR	–	Economic Internal Rate of Return
FNSS	–	Food and Nutrition Surveillance System
FSA	–	Food Security Agency
FSC	–	Food Security Council
GDP	–	Gross Domestic Product
GMP	–	Growth Monitoring and Promotion
HKI	–	Helen Keller International
HRM	–	Human Resources Management
IDA	–	Iron Deficiency Anemia
IDD	–	Iodine Deficiency Disorder
IMCI	–	Integrated Management of Child Illnesses
KAP	–	Knowledge, Attitude and Practices
KDP	–	Kecamatan Development Project
KIA	–	Kesehatan Ibu dan Anak (Maternal and Child Health)
KIE	–	Komunikasi, Informasi dan Edukasi (Communication, Information, & Education,)
KMS	–	Kartu Menuju Sehat (Growth Monitoring Card)
JFPR	–	Japan Fund for Poverty Reduction
JPSBK	–	Jaring Pengaman Sosial Bidang Kesehatan (Social Safety Net for Health)
MCI	–	Ministry of Communication and Information
MDG	–	Millennium Development Goal
Menko Kesra	–	Menteri Koordinator Kesejahteraan Rakyat (The Coordinating Ministry for Social Welfare)
MI	–	The Micronutrient Initiatives
MP-ASI	–	Makanan Pendamping Air Susu Ibu (Complementary Food)
MOA	–	Ministry of Agriculture
MOF	-	Ministry of Finance
MOH	–	Ministry of Health
MOHA	–	Ministry of Home Affairs
MOI	–	Ministry of Industry
MONE	–	Ministry of National Education
MORA	–	Ministry of Religious Affairs
MOT	–	Ministry of Trade
NHHS	–	National Heath and Household Survey
NBM	–	Neraca Bahan Makanan (Food Balance Sheet)
NAP	–	National Action Plan for the Prevention of Malnutrition (2005–2009)
NGO	–	Non-Government Organization
OCR	–	Ordinary Capital Resources
PAUD	–	Pendidikan anak Usia Dini (Early Child Care and Development)
PEM	–	Protein Energy Malnutrition
Pesantren	–	Muslim Religious Schools
PKK	–	Program Kesejahteraan Keluarga (Family Welfare Movement)
POKMAS	–	Kelompok Masyarakat
POSYANDU	–	Pos Pelayanan Terpadu (Integrated Community Nutrition Service Post)
PPMS	–	Project Performance Monitoring System
PPCC	–	Provincial Project Coordinating Committee
PPMU	–	Provincial Project Management Unit

PPP	–	Public Private Partnerships
PTST	–	Provincial Technical Support Team
PUSKESMAS	–	Public Health Center
PUSTU	-	Puskesmas Pembantu (Supporting Public Health Center)
PUSDIKLAT	–	Center for Training and Education
QA/QC	-	Quality Assurance/Quality Control
RASKIN	–	Beras Untuk Rakyat Miskin (Rice for the Poor)
SKDN	–	S = Number of Total Under 5 Children, K = Number of Under 5 registered with KMS, D = Number of Under 5 attended *posyandu*/GMP services, N = Number of Under 5 had Weight Gain
SKPG	–	Sistem Kewaspadaan Pangan dan Gizi (Food and Nutrition Surveillance System)
SOE	-	Statement of Expenditure
SPM	–	Standard Pelayanan Minimum (Minimum Service Standard)
SUSENAS	–	Survey Sosial Ekonomi Nasional (National Socioeconomic Survey)
TA	–	Technical assistance
TPG	–	Tim Pangan dan Gizi (Food and Nutrition Team)
TOT	–	Training of Trainers
TWIS	-	Timely Warning Intervention System
UKS	–	Unit Kesehatan Sekolah (School Health Program)
UNP	-	Urban Nutrition Project
UPGK	–	Usaha Perbaikan Gizi Keluarga (Family Nutrition Improvement Program)
UPMMR	–	Usaha Perbaikan Menu Makanan Rakyat (Unit for People's Diet Improvement)
VAD	–	Vitamin A Deficiency

NOTES

(i) The fiscal year (FY) of the Government ends on 31 December.

(ii) In this report, "$" refers to US dollars.

CONTENTS

VOLUME 2: SUPPLEMENTARY APPENDIXES

LOAN AND PROJECT SUMMARY

Borrower	Republic of Indonesia
Classification	**Targeting classification:** Targeted intervention **Sectors:** Nutrition and health **Subsectors:** Agriculture; education; industry **Themes:** Sustainable social development; poverty, gender and development **Subthemes**: Human development; civil society participation
Environment Assessment	Category C. An initial environmental examination was undertaken and the summary IEE is a core appendix.
Project Description	The Project will provide nutrition services and facilities to about 6.0 million poor children under five, pregnant and lactating mothers, and adolescent girls in about 1,600 poor communities groups based in 8 provinces, 8 cities and 24 districts in East Nusa Tenggara, West Nusa Tenggara, West Java, West Kalimantan, South Sulawesi, North Sumatra, South Sumatra, and Banten. The Project will follow a community-based approach.
Rationale	Providing access to nutrition services is an integral part of Government's policy in improving the nutrition and health status in Indonesia and meeting the related Millennium Development Goals (MDGs). Hunger and malnutrition remain the most devastating problems facing 40% of Indonesian children. The urgency of investments in nutrition is underscored by the declining outreach of severe and malnutrition among children under five in 2005. The direct and indirect impacts could further aggravate the nutrition status and may lead to slippages in progress towards attainment of MDGs. To mitigate these impacts and aid the poor and near poor, the Government has committed resources to provide basic nutrition infrastructure and services to help avert the crisis, and provide long-term sustainable community-based nutrition improvement. Its new health sector revitalization platform entails national initiatives for: social mobilization and community empowerment; improved system performance; improved surveillance, monitoring and information systems; and increased sector financing. The Project will support expansion of the Government program in selected urban and rural areas nationwide with high poverty incidence and poor nutrition status.
Impact and Outcome	The Project's long-term objective is to improve the nutrition status of the poor children under five, pregnant and lactating mothers, and adolescent girls in rural and urban communities, and the immediate objective is to provide sustained and equitable access to quality integrated nutrition programs and services, especially for at-risk groups.
Cost Estimates	The total Project cost is $71.4 million equivalent, of which $17.6 million (25%) is the foreign exchange cost and $53.8 million equivalent (75%) is the local currency cost.

Financing Plan

($ million)

Source	Foreign Exchange	Local Currency	Total Cost	Percentage (%)
ADB – OCR/ADF	17.6	32.4	50.0	70.0
Government	-	15.7	15.7	22.0
Communities	-	5.7	5.7	8.0
Total	17.6	53.8	71.4	100.0

ADB = Asian Development Bank, OCR=Ordinary Capital Resources, ADF = Asian Development Fund,
Source: ADB estimates

Loan Amount and Terms

A loan of $50.0 million from the Ordinary Capital Resources and Asian Development Fund sources of the Asian Development Bank (ADB) will be provided.

The Libor-based-Loan facility will have a 25-year term including a grace period of 6 years, with an interest charge based on libor-based lending rates, commitment charges of 0.75% and front-end fee. The ADF loan will have a 32-year term including a grace period of 8 years, with an interest charge of 1% per year during the grace period and 1.5% per year during the remaining period.

Allocation and Lending Terms

The loan amounts will be disbursed on progress basis.

Period of Utilization

Until 31 December 2012

Estimated Project Completion Date

30 June 2012

Implementation Arrangements

The Project will be implemented over a period of 6 years. The Central Project Management Unit at the national level will be responsible for the management, coordination and monitoring of Project activities. The provincial and district level Project management units will be responsible for providing guidance to the beneficiaries in undertaking the community-based integrated nutrition improvement activities. The Steering Committee at central level, and Coordinating Committees at provincial and district levels, established for the Project, will be responsible for providing guidance and oversight to the Project. Community Facilitator Teams (CFTs) will assist beneficiary groups in planning, implementing, and monitoring integrated multisectoral nutrition programs at the grassroots level.

Executing Agency

The Ministry of Health through its Directorate General of Community Health will be the Executing Agency for the Project. Implementing agency includes Food and Drug Control Agency (BPOM).

Procurement

All goods and related services financed under the ADB loan will be procured in accordance with ADB's *Guidelines for Procurement under Asian Development Bank Loans*

Consulting Services

An estimated 305 person months of consulting services, comprising 63 person months of international and 242 person months of domestic consultants, will be recruited to assist the Government in implementing the Project. In addition, 640 persons for a period of 12 months (intermittently during the initial Project years) of village organizers (CFTs) will be recruited to provide social and technical facilitation to the communities. Consultants and facilitators will be recruited through international and domestic consulting firms, respectively. Consultants will be recruited in accordance with ADB's *Guidelines on the Use of Consultants* using the quality and cost-based system and other arrangements satisfactory to ADB for engaging international and domestic consultants.

Project Benefits and Beneficiaries

The Project will benefit about 6.0 million rural and urban at-risk population in about 1,600 community groups. The nutrition interventions include: community-based integrated nutrition program (a new UPGK), food fortification, and institutional strengthening. Main benefits are anticipated to include: (i) reduced prevalence of malnutrition particularly among poor children, pregnant and lactating mothers, and adolescent girls; (ii) improved nutrition service delivery; (iii) improved household food security; (iv) enhanced early child care and development; and (v) strengthened food hygiene and sanitation. The Project is deemed economically viable, with an average economic internal rate of return of about 27% from improved nutrition services and community driven development in the Project districts.

Risks and Assumptions

The main risks likely to be faced by the Project include; (i) start up delays; (ii) delays in budget approval; (iii) lack of adequate local implementation capacities; and (iv) benefits accruing to a few non-poor. The Project design provides for measures that should be able to mitigate or minimize the perceived risks. A phased implementation will be undertaken based on technical and geographical approaches.

Technical Assistance

The proposed Technical Assistance (TA) will entail supporting the Project implementation through food and nutrition policy and program development; strengthening institutional and human resource capacity of central and local governments to plan and manage integrated multisectoral nutrition programs; improving surveillance, monitoring and information systems; and promoting social mobilization and communications.

The main tasks under the TA are to assist in organization restructuring and organization change, improving system performance through quality assurance, and help oversee the implementation of various components under the Project through building capacity of the EA and IA's. The total cost of the TA is estimated to be $1.5 million equivalent. The TA will be implemented over the implementation period of UNP. Consultants will be recruited in accordance with ADB's Guidelines on the Use of Consultants and other arrangements for the engagement of domestic consultants satisfactory to ADB.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Republic of Indonesia for the Nutrition Improvement through Community Empowerment (NICE) Project.

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

2. In July 2004, the Asian Development Bank (ADB) approved a project preparatory assistance (PPTA) for the Urban Nutrition Project for $400,000 covering six cities[1]. The PPTA commenced in June 2005 and will be completed by February 2006. During the inception mission from 26 June to 5 July 2005, the Government requested that the scope be revised from a decentralized urban nutrition project to a national nutrition project in order to comprehensively address emerging issues resulting from the recent outbreak of malnutrition. In view of the new focus and scope, it is proposed that the project be renamed "Nutrition Improvement through Community Empowerment" (NICE) Project[2].

3. Indonesia has marked good progress in nutrition status over the past three decades. The prevalence of underweight for preschool children reduced from 46.3% in 1970s to 27.5% in 2000. VAD has been reduced substantially and IDD reduced from 30% i n 1980's to 11.1 % in 2003. Similarly, the life expectancy improved as well as infant and child mortality rates have decreased significantly. However, despite a relative decline of nearly one third in the prevalence of underweight children under five during the last three decades, this has increased in recent years. In total, about 50% or more than 100 millions of the Indonesian people are still suffering from various forms of malnutrition. Compared to other South East Asian countries the problems have been declining since 1980s, however in a slow rate. The current prevalence of malnutrition, particularly stunted children are still persistently high. Wasting was 15.2% in urban areas and 16.2% in rural areas in 2003.

4. The situation is becoming more complex with emerging problem of overweight among young children, and increasing incidence of CVD in adults, especially in urban population. Wide disparities exist across Indonesia, with rural-urban, geographical and socio-economic differentials. Malnutrition has had adverse effects on child survival and growth, women's health and pregnancy outcomes, brain development, educational achievement, adult productivity, and resistance to illness.[3] This, in turn, involves serious economic costs, which make investments in nutrition an urgent priority. The current situation poses a challenge to Indonesia's achievement of the first Millennium Development Goals (MDG) on hunger and poverty.

5. Systemic issues and decentralization has hampered nutrition program delivery. Food insecurity, inadequate water supply and sanitation, and poor health status contributes to poor nutritional status. Due to low income and low education, the poor households do not have access to food, safe drinking water and basic health and nutrition services. Community involvement and outreach activities in nutrition programs have significantly decreased. Moreover, nutrition policy development, and in program planning and management are inadequate in both capacity and institutional linkages, with no significant progress in research. The existing food and nutrition surveillance system have also been ineffective in responding to the country's nutrition problems.

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[1] Medan, Pontianak, Makassar, Palembang, Tangerang, and North Jakarta.
[2] Bappenas Intersectoral Meeting, 7 February, 2007.
[3] ADB March 2005, Special Evaluation Study on Selected ADB Interventions on Nutrition and Food Fortification.

6. Government recognizes the urgent need to address this situation. In 2005, MOH developed a National Action Plan (NAP) for the Prevention of Malnutrition (2005-2009). In line with efforts to fulfill the global accord, the government developed the health sector 2005 – 2009 medium term national development plan (RPJMN), covering the following priority programs: health promotion and community empowerment programs; health environment program; disease prevention and mitigation program; and community nutrition improvement program. One of the targets is the reduction of undernutrition prevalence to a maximum of 20% and severe malnutrition to 5% by 2009. In December 2005, MOH announced "A New Era in Revitalizing Indonesia's Health Sector" which consists of national initiatives for: (i) social mobilization and community empowerment, (ii) improved health system performance, (iii) improved surveillance, monitoring and information systems, and (iv) increased health sector financing. All of these have potentially profound impacts on nutrition policies and programs.

7. The proposed Project will provide access to nutrition services as an integral part of Government's policy aimed at improving the nutrition status in Indonesia, and in meeting the related (MDGs). The Project will support expansion of the Government program in selected urban and rural areas nationwide with high poverty incidence and poor nutrition status focusing on the abovementioned key issues. The proposed Project will be ADB's and the Government's first major nutrition Project, and the first dealing explicitly with nutrition after decentralization in January 2001.

8. The proposed Project areas include 8 provinces, and 8 cities and 24 districts in East Nusa Tenggara, West Nusa Tenggara, West Java, West Kalimantan, South Sulawesi, North Sumatra, South Sumatra, and Banten. For greater impact, the Project focuses on provinces and districts based on the following criteria: (i) population and population density, (ii) nutrition status, (iii) poverty level and poverty gap, (iv) fiscal capacity, and (v) potential partners The proposed project will entail geographic targeting, focusing on the poorest quintiles at the selected districts. Aside from the above mentioned selection criteria the relative size of district population will be used as a basis for project allocation.

A. Performance Indicators and Analysis

9. After 25 years of steady improvement, nutrition has recently worsened in Indonesia. Hunger and malnutrition remain the most devastating problems facing majority of Indonesians[4]. Problems relate not only to poverty, but also to a complex array of causal factors underlying malnutrition[5]. Malnutrition is a direct function of the nutritional intake, child caring, food safety, and the infectious disease burden experienced by the individual. These, in turn, are determined by household food insecurity, nutrition and health-related behavior, and the availability of quality health and nutrition services. Finally, nutrition is affected by a variety of social, economic and environmental conditions that underlie and help explain variations in the causal factors among different regions and population groups. There is also a strong two-way relationship between nutrition status and the frequency and severity of a number of infectious diseases, including those most responsible for death and disability among infants and young children.[6] Increasing urbanization, decentralization and the

[4] These include: (i) structural poverty[4] (15.5% of districts with very high poverty levels (>30%) and limited natural resources); (ii) low education attainment, with only 40% adult men and 30% of adult women graduating from junior secondary school; (iii) imbalanced diet and low caloric protein and micronutrient intake; (iv) high rates of smoking among males, which waste precious limited household resources; (v) lack of access to safe water– 45%; (vi) lack of sanitation facilities– 25%; and (vii) poor housing conditions – 16%.

[5] UNICEF Model, 1998.

[6] Poor nutrition, particularly inadequate intake of key micronutrients, decreases resistance to infectious diseases. This includes virtually all infectious diseases, but is particularly critical for bacterial and viral infections where immunization is not a feasible option. Conversely, frequent and/or severe bouts of illness impact on the ability to consume an adequate diet.

adoption of community-driven development (CDD) approaches in Indonesia offer a significant opportunity to tailor solutions to local needs.

i. Nutrition Status

10. Malnutrition in Indonesia remains a significant public health problem for both urban and rural populations. Trends in Indonesia's nutrition status (Table 1)[7] indicate that the prevalence of underweight children under five declined by nearly one third from 37.5% in 1989 to 24.6% in 2000. Despite this, the reduction of malnutrition has lagged behind Asian countries. Wide disparities exist in health and nutrition outcomes across Indonesia, with rural-urban, geographical and socio-economic differentials. The disparity in the proportion of underweight children under five years of age between provinces is striking, ranging from 17.9% in Bali to levels as high as 42% in Gorontalo.

11. Some evidence points to an increase in the prevalence of underweight children since 2000. In 2003, the malnutrition prevalence of children under five was 27.5% and severely underweight children 8.3%. Wasting was 15.2% in urban areas and 16.2% in rural areas in 2003, which was above the WHO critical emergency level. While the rates of malnutrition wide disparities exist in health and nutrition outcomes across Indonesia, with rural-urban, geographical and socio-economic differentials. In the selected provinces, the malnutrition prevalence in urban and rural areas is 23.9% and 28.4% respectively, which ranges from 24% (979,000) in West Java to 41,5% (43,000) in West Kalimantan. The percentage of poor in West Java is 12% (4.65 million) and in West Kalimantan is 13,8% (0.56 million). With the exception of West Java, that all selected provinces have prevalence rates above the national average. It should be noted, however, that districts in West Java are worse off than the national prevalence rate.

Table 1. Trend in Prevalence of Underweight in Indonesia 1989–2003
(Weight for age <–2 SD, and <–3SD)

	1989	1992	1995	1998	1999	2000	2001	2002	2003
<–2 SD (Underweight)	37.5	35.5	31.6	29.5	26.4	24.6%	26.1	27.3	27.5
<–3 SD (Severely underweight)	6.3	7.2	11.6	10.5	8.1%	7.5	6.3	8.0	8.3

Source: SUSENAS, Nutritional Status Component, 1989–2003

12. There are also important variations in child malnutrition by age (although interestingly not by gender). On average, child weights at birth are only slightly below international standards, but deteriorate with age, slowly over the first 3-4 months where exclusive breastfeeding is still fairly widespread, and then more rapidly, reaching their low point relative to age around 15-18 months after which prevalence of malnutrition remains relatively stable. This may be related to early cessation of exclusive breastfeeding and irregular introduction of complementary feeding (particularly of non-nutritious foods) over the next several months. DHS data for 2002/2003 shows that only about 13.9% of infants aged 4-5 months in Indonesia are still being exclusively breastfed and also suggest that maximum levels of access to nutrient-rich foods and micronutrient supplementation are generally not reached until children are into their second year of life.

13. Similar patterns for stunting and wasting have been shown using national health and household surveys. Data on other anthropometric indicators – stunting (height for age) and wasting (weight for height) – are more fragmentary with the most recent national data sets

[7] The nutritional status component of the National Socioeconomic Survey (SUSENAS) has collected data on weight for age periodically since the late 1980s and annually since 1998,

being for 2001. However, both remain high. Stunting in 2001 was over 40% and little changed from levels reported from earlier data sets extending back to 1990. Wasting was around 16% with only moderate rural-urban differences (16.2% and 15.2% respectively) – representing a figure above the WHO critical emergency level.[8] However, a longitudinal surveillance carried out by Helen Keller International (HKI)[9] that focused on urban slum areas as well as rural samples in 7 provinces indicated a much higher relative prevalence of both wasting and stunting in these poor urban locations in the immediate aftermath of the crisis, reaching 20-30% for wasting in some areas.

14. Micronutrient deficiency (Vitamin A, Iron and Iodine) is also a problem. Although considerable progress in improving micronutrient intake was made up the start of the crisis, in 2001 reported rates for iron deficiency anemia (IDA) were around 40% among pregnant and lactating women, marginal vitamin A deficiency (VAD) in children under five around 50% and iodine deficiency (IDD) of around 9.8% (as measured by the goiter rate among school age children and with 33% of districts having a total goiter rate of over 5%) as recently as 2001.[10] Given the known relation of micronutrient deficiencies to poor health, poor educability (reduced IQ), and consequent poverty, even these levels remain a matter of concern.[11]

15. Successful Vitamin A programs in the 1980s resulted in a decline in xerophthalmia prevalence from 1.33% in 1978 to 0.33% in 1992, a level at which VAD was no longer classified as a public health problem. However, the same 1992 survey suggested that marginal VAD was still a problem with 50% of children under five having a low serum retinol (<1.05 umol/L).[12] More recent clinical evidence is unfortunately lacking. But the 2002/2003 round of the DHS did include questions on receipt of high dosage Vitamin A capsules among children under age 5 in the previous 6 months and access to high Vitamin A foods (vegetables and fruits) during the past week among children under age 3. Overall 64% of children had access to Vitamin A capsules and 67% consumed Vitamin A food, but frequency was high among older children. For children in the critical age range of 6-9 months the Vitamin A supplementation reached only 40% and 56% consumed high Vitamin A food. This is a matter of particular concern in an environment where low levels of exclusive breastfeeding (only 14% of children age 4-5 months and 5% of children age 6-9 months in 2002/2003) results in valuable nutrients and immunity derived from breastmilk being lost and not being replaced either through diet or supplementation when it is most needed.

16. Iodized salt consumption in Indonesia has shown a steady upward trend and reached 73% of households consuming adequately iodized salt (>30 ppm) in 2003, representing a 10 percentage point increase over the level of 63% measured in 1999. There are significant rural-urban differences and also wide regional differences with consumption of adequately iodized salt, ranging around the national average in Java and reaching a low of less than 40% in West and East Nusa Tenggara and exceeding 90% of households in most of Sumatra and Kalimantan. Ironically, the survey indicates low consumption levels in Jakarta

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[8] The reader is referred to the consultant report by Jonathan Gorstein (Urban Nutrtion Specialist) prepared for the PPTA. High levels of wasting are of particular concern as they best reflect problems related to food shortages and the ability to access or afford a sufficient diet rather than longer-term issues related to poverty or other structural or social conditions underlying nutrition.

[9] This is also referred to as the National Surveillance System (NSS). See the report by Gorstein citied in the previous footnote for greater detail.

[10] M.G. Vankatesh Mannar, Op. Cit. A National IDD survey carried out in 2003 found an average Total Goiter Rate (TGR) of 11.3% and a median Urinary Iodine Excretion (UIE) of 229 ug/L, with a variation among provinces with a TGR of greater than 10% ranging from 110 to 320 ug/L, figures generally falling within the WHO range of acceptable values of between 100 and 300 ug/L. (Soekirman et. al., 2005, Op. Cit.)

[11] A country-by-country assessment in 87 countries (by UNICEF and Micronutrient Initiatives) using a software model linking deficiency levels with functional consequences Projected the following results for Indonesia.

[12] Soekirman, et. al., 2005, Op. Cit.

and Bali (56% and 44% respectively) even though these are two of Indonesia's wealthiest provinces.[13]

17. Iron deficiency anemia (IDA) levels (Hb<11g/dl) among pregnant women declined during the 1980s and 1990s, partly as a result of the national program to provide them with iron supplementation. Based on available data sources, rates of IDA are estimated to have declined from about 74% in the mid 1980s to around 53% in 1992, 51% in 1995 and 40% in 2001 (28% among all women aged 15-44). Full (90+ tablet) supplementation according to the 2002/2003 DHS was received by 78% of pregnant women although this represented a slight decline from the figure of just over 80% that was recorded in the previous DHS carried out just before the crisis in 1997. IDA among pre-school children was estimated to be around 40% in 1992 and the 1995 National Health and Household Survey (NHHS) showed virtually no change from this level. However, the 2001 NHHS showed a significant increase in the post-crisis period to 48%, a level higher than many countries in East Asia and the Pacific, except for Myanmar, Lao PDR and Cambodia.[14]

18. While undernutrition remains the predominant concern, the increasing trend in obesity, even among the poor, requires attention. Based on NSS data, for example, the prevalence of overweight among adults (BMI >25) in rural areas between 1999 and 2001 ranged from 10% among young adults (20-24 years) to 25% among those aged 35-44 and increased each year of data collection.[15] This is an issue even among the poor and evidence has been cited of cases of overweight mothers with underweight children creating a 'double burden' of nutritional problems even within the same household[16]. Nutritional concerns in the urban areas were raised in the HKI-NSS data that showed wasting was markedly higher among the urban poor. In rural areas, stunting was higher and underweight prevalence had only slight differences[17]. Urban areas are clearly more socially and economically complex than their rural counterparts, and this raises questions both about the impacts of 'urban' lifestyles on quantity and quality of food consumed as well as on the ability to effectively deliver nutritional information and services.

ii. Food and Nutrition Policies and Programs

19. The Government of Indonesia has long established food and nutrition policies and programs which was incorporated in the national development goals as an integral part of improvement of the Indonesian quality of human resources. The intersectoral and multidisciplinary natures of nutrition problems have been recognized since 1960s, and hence the nutrition policy and programs called for the involvement of various government agencies. The formulation of policies and programs followed the process mechanism for national economic and social development coordinated by BAPPENAS. Its formulation was based more on scientific consideration rather than merely political. Since 1999 the process was becoming uncertain. Nutrition institutions is no longer function effectively and nutrition policies are scattered into various sector and no longer integrated.

20. In 1970's the policy focused primarily on achieving rice sufficiency to meet at least nutritional requirement for energy and protein for the population. Since early 1980's there had

[13] Variations may be explained in part by levels of reliance on sea salt that is largely produced by small-scale salt farmers. While most of this is sold to traders who then sell to processing units that are supposed to add necessary iodine, some finds its way directly onto the market, accounting for the roughly 20% of salt that has no iodine. M.G. Vankatesh Mannar, Op. Cil.

[14] Soekirman, et. al., 2005, Op. Cit.

[15] See the consultant report by Jonathan Gorstein (Urban Nutrition Specialist) prepared for the PPTA.

[16] Soekirman et. al., 2005, Op. Cit.

[17] It is important to recognize that the NSS urban sample was largely restricted to urban slum areas, whereas the rural sample was more representative of rural areas as a whole. Thus a strict rural-urban comparison is not possible. However, this does not reduce the relevance of the evidence on the nutritional problems faced by the urban poor.

been continuous efforts to diversify food consumption other than rice. The policy also addressed the importance of eliminating Protein-Energy Malnutrition (PEM), VAD, IDD, and IDA. The main strategy of achieving nutrition goals in the past relied in major part on community-based programs i.e. Family Nutrition Improvement Program (UPGK) and integrated community service post (*posyandu*) with activities on nutrition education, home gardening, child growth monitoring and promotion, food supplementation, and micronutrient supplementation. To some extent, these activities were integrated with other primary health care especially immunization and family planning as well as poverty reduction.

21. Over more than two decades from the mid 1970s, Indonesia underwent an important and dynamic transition in nutrition, one in which the country arguably became a leader in the conceptualization, development and implementation of community-based multisector nutrition programs. At the core of the positive results realized in nutrition during this period was a fundamental appreciation that adequate nutrition was related to many critical factors – child caring and health behavior, good sanitation, safe water supply, effective outreach combined with community empowerment, as well as access to a quality diet. While this appreciation was not generic to Indonesia, policies and programs were designed and implemented with this in mind so that nutrition was not exclusively within the domain of the health sector, but rather encompassed broad sector participation extending to agriculture, education, religious affairs, and industry and trade. While MOH played the leading role, overall coordination under the National Development Planning Board (BAPPENAS) helped to create a mechanism to ensure that other sectors could play a role.

22. Priorities for investment in nutrition programs in Indonesia over the past three decades up to the late 1990's consistently linked nutrition issues to agriculture and poverty alleviation. From the mid 1970s to late 1980's, the primary focus of direct nutrition intervention has been at the community level, most notably through the Family Improvement Nutrition Program (UPGK) and the *posyandu* that were run by village women under the general umbrella of the village women-run Family Welfare Movement (PKK). Using the integrated multisectoral approach, the UPGK focused on young child nutrition, initially through child GMP, food and nutrition supplementation using locally available foods, and nutrition education for the mothers, behavioral changes communication (BCC) for the communities, and support for home gardening of nutritious foods.

23. At the community level, UPGK had been implemented in the *posyandu* which was Indonesia's main national community based nutrition services center for mothers and young children. Growth monitoring of young children using Kartu Menuju Sehat (Road to health card) has been effective for identifying young children with growth failure and in educating mothers on child feeding and caring. The SKDN data had been recorded and reported to MoH through *puskesmas*. Over time, functions expanded to include, first the distribution of micronutrient supplementation such as Vitamin A and iodine capsules, and subsequently from the mid 1980s to include family planning and immunization services. Community ownership and empowerment in monitoring and dealing with nutritional issues, which was at the core of the original UPGK design, was likely a factor in this success. But it also may have benefited from the strong political will and commitment from higher levels, particularly in relation to the role of the PKK[18], which was led by the wife of the village head, and was thus an integral part of the vertical network for implementation of national policies at the local level.

24. In improving micronutrition status of vulnerable group of population such as reproductive and pregnant women, children uner five, and school children, various interventions have been launched since 1970s focusing on dietary supplementation and

[18] PKK leaders include: wife of governor, bupati, camat, and village head. PKK was an entity attached to the MOHA.

nutrition education. The program include iron supplementation by giving iron tablets to pregnant women or pre-school children, iron fortification of foods such as flour, provision of iodine capsule supplementation which were distributed through *posyandus* and *puskesmas* to women of reproductive age and young children. Provision of high dose vitamin A capsules to preschool children through *posyandus* and *puskemas* had reduced the level of clinical VAD to levels where it was no longer considered to be a public health problem. The distribution of vitamin A capsules was sustained during the economic crisis with the coverage was 60-70%.

25. To address micronutriton problems, mandated food fortification programs formally began in 1994 for salt iodization and 2002 for wheat flour fortification. While attempts to fortify foods with iron have been ongoing for the last 30 years, the only program that has gone to scale is the flour fortification program. To enhance the efficacy and effectiveness of fortification program in Indonesia, a national roundtable meeting on fortification (July 2004) identified the need for: improved quality assurance (QA) and effectiveness study of wheat flour fortification, new strategies for fortified flour products to be accessible and affordable to the poor, food consumption studies of the urban poor to identify food vehicles, strengthened public-private partnerships (PPP) with industry; and strengthened provincial and local coordinating mechanisms. The resulting policies and strategies on fortification: (i) focus on IDA, IDD and VAD; (ii) strengthening the implementation of mandatory wheat flour fortification and salt iodization; (iii) explore feasible food vehicles beyond wheat flour and salt, particularly cooking oil (Vitamin A) and RASKIN (iron); (iv) ensure availability and accessibility of affordable fortified complementary food (MP-ASI) for children of low income families; and (v) pursue the development of sprinkles as a viable means for home fortification, and the development of double iron-iodine salt fortification. In 2005, a grant assistance of the Japan Fund for Poverty Reduction (JFPR)[19] is funding a food fortification pilot program for urban poor in Makassar, South Sulawesi and North Jakarta.

26. For primary school children, the School Snack Program (PMTAS) was introduced in 1995. Impacts were seen in a variety of health and nutrition outcomes – steady declines in infant and child mortality (and commensurate increases in overall life expectancy) as well as in reductions in percentages of underweight children and prevalence of goiter and xerophtalmia.[20] Problems were hardly completely resolved, but progress was substantial and comparable to some of the other high growth rate countries in the region. In the current autonomy era, some local governments continued PMTAS but only in a narrow scale. A recently published sector review and policy analysis referred to the period between 1970 and 1998 as the "golden era" of nutrition in Indonesia.[21]

27. The 1997/1998 economic crisis and the political changes in its aftermath had two important consequences. First the inflationary impacts, particularly on staple food prices, and declining real incomes highlighted the increased risks faced by the poor.[22] There were real concerns about deterioration in access to food and basic social services, including those associated with health and nutrition. The crisis also resulted in severe strains on the Government budget and the ability to maintain services as pre-crisis levels. Second were

[19] ADB-funded.

[20] While infant and child mortality rates have been fairly consistently mapped in Indonesia since the late 1960s, trend information on many of the other nutrition indicators, at least up to the 1990s, is more sketchy making detailed confirmation of what has actually occurred difficult if no impossible. Confidence in the general conclusions, however, is enhanced by a number of recent studies by qualified experts that have undertaken careful review of the available information as part of sector assessments covering both pre and post-crisis periods.

[21] Soekirman, Atmarita, Abas B. Jaharu, Sanjaya and Drajat Martianto, *Review of the Nutrition Situation, Policies and Strategies for Sustained Improvement of Nutrition in Indonesia*, Koalisi Fortifikasi Indonesia and The Micronutritional Initiative, September 2005.

[22] The food situation was exacerbated by the severe drought (El Nino) that affected Indonesia during the latter part of 1997 and first part of 1998.

the political changes after the crisis resulted in decentralization of responsibility for program formulation and implementation from central to local governments across a wide range of sectors, including health and nutrition. While the intention of decentralization was one of regional and local empowerment and bringing governance closer to those being governed, it was also undertaken in an environment where many of these local governments were institutionally and financially unprepared to take over planning and management functions that had previously been highly centralized.

28. One of the nutrition effects of the economic crisis was increasing number of severe underweight and anemic children in urban and rural population. It was believed that many children deprived from proper complementary foods and deteriorating quality food at the households due to declining income. To respond to the crisis, the Social Protection Sector Development Program (SPSDP) funded by the ADB was also initiated in 1998 and focused, among others, on complementary feeding for malnourished children under five, pregnant and lactating mothers, as well as operational funds to maintain services at *puskesmas and posyandus,* and among local health workers (e.g. *bidan di desa*).[23] These activities were sustained under the follow-up program (Health and Nutrition Sector Development Program or HNSDP), also funded by the ADB, which lasted to 2003, and with food supplementation continuing to be maintained with GOI funding alone. Other supplementary feeding programs were also introduced by UN agencies.[24]

29. Moreover, GOI introduced a major food security program through the National Food Logistics Board (BULOG) to provide subsidized rice (the main staple food) for poor households in 1998 known as Rice for Poor (*Beras Untuk Rakyat Miskin* or *RASKIN*) and this has continued to the present day. The program had its widest coverage at the beginning of the crisis covering 14.6 million families in 1998 to 1999, but 8.3 million families were still receiving assistance in 2003 with central government expenditure of Rp. 4.8 trillion. With the end of national crisis-related Social Safety Net programs in 2003, funding for subsidized rice has continued at a reduced level as part of the Fuel Subsidy Compensation Fund (BBM) activities that also provide for continued supplementary feeding of children in orphanages under the Ministry of Social Affairs (MOSA). BULOG also stabilizes the price of rice through tariffs to maintain producer prices at an artificially high price, which inflates the consumer price of rice as well. When rice prices rise too high, BULOG permits additional rice to enter the market to modulate prices[25].

30. A National Plan of Action for Food and Nutrition (2001-2005) was developed by MOH in collaboration with the World Health Organization (WHO) in 2000. This plan was comprehensive, describing goals and objectives that spanned food production (rice, other staple foods, protein and micronutrient rich foods), dietary intakes (including food quality and diversity), infant feeding behaviors (breastfeeding, complementary feeding), nutritional status outcomes (underweight, iodine deficiency, anemia vitamin A deficiency, overweight), food quality and safety, and family nutrition awareness *(Keluarga Sadar Gizi-KADARZI)*[26]. While it incorporated key elements of earlier policies that that had proven successful in reducing malnutrition, it included a new (or revitalized) emphasis on institutional development aiming to deal specifically with decentralization issues.[27]

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[23] This was part of the overall set of Social Safety Net (*Jaring Pengaman Sosial* or *JPS*) introduced in the immediate aftermath of the crisis. The health services component was also known as JPS-BK.

[24] These include the Vitadele Program of UNICEF (1998-2000) and the Delvita Program of WFP (1998-2003). The WFP assistance was integrated with the GOI subsidized rice program (RASKIN) and focused on the poor in major urban areas.

[25] Leith, Jennifer, Catherine Porter, SMERU Institute, and Peter Warr. Indonesia Rice Tariff. March 2003. Consultant Report to World Bank Poverty and Social Impact Analysis Unit.

[26] Review of PPTA consultant reports shows a universal agreement on the critical importance of nutrition promotion and education (BCC) at the individual and family level. Nutritional awareness and practice promotion was part of the original UPGK concept, but this has largely been lost in more recent years, particularly in the post-crisis period.

[27] Goeff Marks, *Protein-Energy Malnutrition in Indonesia: Key Challenges and Options*, August 2003, p. 33. The Plan included 10 specific programs: (1) institutional development in food and nutrition, (2) empowerment of food and nutrition manpower, (3) improvement of food security, (4) food and nutrition surveillance systems, (5) prevention and management of

31. Much of this work is also reflected in the more recent National Action Plan for the Prevention of Severe Malnutrition (NAP) 2005-2009 that has recently been issued by MOH.[28] It targets a reduction in child malnutrition to a maximum of 20% and severe malnutrition to a maximum of 5% along with related targets for exclusive and extended breastfeeding, access to nutritious foods (including fortified complementary feeding of poor children).[29] In December 15, 2005, MOH announced "A New Era in Revitalizing Indonesia's Health Sector" consisting of a national initiatives for: (i) social mobilization and community empowerment, (ii) strengthening health system performance, (iii) improving surveillance, monitoring and information systems, and (iv) increase health sector financing[30]. All of these have potentially profound impacts on nutrition policies and programs. In this context, MOH plans to create a new village health institution (village health offices or *poskesdes*) as a village health preparedness boards (*Tim Desa Siaga*) for village planning, advocacy, networking, information, and emergency response. Any nutrition and health program and project have to comply with the above platforms. This provides an unprecedented opportunity for community-based nutrition programs which promote community empowerment and personal responsibility, improve the quality of *posyandu*, improve nutrition information and surveillance systems, and improve communications for behavior change.

32. Likewise, the Minister of Agriculture (MOA) recently announced a new food security policy which shifts the focus from aggregate supply to household food security, from centralized to decentralized goals, planning, and implementation, from government control to community participation in management, from rice to human resource development, moves toward food availability, distribution and consumption, a more proactive stance to preventing food insecurity, building the human capital of the poor, preventing and controlling food insecurity and malnutrition among the poor, and improving community food stocks. Clearly this is a major paradigm shift of great importance to national nutrition strategy. MOA has an important role in food policy (food availability, food distribution, food consumption) through the National Food Security Council (DKP) established in 2000.

iii. Food and Nutrition Surveillance System

33. Food and Nutrition Surveillance System (FNSS) have been established to obtain data on the overall food and nutrition status of a population without making provision for information on the underlying causes of nutrition problems. A multisectoral view of nutrition surveillance was clearly set forth by the World Food Conference of 1974, which defined the scope of surveillance as a wide range of information on all factors which influence food consumption

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undernutrition and overnutrition, (6) prevention and management of micronutrient deficiency, (7) improvement of family awareness on food and nutrition practices, (8) nutrition services in institutions, (9) improvement of food quality and safety, and (10) research and development on food and nutrition.

[28] Departemen Kesehatan Republik Indonesia, *Rencana Aksi Nasional: Pencegahan dan Penanggulangan Gizi Buruk 2005-2009*, June 2005.

[29] Actions include: (i) revitalization of *posyandu*, (ii) revitalization of *puskesmas*, (iii) nutrition and health interventions (targeted complementary feeding, micronutrient supplementation), (iv) family nutrition awareness, (v) cross-sector empowerment at family, community and institutional levels to improve abilities to address nutritional issues, (vi) advocacy and support networks, and (vii) nutrition surveillance.

[30] The national initiatives consist of: A. *Social mobilization and community empowerment*: (i) promoting lifestyle changes, personal responsibility, participation, and action, (ii) promoting preventive care, (iii) effective use of mass media campaigns, (iv) increasing the number and quality of health service providers, (v) promoting disease prevention programs, and (vi) developing community preparedness plans, B. *System performance*: (i) strengthening primary care (increasing the number and quality of services of *puskesmas, posyandu,* and village delivery clinics *(polindes)*, (ii) implementing a sector quality assurance program, and (iii) improving amount and quality of human resources, *C. Surveillance, monitoring and information system*: (i) cross-sectoral disease management coordination, (ii) improving laboratory capacity, (iii) disease outbreak investigation and control, (iv) public participation in reporting, (v) pandemic preparedness plan, and (vi) an integrated management information system.

patterns and nutritional status. FNSS require data that go beyond those considered nutritional, to include economic, socio-cultural, and biological determinants.

34. Food and Nutrition Surveillance System (FNSS) is one of the important instruments necessary to support food and nutrition improvement program. FNSS aims to gather, interpret and disseminate information on food and nutrition in order to provide timely information on food and nutrition to decision makers. The potential users are therefore the ministries, directorates, and institutions responsible for relevant action in these areas. In 1979, FNSS was established to help mitigate food insecurity situation. When the country reached rice self sufficiency, the FNSS has no longer properly functioned as early warning system. This was then reassessed and developed into a general nutrition–monitoring system to support long-term food and nutrition planning. In 1994, the central TPG was supported by the FNSS covering: (i) food production and availability surveillance; (ii) food distribution surveillance, and (iii) consumption and nutrition surveillance.

35. FNSS monitored and assessed of (i) nutritional status, (ii) food consumption, (ii) food production and distribution, and (iii) socioeconomic and other related data. The main institutions involved in gathering information for FNSS are MOH, MOA, BULOG, BPS, and BKKBN. The purpose of this data assessment is to provide information related to food and nutrition that is needed for targeting, short–term and long–term policy and program development, monitoring changes and evaluating the impact of interventions. District FNSS were: (i) to provide early information on food shortage and to implement action to prevent and overcome food crisis in an area; (ii) to provide information on food availability and nutritional status of the community for planning and decision making process at district level; and (iii) to strengthen the capability of districts staff to solve local food and nutrition problems.

36. In 1985, MOH created the Nutrition Surveillance System (NSS) which was expanded to all provinces primarily to gather nutrition information nationwide. The NSS also acted at the local level to provide village heads with information indicating the well-being of the population. At national level it provided information to monitor local food and nutrition problems for groups within the MOHA, MOA, MOH and BULOG. The NSS underwent further development in the 1990's with the intention of its use for: (i) policy and planning; (ii) program management and evaluation; and (iii) timely warning. For program policy and planning, the requirement was to monitor nutritional status and related indicators to provide information to assist in decision making and policy formation and for the best allocation of resources to nutritionally related policies. For program management, process indicators were collected to determine whether the program was operating as planned and reaching those targeted and whether there was improvement in terms of stated objectives.

37. At the village level, data was gathered by the posyandus cadres, BKKBN fieldworkers, agricultural extension workers, and BPD sub-district statisticians. *Posyandu* cadres provided monthly information on the growth monitoring of children under five using SKDN. The skilled BKKBN field workers gather data on poor families to produce poor family mapping at the subdistrict level and recorded SKDN growth monitoring data for the FNSS at the district level (until 1995 when reporting was taken over by MOH). Agricultural extension workers gathered information on land under cultivation, irrigated and harvested areas, and data on prices staple food was gathered by BPS sub-district statisticians. The village teams assessed one out of every 20 poor families in the subdistricts to determine changes in food consumption patterns, number of children falling below the red line on the KMS cards, price changes or severe malnutrition.

38. During the crisis, FNSS was planned to be revitalized in line with the social safety net program on health and nutrition.[31] Future nutrition programs should prioritize the FNSS in a routine program. The FNSS should be comprehensive along the factors influencing household food and nutrition security including data on agriculture, food prices, food consumption (macro- and micronutrients), and child growth, which should be managed through an intersectoral approach.

iv. Food and Nutrition Institutions

39. Nutrition services are essentially intersectoral as the nutritional status of the population is determined by a variety of factors across sectoral boundaries. This is reflected in the range of government bodies contributing to nutrition services. In recognition of the cross-sectoral nature of nutrition issues the government has previously established a number of co-ordination bodies with representatives from the relevant ministries and agencies. However, many of these have become inactive under the pressures of the financial crisis of 1998 and the decentralization in 2001. Moreover, under the Indonesian system of public administration the maintenance of intersectoral coordination can be problematic, given the hierarchical nature of government institutions and the relative autonomy of ministries and agencies in program and human resources management.

40. In 1974, the People's Food Improvement Unit (UPMMR) was established at the national level under The Coordinating Ministry for Social Welfare (*Menko Kesra*) which was responsible for overall coordination across sectors, while BAPPENAS was responsible for integrating intersectoral policies, planning and budgeting based on the Five Year Development Plan (Pelita).[32] At the provincial and district levels, the Regional Nutrition Improvement Board (BPGD) was likewise established. The BPGDs consisted of steering and implementing committees, headed by the provincial governor and by the *bupati/walikota*, with representatives from agriculture, health, trade, industry, education, and statistics. It was supported by five core groups: (i) Information, Education, & Communication (KIE); (ii) Family Nutrition Improvement Effort (UPGK); (iii) Iodized Salt Program; (iv) Food and Nutrition Surveillance System (SKPG); and (v) Food Balance Sheet (NBM).

41. In 1994, State Ministry of Food established a Food Team (*Tim Pangan dan Gizi-TPG*) at national level with intersectoral representations. Subsequently, TPGs were established at provincial and district levels replacing the BPGDs. Due to lack of resources, TPGs were unable to fulfill its mandate, although continuing to operate in some parts of the country. In 2000, the National Food Security Council (*Dewan Ketahanan Pangan*-DKP) was established primarily to evaluate the food security situation and formulate and implement policy to improve food security. Chaired by the President, the DKP is supported by two working groups: the Technical Working Group and the Expert Working Group, consisting of government officers and independent experts, respectively. The Badan Ketahanan Pangan (BKP) under MOA functions as Secretary of DKP. It functions to examine food security issues from economic, political, geographic and nutritional perspectives. Regions are not required to establish DKPs and BKPs as this remains at the discretion of provincial governors and *bupatis/walikotas*, depending on whether they consider food security as a local problem. Where they are established in regions, they may be organized in the *dinas* for agriculture or under the *Secretaries Daerah* (*Sekda)*, which have varying organization structures.

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[31] ADB, SPSDP and HNSDP

[32] Menkokesra operates at the level of political oversight of the welfare sector and places priority on poverty and nutrition and is actively pressing for progress in posyandu revitalisation and improving public education and surveillance for nutrition. It pursues evidence of malnutrition with MOH, MOA, MORA, MOHA, and other related sectors requiring them to take action, and is especially keen to improve surveillance systems and a database using the public and private sector resources as available.

42. In terms of administration and direct service delivery, nutrition functions in practice are situated solely in health sector institutions. Thus the organization, management, and financing of the nutrition sector are mainly the responsibility of MOH. At the central level nutrition functions are discharged through the Directorate for Community Nutrition (*Direktorat Gizi*) under the Directorate General of Community Health (*Binkesmas*). Other government institutions involved in nutrition are the Ministry of Industry (MOI) and the Drug and Food Control Agency (BPOM). The roles of MOI includes monitoring and enforcement of food and chemical standards, as well as food fortification, while BPOM is responsible for drug and food control for protection of public health including legislation, regulation and standardization, licensing for pharmaceutical industries, pre-market product evaluation, post-market monitoring and inspection, audit of product advertising and research and public communication. Food fortification is monitored by MOI as well as by BPOM, MOH, the industry itself and various NGOs.

43. The performance of the above functions has been affected by decentralization and the increased autonomy of local governments. With decentralization, the district and city health offices (*dinas kesehatan*) have become the primary providers of health services in their areas, including nutrition, supported by the provincial health offices (*dinas propinsi*) and central MOH.[33] MOH no longer has provincial and district branch offices as these were absorbed by the respective local government offices during decentralization. Networks of central government offices (*kanwil*) at province and district levels have been abolished. Policies and plans produced by the MOH are often subject to adjustment by city and district health offices in light of local priorities. Similarly, the reporting process from provinces and districts has become more disconnected so that the *Direkorat Gizi* has difficulties in compiling information for monitoring and surveillance. Other health and health-related intersectoral bodies previously established at district and city levels, including district health councils and other local committees, have ceased to operate. In general, the proliferation of committees has caused some officials to feel that this diverted resources from core functions resulting in the reluctance of local governments to maintain or develop such intersectoral activities.

44. The *Dinas Kesehatan* are administratively responsible to the district government and technically responsible to MOH. These vary considerably in staffing and competencies across the country. Nutritional units at provincial levels (*Dinas Propinsi*) help facilitate and support the district units, maintain standards, supervision and planning across the province, monitoring and control, budget allocatios, and provision of specialist training. At district level there is more emphasis on program implementation, support for public health centers (*puskesmas*) including short-term training, problem identification, and monitoring and evaluation. Nutrition is generally covered by the maternal/child health *sub-dinas*. These usually have sections for maternal health, child health, nutrition and in some instances for the elderly. Staffing levels vary considerably between regions. Ninety percent of the nutrition sections are estimated to have graduate nutritionalists (D3 or S1), up to a maximum of about 6 or 7 depending on the size and nature of the region. Where they have no specialist nutritionist, nutrition activities are covered by a senior midwife who has some training in this field.

45. At sub-district level, nutrition services are provided by *puskesmas* or sub-health centres (*puskemas pembantu*).[34] *Puskesmas* provides preventative and curative health services,

[33] MOH's Directorate of Community Nutrition carries responsibilities for developing national policies and plans for nutrition, drafting legislation, formation of guidelines and procedures for intervention, and monitoring and evaluation. This includes the development of the minimum standards of service for nutrition.

[34] There are one or more *puskesmas* in every sub-district (*kecamatan*). According to the latest MOH comprehensive report, in late 2004 there were a total of 7,550 *puskesmas* operating in 4,820 sub-districts nation-wide. Among its other health service functions, each of these services many *posyandus*. The number of these posts per *puskesmas* may vary from about 15 to about 75, depending on local circumstances: The MOH publication *Basic Data on Local Puskesmas 2004* reports a nationwide total of 206,971 *posyandus*, or an average of approximately 27 per *puskesmas*

including dispensing of drugs, dentistry and immunization. Most of them are led by a physician, supported by nurses, midwives and other paramedical staff and unskilled support staff up to a maximum of about 20 staff, although staffing level and mix varies greatly. Sub-health centres under their jurisdiction are typically staffed by a nurse and a midwife. Although nutrition is one of the basic six service obligations of the *puskesmas*, it has been neglected in recent years. Some *puskesmas* (approximately 30%) have a dedicated nutrition officer with D1 (one year tertiary) education, while others have only general nursing or midwife staff with short course training in nutrition that vary in length from 3 days to 30 days. Most staff have no training in nutrition. MOH wishes to place D3 Nutrition Academy graduates in these posts. A review of the functions of this post would be productive in clarifying and standardizing the main responsibilities.

46. At the grassroots levels, the nationwide system of these *posyandus*, mainly for monitoring the growth of babies and children under five, is operated by members of the local women communities known as PKK (Family Welfare Organization) and their cadres, with technical support provided by professional staff of the local puskesmas. *Posyandus* are not formally part of the health services nor of the government structure as a whole, but are community-based organizations (CBOs) staffed by volunteers with monthly events based in volunteers' homes. There are also numerous international and Indonesian NGOs with activities in the nutrition sector. Most NGOs do not give priority to nutrition and are more active in other sectors. But some of the international NGOs have substantial focus on, and professional expertise and experience in, the nutrition sector in Indonesia. They are (a) Helen Keller International (HKI) (b) Mercy Corps (c) Save the Children (d) IRD Indonesia. Some community based organizations (CBO's) and religious organizations provide assistance to nutrition-related services and to fund-raising but these are insignificant on a national scale.

v. Nutrition Financing

47. By historical and regional standards, health and nutrition spending are low, directly affecting the poor and endangering the attainment of non–income MDGs. In 2005, public sector resources allocated for health and nutrition remains extremely low, with public expenditure at only 0.7% of GDP in 2005 and nutrition expenditure to health sector development at only 3.3%[35]. During early 2000, central public allocation to nutrition was maintained at levels below Rp. 60 billion. In 2001, government allocated fuel subsidy compensation fund (*Dana Kompensasi* BBM) for social safety net schemes. *Dana Kompensasi* BBM contributed about 14% to the health and nutrition, and 30% to RASKIN. Resources from fuel subsidy compensation fund were provided to compensate for the social safety net funds which ended in 2002. Majority of central government's nutrition budget is allocated to provincial governments through deconcentration fund, and only around 10% remains for nutrition improvement programs. In 2005, the nutrition budget increased to Rp. 200 billion and grew to Rp. 580 billion in 2006.

48. At the local level, there is substantial variation in the level of nutrition spending. In many districts, overall priority given to health remains low with generally less, and sometimes substantially less than 10% of local expenditure going to the sector. In terms of public expenditure per-capita there is wide variation, however, with some exceeding recommended standards and others considerably below.[36] Sub-units (*sub-dinas*) within local health

[35] Minister of Health speech, 2005

[36] For health, there is an estimated standard or Rp 42,000 per capita per year, although this is already a few years old. This is partly a function of locally determined spending priorities, but is also likely affected by wide variations in block grant transfers from Central Government with the highest transfers in per capita terms being more than 50 times the lowest.

departments tend to emphasize health aspects,[37] with nutrition generally relegated as one sub-unit dealing with maternal and child health and family planning. Nutrition budgets are likewise extremely limited and efforts at district level tend to focus on limited support to direct nutrition interventions, more general support for *puskesmas* including short-term training, problem identification and monitoring and evaluation.

49. The problem of equating malnutrition for food insecurity has resulted in a dependence on food distribution as a tool for addressing malnutrition while starving the appropriate nutrition interventions from funding. The enormous expansion of funding for food distribution against nutrition outcomes and compare this to funding for outreach programs addressing other root causes such as hygiene and behavior. Public expenditures on nutrition have not only declined as a percentage of total health expenditure since the crisis and an increasing proportion of the nutrition budget are devoted to food supplementation as opposed to other nutrition activities or interventions.[38] Past projects, like HNSDP, that supported *posyandu* and nutrition surveillance revitalization were not sustained after the project. Thus it is high priority to find sustainable financing for nutrition programs.

B. Analysis of Key Problems and Opportunities

50. Given current conditions described in the foregoing, the key issues that need to be addressed include: (i) nutrition improvement at community level; (ii) policy frameworks affecting malnutrition; and (iii) institutions. The discussion primarily involves the causal factors that affect malnutrition at household and community level. Issues on policy and institutions are then identified insofar as these impact on the core factors.

i. Community Nutrition Programs

51. It has been recognized that UPGK has significantly contributed to improvement of nutrtition status of Indonesian population over the past three decades. *Posyandu* supported by *puskesmas* functioned as the backbone of Indonesia's nutrition program under UPGK. The poor children under five, pregnant and lactating mothers were the main target of UPGK activities. During the last decade UPGK was no longer implemented and most of the *posyandus* were not functioning in an effective manner and. Community ownership, outreach services, and community-level institutions that were fundamental to *posyandu* and UPGK have deteriorated dramatically in many areas due to lack of support. The degeneration of *posyandus* has not only affected the availability of nutrition services but has also impacted on all preventive health services. Moreover, it affected the nutrition surveillance and early warning system that was largely based on the results of the monthly weighing of infants and young children by the *posyandu (*SKDN*)*. There is evidence of stagnation in some key nutrition outcomes since the turn of the century.

52. Some weaknesses have been reported in the local systems of nutrition service delivery including: (i) there are not enough effectively functioning *posyandus* in some localities; (ii) the system does not reach more than a fraction of the poorest families; (iii) the system has no effective outreach by *puskesmas* and *posyandu* staff; (iv) there has been a declining attendance and growth monitoring at the *posyandus* as testified by increasing levels of malnutrition; (v) its volunteer cadres are ill-trained, both in nutritional and social mobilization

[37] Typically there are five or six sub-units dealing with: (i) Maternal/child health and family planning, (ii) Communicable Diseases, (iii) Community participation (in some areas), (iv) Support for hospitals and health centers, (v) Sanitation, and (vi) Pharmacy (in some areas).

[38] The consultant report by Corazon Posadas/Hidayat Syarief shows an increase in resources invested in nutrition from about Rp 80 billion in 2000 to nearly Rp 175 billion in 2004, and increased to Rp. 580 billion in 2006. Over the same period, however, the proportion of this expenditure going to complimentary feeding rose from 36 to 71%, and decreased to about 50% in 2006. Despite the decrease, however, this increased fourfold during the same period.

skills; (vi) it is not focused enough on nutrition to deliver nutrition services effectively; (vii) it provides no significant nutrition services to local community between the monthly events' (one morning, each month); and (viii) it is presently starved of adequate budgets by local governments. Some factors contributed to the deneration of UPGK could be identified as: (i) limited support resulting in low motivation of particularly *posyandu's* cadres; (ii) inadequate supply of program inputs; (iii) limited participation of puskesmas personnel at Posyandu activities; (iv) limited support of local leader to *posyandu* activities; (ii) lack of focus of skills development in the training conducted; (v) decreasing appreciation for the importance of nutrition among many local leaders or sectoral workers. Moreover, reduced operational budgets provided by the local government to *puskesmas* have lead to a decline in nutrition and health prevention and promotion activities. While some of these problems preceded the crisis and decentralization, it is also clear that many of them have been exacerbated by conditions over the past few years.

53. Despite its declining function over the past decade, *posyandus* still offer potential for community-based nutrition programs in Indonesia, not only for growth monitoring programs but also for other micronutrient eradication programs. There is no appropriate mechanism to reach the young children in poor and remote areas, except through *posyandu*. *Posyandu revitalization* could include re-training of volunteers, provision of supplies and supplementary foods. Cadres in the *posyandu* need new strategies for training to be developed and for training in new techniques such as measuring height to determine wasting. *Posyandu* cadres require improved training to identify causes of problems and analysis of data together with increased finance for outreach activities in support of the *posyandu*. The proposals made in a number of reports to revitalize the *posyandus* and the *puskesmas* are appropriate. They are established institutions accepted by the population despite their recent decline. It is vital to reverse the degrading of nutritional services and skills at the *puskesmas*. More training in nutrition should be made available for health center personnel, especially for midwives. Nursing and midwife manpower needs to be increased in many areas to improve services and to strengthen outreach to the villages. Also some limited short training activity needs to be provided for the community cadres participating in the *posyandu*, and modest incentives made available.

54. The key challenge is revitalizing the UPGK system and getting the *posyandu* back into good working order in implementing an integrated multisectoral nutrition programs. Increasing awarness of the government leader to improve nutrition of community since the outbreak of malnutrition in 2005 is an opportunity to make the revitalization program implemented. Effort will be started from the community by paying attention to the basics of program implementation which include: (i) making sure the inputs (including communications materials and backstopping from *puskesmas*) are appropriate; (ii) getting the right people as cadres and training them well and giving them incentives to do a good job; (iii) providing supportive supervision and technical assistance for troubleshooting; (iv) providing a practical, accurate and timely information system, good financial and human resources management; (v) conducting advocacy and socialization of the program to particularly local government and leaders with the purpose to improve their commitment to the program. A critical issue is how to focus the program on the child from conception (prenatal nutrition) to age two. This is the period when most of the severe and irreversible damage of malnutrition happens. In many such programs, the growth promotion is intensive (monthly) for children up to age two and home visits are restricted to them and to severely ill children. For older children the growth is measured semi annually or annually and services are provided on demand (e.g. care of the sick child). An in-depth task analysis of cadres should guide the process by which children under five are prioritized.

55. Others intervention to improve nutrition status of Indonesian are supplementary and complementary feeding which has been adopted in many developing countries as an important strategy in dealing with malnutrition particularly among the poor children under five

and pregnant women. Supplementary feeding program was formulated in different forms, such as locally-made cereal-legume-mix food for young children, milk for school children, cash subsidy and foods ration for pregnant women[39]. In Indonesia this program has been implemented as part of UPGK activities and *posyandu* during 1970s to 1980s. It is also highly needed in an emergency situation. During criris 1997 the program has been implemented nationwide to help the poor and has been continued during post crisis. However, food supplementation is very expensive, difficult to manage and control. Consequently, it is easy to leak and Its economic returns is very low. In the future supplementary feeding program should be strictly limited to severe malnourished children and women, and specially conducted in emergency situation, such as disaster, refugees due to social conflict and severe food scarcity.

56. Heavy dependence on supplementary and complementary food as a tool for mitigating malnutrition due to micronutrient deficiencies need to be replaced by the most cost effective intervention. It is recommended that, for the poor community, locally available and homemade food should be used for supplementary feeding, since fabricated complementary food is costly to be afforded. In the longer term, food fortification for the poor is a key strategy to address undernutrition and may be used as an appropriate alternative to replace food supplementation. Food fortification is effective in reaching the general population, is cost-effective, and has high economic returns. Food fortification issues relate to the lack of knowledge and misperceptions on the costs and benefits of the programs by policymakers and industries. This has hampered the expansion of food fortification programs in the country. To date, only two mandated fortification has been launched and equipped with national standards (SNI): (i) iodized salt and (ii) wheat flour. However, these have not been effectively implemented due to weak enforcement, lack of capacity on quality assurance, and low funding by relevant (private) stakeholders. Strengthening wheat flour fortification through improvement of QA/QC and law enforcement is now priority in food fortification programs. Pilot efforts are underway to determine the appropriateness and effectiveness of vehicles for vitamin A and iron through cooking oil (vitamin A), rice (iron), and development of local sprinkles (micronutrients, especially iron). To be effective, food fortification must be mandatory. Social marketing is required to raise awareness of the health benefits of fortified products. Consumption data and studies also need to be undertaken.

ii. Food and Nutrition Surveillance System

57. Surveillance, a key tool for providing feedback to the stakeholders, remains a critical gap in the policy monitoring process. Key issues for food and nutrition surveillance system (FNSS) points out that Indonesia had an effective surveillance nutrition system that functioned up to the 1990's. However past successes resulted in neglect of the system. The system was no longer function effectively since early 1990. Decentralization broke old reporting responsibilities and linkages that had large been effective in addressing nutrition issues. While information exists but there is no mechanism for delivering the right information to the right decision makers on a timely basis.

58. Many of the key elements of FNSS to support national and regional nutrition investment plans are already in place. FNSS rarely is sufficiently broad range, timely, and accurate to be used to make resource allocation decisions. In addition, various problems limit the effective use of food and nutrition-related information in the region. Local administrators do not really understand the meaning of nutrition data and how to use them. To date, the utilization of the FNSS data is still limited to budget related matters rather than program interventions. This is due to the fact that before decentralization local authorities were not responsible for designing, implementing and evaluating their own development programs but just followed

[39] Tarwotjo, Budiarso, Utomo et.al, 1988

central government directives. In addition, local parliaments have not come to agreement on how to measure performance. Moreover, much of the data (population, agriculture and economic censuses) is collected only once each decade and thus is inadequate to make annual budget decisions. As far as household data are concerned, basic statistics and indicators related to social, demographic, and employment of the population are available, through SUSENAS which is done annually but anthropometry is not collected annually there are some questions about the quality of data in the last survey.

59. The nutritional surveillance system in Indonesia has also failed to put adequate emphasis on institutional development. Under decentralization and local autonomy, institutional development for FNSS has been neglected by local authorities. Many of the civil servants operating FNSS have inappropriate skills for the required for data collection, analysis and reporting. Multiple systems of data collection and dissemination of information exist even in the same program areas, with no clear–cut and identified demarcation of responsibilities. This has led to duplication of information collection and dissemination, dissemination of conflicting information on same items from different official sources, and non-comparability of information on the same items over a period of time, making it impractical to assess changing health situations. The surveillance system is failing, and reliance on voluntary cadres for basic surveillance is entirely dependent on the functioning of *posyandu*, which has deteriorated (as noted above). An effective national nutrition information management system is needed.

60. The main challenges in nutrition surveillance are to facilitate the utility and the actual use of nutrition data for decision-making at the national and local levels and to consolidate and streamline the data collection, processing, and analysis. This entails preparing an information plan identifying management reports, frequency, responsibility for preparation, and database required. The nutritional effects of a wide range of public policies (including trade and monetary policies as well as agricultural, industrial, employment, social, health, and food policies) should be anticipated, mitigated (where negative) and monitored. This suggests that not only sectoral decision-makers are key users but also that nutrition surveillance data should be used to guide overall development policy and provide early warning. The information collected at *posyandus* should be used primarily to tailor counseling messages to mothers and for supervision. The additional benefit of these data for nutrition surveillance should not overshadow their primary purpose. If the system is working well, SKDN data can be used as an early warning system. Whether national nutrition surveillance should be based on these data or on periodic national surveys needs to be explored. Strengthening FNSS can be used as a vehicle for institutional development including organization change and policy and program development since related institutions dealing with food security and nutrition will be involved.

iii. Policy Development

61. As noted earlier, the Government of Indonesia has long established food and nutrition policies and programs which was incorporated in the national development goals as an integral part of improvement of the Indonesian quality of human resources. The formulation of policies and programs followed the process mechanism for national economic and social development. However, sice the 1997 crisis this mechanism of nutrition policy and program development is no longer implemented. It was appreciated that nutritional improvements require the involvement of many sectors. Unfortunately, it was not clearly implemented in their policy and programs, where most of the sector agencies only concern to the program that will improve their sectoral performance due to the competition for resources between sector-oriented development strategies. Moreover, malnutrition which is perceived as a consequence of lack of food and health problems resulting in inadequate policy and programs in dealing with the current nutrition problems. The existing base of policies and programs is not currently translated into effective institutions and human resource

capabilities to implement these policies, which results in lack of commitment to implement policies.

62. Nutrition policy is given little attention in the Medium-Term Development Plan (MTDP) 2004-2009. Nutrition institutions throughout the government establish their own policies, rather than synchronizing and integrating them across sectors. BAPPENAS prepares food and nutrition policies and plans, while MOH prepares nutrition action plans, and MOA prepares national food security policies. A multitude of separate nutrition policies prepared by different agencies without mutual consultation have not been consolidated into a single national policy. Stand-alone policies that are vertical within ministries have no linkages across institutional lines. There is no shared vision of a nutrition goal, and there is no national poverty reduction strategy (PRS)[40] to provide an overarching framework for nutrition policy.

63. The policy-making process requires development, both in skills and in the process. The existence of a national institution for nutrition (as above) could facilitate policy formulation and execution provided that the policy-making process and the necessary skills are developed. At present, the role of the *Direktorat Gizi* under MOH in post-decentralization policy-making and strategic planning is unclear, and there is some degree of friction and overlap in policy formulation between the *Direktorat Gizi* and provincial and local health units. *Direktorat Gizi* has no authority or direct support function for districts and subdistricts. Policies, targets and guidelines (e.g. on minimum service standards) issued by MOH through *Direktorat Gizi* are frequently reshaped by districts in accordance with local priorities and with no accountability to the center on policy implementation, service provision or social impact. A policy-making cycle in which the center issues a framework for local submission of policies and priorities, and proceeds to integrate these into a national plan, thus accommodating local inputs, does not exist.

64. The major challenge is to provide a common policy framework for the many relevant agencies and levels of government to work together to achieve national nutrition goals. A logical framework for such harmonization would be a poverty reduction strategy. It will be critical to build a cohesive and collaborative high level team among key policy makers (at least MOH, MOA, MONE, BULOG, BAPPENAS and Parliament) at the national and local levels that has a shared vision of nutrition goals and accepts accountability for achieving those goals. Policies and programs should address the causal factors of the malnutrition. The long-term challenge would be to bring increasing harmonization to the policies of the key actors in the addressing causal factors resulting in chronically high levels of undernutrition. Although coherence is necessary for more efficient nutrition services, the government is underway to integrating these policies and programs. The issue of integration is already being addressed by the multisectoral working group on integrated education, health and nutrition policy at BAPPENAS.

65. The major opportunity is Indonesia's aggregate food security, economic growth, and market efficiency. Poverty has been reduced but inequitable distribution of income among households and regions determines food security. The new health and food security policies offer excellent opportunities to use a broad range of tools, including those supported in the Project, to improve nutrition. Moreover, law No. 23/2002 on Child Protection stipulates the government's obligation to safeguard children's rights including nutrition. Community nutrition development has been included as a major subcomponent under health of the Medium-Term Development Plan for 2005-2009 to meet the MDG target of reducing poverty and hunger (target 1). As noted earlier, MOH has developed NAP, as well a Nutrition Action

[40] PRS is being overburdened with expectations about which elements should be placed at its core; nutrition is only one issue among many.

Plan for IDD. MOH has also declared a commitment to strengthening multisectoral linkages, building capacity in nutrition policy development, program management and research, and adopting an integrated approach, including community-based approaches and linkages with the private sector.

iv. Institutional Structure and Capacity

66. The unfavorable economic, social, and political environment since the 1998 economic crisis has weakened the nutrition system and institutions established in the past decades. Decentralization had an adverse impact on delivery of nutrition services and changes in the roles of the relevant institutions i.e. central, provincial, and district level governments. Local governments have not considered nutrition program as a priority since this does not bring immediate measurable returns. This has been exacerbated by the limited number of local nutrition staff with strong capacity in planning and managing nutrition program. Decentralization necessitates policy formulation to emanate from the lowest level of government, focusing on the acceleration of community-based approaches. This does not imply the exclusion of top-down, centrally derived solutions that has major role in policy and program formulation. Decentralization, however, offers tremendous opportunities. With local parliaments and local administrative and technical staff responsible for resource allocation, local needs can be given priority. Nutrition services should be able to better answer the demands of the population with locally adapted solutions and increased efficiency. The beneficiaries also will be in direct contact with those who make the decisions. Greater beneficiary involvement should improve transparency. There is a need to strengthen the capacity of local nutrition staff and also to develop local technical expertise to support local staff.

67. All levels of government should be committed to eliminate malnutrition for the promotion of the well being of the population. Nutrition policy and program formulation, as well as its implementation, need to be supported by appropriate institutional arrangements. There is need to rationalize the sector through institution strengthening strategies that could be supported under the Project. The DKP established in 2000 is concerned mainly with examination of issues related to food supply and price. Provincial and district BKPs that are supposed to be responsible for policy and implementation have also been established in many areas but, due to low funding and limited capacity, are generally ineffective. The necessary competencies are lacking at central, local and health center levels, both in program management and in technical skills. The required manpower levels for delivering nutrition services are not available and community based services are no longer effective in many areas. Organization development is also required, especially in provinces and local government health units. More flexibility in organization will assist in program delivery, including task forces and working parties to target crucial local problems. For example, a more integrated approach to the use of external and commercial organizations and to the management of surveillance would be beneficial. There may also be scope for organization development at the Directorate of Community Nutrition to take into account the effects of decentralization as well as the scope for innovations in policies and the need for coordination of research.

68. The bureaucratic rigidities in the system on human resource management and development present an obstacle to all public sector reform and development program in Indonesia. The division between 'structural' and 'functional' positions, the grading and remuneration systems, and the formal systems of performance appraisal, promotion, training and development are major impediments to change. The solutions to these problems are long-term issues but short term development of human resource management skills and improvements to job descriptions, performance appraisal and career development systems for nutrition personnel in the districts and cities will be highly beneficial and may serve as a model for other departments. There is an urgent need to build capacity and develop skills in

nutrition in the provincial, district and city health departments. This will require further expansion of university graduate courses in nutrition and expansion and quality control systems for the nutrition training institutions. But broader training and development in management is also necessary in provincial and local health units, including program management, human resource management, leadership, training needs analysis, data analysis, and innovative approaches in mobilizing local resources and the private sector.

69. The limited capacity of district offices to manage public services is generally acknowledged. Before decentralization, experience was largely limited to implementing central MOH programs and in maintaining local compliance with nationally mandated regulations and procedures. Limited training in management has been received and the capability of district staff to formulate policies and plans, manage and monitor programs, and manage budgets and human resources is generally very low. This is also reflected in levels of professional and technical competence in nutrition. Nutrition is supposed to be one of the six basic functions of *puskesmas*,[41] but it has been neglected in recent years. About 30% of *puskesmas* have a dedicated nutrition officer with at least one year of tertiary education (D1), while most *posyandus* have only general nursing or midwife staff with short course training in nutrition that vary in length from 3 to 30 days. MOH wants to upgrade this position to D3 (three years of tertiary training) level. MOH should consider streamlining *puskesmas* staffing and ascertain which nutrition skills are needed (medical, nursing, midwife) and training them accordingly. Below the *puskesmas* are *puskesmas pembantu*, generally staffed by a nurse and midwife as well as out-posted midwives (known as *bidan di desa*) who work at the community level, particularly in rural areas. The *bidan di desa* have been seen as particularly powerful agents because of their close working relation with and generally high levels of respect received from members of the communities in which they work, and play an important role in outreach activities, including those associated with nutrition.[42] It is critical that these peripheral staff have much better knowledge and skills in nutrition.

70. Strong and systematic advocacy will be needed to convince local decision makers of the need to maintain, and if possible increase, resource allocations for operational costs of and investment in nutrition services. Empirical studies show that most of the previous nutrition projects fail or had low compliance due to lack of nutrition knowledge and motivation of the target beneficiaries. The need for education and advocacy among political leaders and policy makers to make them aware that poor sanitation and hygiene and food choice are equally responsible for poor nutrition outcomes in order to generate support for investment in behavioral change.

C. Lessons Learned [43]

71. Indonesia has successfully reduced malnutrition through government and externally funded implemented nutrition programs. Key successes and lessons learned have shown the effectiveness of community-based approaches, public-private partnerships (PPPs), local government commitment, integrated multisectoral approaches, advocacy, social mobilization and communications, and direct fund channeling. Some of the key lessons learned are described below:

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[41] *Puskesmas* are based at sub-district (*kecamatan*) level. According to MOH data there were a total of 7,550 *puskesmas* operating in 4,820 *kecamatan* in 2004.

[42] See the report on *Lessons Learned during Implementation of the Family Health and Nutrition Project*, (ADB 1471-INO) that ran from 1997-2003.

[43] Sources: ADB PCR on HNSDP and SPSDP, WB Geoffrey Marks, UPGK annex, and notes from Manoff Group final notes on Posyandu Promotion Project, 1987-1991. Promoting the Growth of Children: What Works, World Bank.

- **Community Based Nutrition Programs.** UPGK, the popular community movement was able to successfully reduce malnutrition in the past. The multisectoral approach in UPGK was able to exploit complementarities of various short- and long-term nutrition interventions in health, sanitation, child caring, water and sanitation, family planning, and supplementary feeding programs. It has shown that community involvement permits better targeting of beneficiaries. Community consultation can help identify the "best practices", those congruent with local culture, capabilities and the physical environment. Community participation is an orientation, which must not be taken for granted, and should be an overriding and conscious concern. Local as well as international experience have shown that there is need to address: (i) failures to reach more than a fraction of the poorest families due to the lack of effective outreach by *puskesmas* and staff, (ii) declining attendance and growth monitoring at *posyandus*, (iii) poor training of cadres in nutritional and social mobilization skills, (iv) lack of focus on nutrition at the primary level, (v) lack of nutrition services between *posyandu* meetings (one morning each month), (vi) lack of knowledge and interest among medical doctors at *puskesmas* and its staff on the importance role of the *posyandu* potential to protect young children (0-24 months) from growth faltering (not-growing normally), particularly on proper use of KMS and SKDN, (vii) lack of effective training and supportive supervision for staff well-defined roles and responsibilities for program functionaries particularly the full-time personnel staff at *puskesmas.*

- To address the abovementioned, future initiatives in nutrition service delivery should entail the following: (i) programs should have dedicated workers in each community for growth promotion and child development; (ii) workers' tasks should be limited and well-defined; (iii) training should be task oriented and "hands-on" covering the entire growth promotion process, with an emphasis on problem solving and counseling; (iv) supervision needs to be supportive, continuing the training of the workers and addressing directly problems they confront; (v) PKK should be assigned the task of appointing, training, and supervising cadres; (vi) cadre motivation should be given priority; (vii) flexible budget allocations should be considered to allow for opportunities to quickly respond to emerging situations; (viii) clear assignment of roles and tasks among key program actors, especially when implementing a mix of interventions to ensure coordination; (ix) participatory evidence-based planning; (x) effective monitoring and evaluation, and information dissemination for successful program implementation; (xi) integrated pro-poor multisectoral approaches to community nutrition; and (xii) basic, applied, and operations research on nutrition, including research utilization and technology transfer.

- **Partnerships and Local Government.** Successes in the past have shown that significant support is essential to sustainable nutrition programs. Partnerships (government – NGOs – private sector – community – academia) can contribute immensely towards effective integration, resource mobilization, as well as transparency and accountability in nutrition. Specific lessons indicate that: (i) commitment by all administrative levels to program goals and continual monitoring to developing problems are essential to address malnutrition; (ii) inadequate budget support from central and local governments and delays in budget release have contributed to the declining nutrition[44]; (iii) regional differences in nutrition problems and factors contributing to them require independent decisions of district level officials; (iv) strengthening local government units and community capability to plan, implement, monitor, and evaluate sustainable and integrated nutrition programs is necessary for effective nutrition programs and services; and (v) partnerships enhance transparency and accountability.

[44] See the consultant report by Robert Raitt cited earlier for the PPTA.

- **Advocacy and Communications.** Nutrition advocacy and communications have contributed to success of nutrition programs, particularly in generating social mobilization. Resource mobilization has resulted in continued advocacy and communications among key stakeholders. In government, resource generation for nutrition involves three levels of implementation in a devolved government structure. At the national level, budget allocation to nutrition-related expenditures should be maintained and advocacy should press for funding. At the local level, there should be a better sharing of internal revenues with the national government. At the community level, local organizations and even beneficiaries can help to generate resources, if only to avoid developing or perpetuating a welfare mentality. The right approach to advocate and motivate private sector (partnerships) industries for mandated fortification requires government policy on fortification plan, professional and scientific working groups to provide data and information, and international support to convince industries and government that fortification is a global priority.

- **Food Fortification.** Eliminating micronutrient deficiencies (VAD and IDA) can be achieved effectively through mandated fortification. Moreover, strong technical support from experts and scientific data from qualified studies are required to support the MOH in its efforts at creating a demand for food fortification of certain vehicles and micronutrient. The Indonesian experience has shown that mandatory salt iodization and wheat flour fortification and intensive advocacy resulted in increased participation and awareness among private industries in food fortification programs. Mutual public-private partnerships among industry, government, and NGOs are likewise necessary to ensure compliance with mandatory fortification programs. Involvement of NGOs is essential in supporting government efforts at advocating food fortification programs with industries and other stakeholders. Presently, the QA/QC and law enforcement of mandated salt iodization and wheat flour fortification of iron is the weakest area that needs government attention to strengthened.

D. External Assistance to the Nutrition Sector and Opportunities

72. Over the past years, a limited number of Government and externally supported Projects (WB, AUSAID, WFP, UNICEF) have assisted in combating rural malnutrition e.g. through the control of iodine deficiency, UPGK, *posyandu*, Vitamin A and iron supplementation, and complementary foods. Externally funded Projects focused largely on the provision of food aid in particular during the Asian financial crisis. Sector analysis has been provided by ADB, including various regional technical assistance food fortification[45]. ADB assistance to nutrition consisted of (i) protecting access of vulnerable groups to essential health nutrition, and family planning services; (ii) maintaining the quality of services to the poor; (iii) initiating feasible policy reforms related to sustainable health and nutrition service delivery; (iv) strengthening nutrition surveillance, revitalizing *posyandu*, complementary feeding and supplementary feeding, expanding the participation of families and communities in identifying their health needs and priorities and increasing service quality. The World Bank supported an IDD program nationwide; provided sector analyses in PEM and micronutrient deficiencies. Sector analysis was also conducted, including an assessment of previous nutrition programs for input in developing future nutrition program. Assistance indirectly supports nutrition such as the DHS, CWSSP, and equivalent World Bank projects, the various maternal and child health, water supply and sanitation projects, and community empowerment projects and are complimentary with nutrition focused interventions. The ADB, UNICEF and MI is supporting fortification program. From 1998 to 2003, Helen Keller International (HKI) has been collecting data for nutrition in selected areas. The proposed

[45] ADB Special Evaluation Study of Selected ADB Interventions on Nutrition and Food Fortification, March 2005, indicates 31 regional technical assistance projects in the field of health, nutrition, population and early child development.

Project will be ADB's and the Government's first major nutrition Project, and the first dealing with nutrition explicitly after decentralization in January 2001.

73. ADB health policy highlights implications for the dominant role played by the government in providing health care and in improving health care indicators. It focuses on: (i) instituting transparency and financial accountability in public spending; (ii) reduced level in corruption in the provision of health services to help improve their quality; (iii) facilitate private sector entry in the provision of public services to help curb the monopoly power of government service providers; and (iv) participation of the poor in deciding the allocation of public resources. ADB aims to prepare strategies for nutrition. The 2005 Country Strategy and Program Update states that concerted efforts are needed to access to water and sanitation as diarrhea is one of the main causes of malnutrition. The Project is therefore aligned with ADB's policy on continued focus on improving the health of the poor, women, children, and indigenous peoples; and Indonesia's overall national poverty reduction strategy and national action plan for nutrition. The proposed Project presents opportunities to strengthen the relevant institutions (MOH, MOA/BKP) and coordination mechanisms for institutional linkages among relevant ministries and agencies. The development of the policy making process and building competencies for the delivery of nutrition services can be addressed with potential significant impact. Weaknesses in the food and nutrition surveillance system urgently will be addressed in local government and the community. In the Project, local food and nutrition related institutions will be revitalized by promoting family nutrition awareness; means of family empowerment and resource mobilization, and promoting participation by private sector to augment public resources will be explored. Through an integrated multilateral nutrition package, optimum results are expected from institutional and policy reform, and sustainable behavior change communications (BCC) in nutrition services.

II. THE PROPOSED PROJECT

A. Impact and Outcome

74. The proposed Project will improve the nutrition status, especially of poor children under five, pregnant and lactating women, and adolescent girls. The Project aims to reduce the prevalence of underweight of children under five, iron deficiency anemia of children and pregnant and lactating women, and chronic energy deficiency in poor women of reproductive age. The Project will help the Government in meeting the MDGs with regard to MDG 1 Eradicating Extreme Poverty and Hunger.

B. Project Component and Outputs

75. The Project components have been designed in line with the rationale, issues and lessons learned described in the foregoing. With nutrition being multidimensional in nature, the Project utilizes a comprehensive and integrated multisectoral approach to reduce malnutrition. At the core of project is a community-based nutrition improvement program, which draws on the interrelated causal factors that affect malnutrition such as food intake, child caring, health, sanitation and hygiene, education, religion, and communications that influence nutrition behavior. Growth monitoring counseling and nutrition related interventions are the essential 'package of nutrition services' that need to be prioritized through the health system. Lessons learned from CDD approaches[46] in Indonesia and similar developing country settings have exhibited successful implementation of community-based

[46] Barangay Integrated Development Approach for Nutrition Improvement (BIDANE), Philippines; Kecamatan Development Project (KDP), Indonesia, Thailand experience in nutrition have all indicated success in community approaches to nutrition programs.

interventions. In the rural areas, the urban modalities of community-based, location specific assistance (*posyandus*, UPGK) will be strengthened.

76. Food fortification serves to support the abovementioned core activity as a long-term sustainable intervention in nutrition. Evidence shows that in the long run, the best way to improve child nutrition among the poorest is through fortification.[47] The project builds on the efforts of ADB in investment (ADB JFPRs)[48] and research on fortification being a global priority.[49] Food fortification has to be lead by public sector in standards setting, piloting and research, and monitoring[50] and parallel advocacy among policy-makers, private industry and organizations are required to spur PPP.

77. An integrated multisectoral approach to nutrition is dependent on institutional setup at the macro level related policy and program development which will ensure that interventions are cost–effective and delivered efficiently; effective organization which will enhance quality program delivery; sustainable and appropriate resource mobilization; assurance of adequate human resources availability which will ensure appropriate institutional competencies at all related sectors and levels; and research and development which will enhance the policy and programs, coordinating organization, human resource quality. The project is designed to take into account the large regional variations in malnutrition and variations in the relative importance of different causes. It is likely that detailed priorities and strategies need to be tailored to the specific constraints faced by different urban and rural communities. Geographic targeting on beneficiary areas will be used to ensure project impact.

78. As such, the proposed Project will consist of four components: (i) Integrated Community Nutrition Program, (ii) Food Fortification, (iii) Institutional Strengthening, and (iv) Project Management. The first three components comply with the first MOH platform on social mobilization and community empowerment. Initiatives in Indonesia implemented for more a decade was UPGK which in the past successfully mobilized rural community and empowered women through PKK and religious groups for nutrition education, home and school gardening, growth monitoring and promotion at *posyandu*, and timely warning and intervention system at household level. The Project proposes a modified or new UPGK approach through Community-Based Integrated Nutrition Package (CBINP): a new UPGK, a potential program for social mobilization and community empowerment in nutrition. Fortification program is a public and private partnership program that promotes private and food industry participation. The components on institutional strengthening and project management are necessary programs to design, plan, organize, manage and evaluate the major components, as indicated also in the MOH platforms on improving surveillance, MIS and management, and increased sector financing.

COMPONENT 1: INTEGRATED COMMUNITY NUTRITION PROGRAM

79. The purpose of this component is to improve growth and development of children from birth to age five through (i) improving access to and quality community-based growth promotion programs coupled with other health services (MCH, reproductive health, family planning, hygiene education, nutrition education, and communicable disease control), and (ii) complementing growth promotion with other community based interventions that address the underlying causes of malnutrition (household food security and agriculture, water and

[47] ADB Manila Philippines, ADB Nutrtion and Development Series 2001. Improving Child Nutrtion in Asia.

[48] ADB has invested in 31 technical assistance projects in education, health and nutrition-related studies. JFPRS however have not been translated into implementation loan projects.

[49] ADB SES Evaluation: Food and Nutrition, 2005

[50] ADB Manila Philippines, ADB Nutrtion and Development Series 2000. Strategies to Fortify Essential Food in Asia and the Pacific.

sanitation, food safety, poverty alleviation, and health, nutrition and caring education).The leading edge for the component is *posyandu*, particularly growth promotion for children under five; nutrition, health promotion and care for sick children under five; and nutritional care for pregnant and lactating women. This component consists of: (i) Improving Nutrition Service Delivery, and (ii) Establishing Community-Based Integrated Nutrition Package (CBINP): a new UPGK. The basic activities of this component will be undertaken in both rural and urban settings. In urban areas, however, this will entail adapting the traditional *posyandu* system to urban lifestyles, food systems, and geography. Because urban *posyandu*/UPGK is a new concept, the urban areas will be exploratory pilots for the first three years of the Project. In conjunction with local NGOs, private sector, and universities, cities will develop and test promising approaches to the urban malnutrition problem. During the second half of the Project life, the most promising approaches will be scaled up and disseminated widely to other urban areas. By the end of the Project, sufficient experience will be gained in urban areas to make national urban policy recommendations.

i. Improving Nutrition Service Delivery

80. This subcomponent will consist of: (i) revitalizing *posyandu* and *puskesmas* and (ii) implementing a quality assurance system. *Posyandu* and *puskesmas* revitalization must be accomplished to make a community eligible for the more comprehensive integrated nutrition program in both rural and urban areas. The heart of this activity would be promoting an essential package of nutrition services at *puskesmas* and *posyandus*.

81. *Posyandu revitalization* will focus on improving the growth and nutrition status of children under five through GMP activities. To achieve this objective, the following activities will be undertaken:

(i) Provision of facilities and equipment to run the *posyandus*; and provision of operational budget (from national, provincial, and local authorities) to run *posyandu* to run target group (outreach program);

(ii) Review and improvement of existing procedures, management, skills, training, and incentives system of *posyandus*;

(iii) Design of in-service and refresher nutrition training for *posyandus and related staff*, including supportive supervision by *puskesmas* staff; conduct of nutrition training and orientation for *posyandu* cadres and all other involved in the *posyandus, i.e.*CBOs such as PKK and religious groups, *puskesmas doctors and* staff, BKKBN workers, PAUD workers/, teachers, religious authorities, and agriculture officers, as appropriate);

(iv) Complementary reinforcement in the form of materials and mass media (which will be designed in the communications component).

(v) Improvement of procurement and distribution of supplies, such as *posyandu* guidance books, KMS (=*Kartu Menuju Sehat*/growth monitoring chart), IEC materials, report forms, scales, and other supporting facilities;

(vi) Capacity building for the objective of supporting nutrition services through implementation of a complementary nutrition education program for the community tied in with local causes of malnutrition (e.g. rainy season diarrhea and respiratory illness; nutritious local foods to feed young children; sanitation and food hygiene practices; care and feeding of young children of working women). Nutrition education will be oriented toward improving knowledge and attitudes that change behavior towards better nutrition and healthy lifestyles including the principles of dietary guidelines ("*gizi seimbang*") that lead to KADARZI or "*Keluarga Sadar Gizi*" (Family Nutrition Awareness). Group discussions should be complemented with supporting materials and media. The nutrition educators will include PKK, *dasawisma*, and *posyandu* cadres and UKS

teachers. This piece of the *posyandu* program will need to be carefully designed under the communications component.

82. *Puskesmas revitalisation* will focus on improving its function and performance by providing facility-based nutrition services including the necessary support and oversight of *posyandu* to achieve better community nutrition and health status. Improvement on the health-service systems (i.e. referral system) will be undertaken through this project primarily through capacity building with the objective of supporting nutrition services. To achieve the objectives, the following activities are proposed:

(i) Provision of funds to strengthen nutrition function of *puskesmas*, possibly for civil works, equipment (nutritional status assessment equipment, particularly for anthropometry measurement), provision of motorcycles to improve outreach program, and development and dissemination of nutrition IEC materials;

(ii) Capacity building for the objective of supporting nutrition services through the conduct of training on: basic nutrition, child growth and development, breastfeeding, complementary feeding, dietary management of diarrhea, counseling skills and the behavioral basis of malnutrition, and leadership and nutrition management program for the head and officers of *puskesmas*; and

(iii) Training on the treatment of severely underweight/malnourished children (="tatalaksana gizi buruk") among the relevant hospital and *puskesmas* officers;

83. *Quality Assurance*: *Direktorat Gizi* and the MOH have a role to set standards and assure compliance with technical guidelines, referral, supervision, feedback, performance indicators and training. The quality assurance program in nutrition services will entail (i) establishment of quality-assured referral systems at all levels of nutrition service delivery in the Project areas; (ii) development of information systems, protocols and guidelines on quality assurance and referral systems; and (iii) training relevant personnel regarding their roles in quality assurance. Component 3 refers to the institutional change required to perform these functions.

ii. Developing Community-Based Integrated Nutrition Package (CBINP): a new UPGK

84. This subcomponent will strengthen and integrate various nutrition-relevant activities among and between different sectors and agencies[51] through a Community-Based Integrated Nutrition Package (CBINP). This approach will involve improved family nutrition through the revitalization of UPGK. While UPGK traditionally was defined by the national government in the form of a list of interventions and manuals for each sector (health, agriculture, religious affairs, education, etc.), the new UPGK will be more community driven based on their respective nutrition problems and interventions needed. CBINP approach will be implemented in both rural and urban areas. The 'package of nutrition services' (CBINP) will be local specific and will be undertaken in a phased manner, as follows: (i) essential nutrition services focusing on GMP, nutrition education approach will be first be undertaken; (ii) nutrition-related activities will follow (water and sanitation, household food security, etc) as these relate to the nutritional problems in the community; (iii) leverage on existing project to increase project reach[52]. Specific approaches will be undertaken in urban areas, utilizing new and tailored solutions to urban malnutrition. While it is anticipated that household food security, early childhood growth and development and education, and water, sanitation and

[51] Health, Agriculture, Family Planning, BULOG, Education, Religious Affairs, Local Gvernment, and community based NGOs such as PKK

[52] For instance, Decentralized Health Services Project (DHS/DHS2), CommunityWater Supply and Sanitation Project (CWSSP), Water Supply and Sanitation for Low Income Communities (WSSLIC2/WB), recent Community Water Services and Health Project (CWSHP), and Kecamatan Development Project (KDP/WB), among others.

food hygiene will also be critical in urban areas, the precise interventions may be different. Home and school gardens, for instance, may not be feasible in urban areas. There may also be opportunities in urban areas that don't exist in rural areas, such as worksite crèches. In the urban *posyandus*, the first three years will entail piloting and scaling up innovative solutions during the project implementation.

85. The new UPGK is a package of community nutrition activities aimed at: (i) making every family in the community aware of the principles of good nutrition and applying it to their daily living; (ii) ensuring that every family is able to assess, solve, and overcome the nutrition problems of their family members, especially pregnant and lactating mothers and young children (0-24 months). Such families will be called nutrition-minded families (*kadarzi),* which is a family that is: (i) knowledgeable on basic principles of balanced diet based on "*Pedoman Gizi Seimbang*" (Nutrition Guidance) for each family member (lifecycle groups), (ii) practicing exclusive breast feeding for their infants 0-6 months, (iii) monitoring their under-five year age, particularly young children (0-24 months) child's growth through monthly weighing at *posyandu* or private clinics or elsewhere, using the national growth chart (KMS) and being aware of what to do if their children fail to grow, (iv) using correctly home and/or commercially fortified complementary foods for children 2-5 years of age, (v) maximizing family resources (human and physical) to access a balanced diet for the family, including home gardening, employment opportunities, government subsidies such as RASKIN and "*bantuan langsung tunai" or* "BLT" (direct cash transfer to the poor), and (vi) participating in health and other community development programs implemented by government and the private sector such as: immunization, water supply and sanitation, school health movement, and early child development education (PAUD).

86. As distinct from the old UPGK, which was centralized and depended on the national policy and instructions, the new UPGK is based on community nutrition problems, especially in young children and pregnant women. The problems detected through *posyandu* and *puskesmas* (expressed as SKDN), are used for community health and nutrition diagnosis and problem solving. The Project will provide technical assistance and facilitators to help communities use SKDN results to develop locally relevant proposals to multisectoral action. UPGK will advocate using child growth data from *posyandu* and *puskesmas* as a complementary indicator to identify poor households and poor areas eligible for Project assistance. The community will decide which particular packages it wishes to implement and local (*kabupaten* and *kecamatan*) authorities will implement and finance the necessary service delivery. To move from supply driven to demand driven will require capacity building at the local level and support for community organizations. To support the community, a team of external community specialists, Community Facilitators Teams (CFT), will be hired and trained under the Project. CFTS will assist in building community mobilization and organization capacity at the village level. MOH, provincial and district authorities will provide technical guidance ("menu" of intervention options and technical specifications for each intervention) and quality control on defined packages of services that address the most common causes of malnutrition.

87. The mechanisms include establishment of CBINP Model (*"percontohan")* at kecamatan level, and Community Nutrition Group or NutriComG ("Kelompok Masyarakat untuk Perbaikan Gizi Terpadu/PGMT") at the village level. Based on selected criteria (prevalence of undernutrition, capacity to implement the programs, infrastructure and other relevant indicators), the District/Municipal Project Coordinating Committee will select the *kecamatan* eligible for the CBINP model. A total of 320 CBINP models will be selected from the 24 *kabupatens* and 8 *kotamadyas* in the each of the 8 selected provinces. The number of CBINP model is proportionally with the number of *kecamatan* in each *kabupaten/kota.* Each CBINP model will receive a *specific block grant* to run the activities. These *kecamatan* then select villages which have capacity to develop NutriComG. The number of NutriComG is

proportionally with the number of villages in each kecamatan. Village selection will be based on the facilities/poverty/nutrition mapping of the selected areas. Such criteria include: malnutrition status/problem(s), availability of *posyandu*, capacity to run the program, and other relevant criteria. The map will be developed by the community with assistance from CFTs. Block grants will be provided to run the NutriComG activities. It will be performance-based, i.e., community groups have to exhibit competence in the planning, management and implementation of nutrition programs. NutriComG's proposals will be evaluated by the *kabupaten/kotamadya* evaluation teams. Through this mechanism, communities will be empowered to plan and implement sustainable nutrition programs. These communities will be assisted by the CFTs, who will be deployed by the *kabupatens/kotamadyas* to work with both communities and local authorities.

88. Menu options of CBINP will include: (i) growth monitoring and promotion (GMP) at posyandu; (ii) supporting household food security through home/school gardening[53]; (iii) income generating activities (as incentive for cadre and/or the poor household with undernourished children); (iv) strengthening food sanitation and hygiene through education and improved access to water and sanitation, and (v) enhancing child growth and development through implementation of early child care and development education program (PAUD)[54]; and (vi) development of nutrition education/campaign through distribution of printed materials and establishment of community radio. Additional interventions might be approved if a good case is made for them and if technical support is available from local or national authorities. With these project orientations, it is expected that this NutriComG will be able to initiate the establishment of *"Desa Siaga"* and *"Desa Mandiri Pangan"*.

COMPONENT 2: FOOD FORTIFICATION

89. The purpose of this component is to reduce micronutrient deficiencies through food fortification, particularly iron and vitamin A, among children under five years, pregnant women, and adolescent girls among urban and rural poor households. This consist of: (i) d development and pilot testing of iron fortification of "Rice for the Poor" (RASKIN); (ii) expanding distribution and marketing of sprinkles; (ii) expanding Vitamin A fortification of cooking (palm) oil; and (iv) strengthening the national wheat flour fortification. This component supports the development of MOH policies, regulations and standards in the public sector to ensure compliance with food fortification.

i. Pilot Testing of Iron Fortification of "Rice for the Poor" (RASKIN)

90. Iron food fortification on staple food has been implemented in Indonesia on wheat flour since 2000. A complementary iron fortification strategy on staple food should be made. Since RASKIN is targeted for the poor, it is believed that RASKIN fortification with iron will significantly improve the iron status of the urban and rural poor. Technically, rice fortification with iron is feasible and has been implemented at various countries, including Japan and the Philippines.

91. The subcomponent aims to pilot test the iron fortification of RASKIN in order: (i) to identify technical issues/problems on iron fortification of RASKIN at production (e.g. homogenous during mixing at rice mills industries), stability at storage, distribution and consumption sites, and acceptability (socio-cultural acceptability, preference, and affordability); and (ii) to demonstrate the impact of iron fortification of RASKIN on the iron status of the poor, particularly among the target beneficiaries. Activities of this

[53] Food and Nutrition Diversification Project of MOA successfully undertook home gardening and household farming nationwide in the 1980s to early 1990s.

[54] Children 3-5 years of age will be the main beneficiaries of the project, this is estimated to be about 1.3 million in the selected districts.

subcomponent include: (i) preparation of rice milling industries to be test RASKIN fortification, particularly through provision of equipment and rice premix fortificants; (ii) conduct of stability and bioavailability testing of fortified RASKIN; (iii) distribution of fortified RASKIN to the poor; and (iv) conduct of effectiveness study to evaluate its impact on iron status of the poo.

92. BULOG is the main institution responsible for operating RASKIN. Therefore, the distribution of fortified RASKIN will follow the original distribution system of BULOG. Involvement of rice milling industries will be encouraged primarily through advocacy and initial supports, particularly provision of equipment for rice mixing, technical assistance and training. Stability and bioavailability evaluation will involve Balai POM (Provincial BPOM laboratory) and competent and reputable universities/research centers. During the first two project years, focus will be on the preparation studies, particularly homogeneous and stability test. Selection of *kabupaten/kotamadya, kecamatan and desas* for effectiveness evaluation will involve BULOG/DOLOG and university/research centers. Criteria for selection will be based on various indicators particularly micronutrient (iron deficiency) and poverty levels.

ii. Expanding Distribution and Marketing of Sprinkles

93. Development of local sprinkles[55] and determining its efficacy is presently being undertaken under the Japan Fund for Poverty Reduction (JFPR) Project[56], and pilot tested at Makassar and North Jakarta. The efficacy and effectiveness study in those two areas include the currently available sprinkles produced by Heinz and India. The most cost effective sprinkle then will be chosen and distributed to the beneficiaries. The purpose of this sub component is to expand the distribution and marketing of sprinkle proven to be the most cost effective based on JFPR studies. The goal of the project is to assure that sprinkles contributes to the reduction of 50% underweight children during period of the Project, through: (i) advocate potential industries to produce and market of low-cost sprinkle; (ii) advocate policy makers (legislation and executive) to allocate budget for sprinkle subsidy to poor families; (iii) promote community awareness on the importance of breast feeding and uses of sprinkle as part of KADARZI (family-awareness) campaign on nutrition.

94. Those above mentioned goal will be achieved through the following: (i) expand effectiveness and acceptability studies of existing sprinkle in the market in 8 provinces; (ii) advocate industry to produce the most cost effective sprinkle based on JFPR studies and market it commercially at affordable price for the poor; (iii) training and workshop on distribution, storage, marketing, and promotion/consumer education to consumers sprinkles during normal and emergency situation; and (iv) conduct formative and summative evaluation on distribution, marketing coverage, effectiveness sprinkles.

95. The sprinkles produced by domestic industry then will be marketed through commercial marketing systems as well as through *puskesmas* and *posyandu* as part of regular GMP activities. Marketing strategies through commercials and social marketing such as nutrition education at *puskesmas, posyandu* will be implemented, accompanied by nutrition campaign through community radio, billboard, and distribution of printed materials. At the first and second year of implementation, sprinkles will be marketed at subsidized price, and will be full commercial but at low and affordable price afterward. Formative and summative evaluation on distribution, marketing coverage, and effectiveness of sprinkles in improving iron status of children under five will be held in the middle and the end of the project implementation.

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[55] Sprinkles are multi-micronutrient fortificants added to home-prepared food.
[56] ADB Technical Assistance.

iii. Expanding Vitamin A Fortification of "Curah" Cooking (Palm) Oil

96. The recent study of KFI (2004) show that cooking oil is feasible to be fortified with vitamin A since it is widely consumed by most of Indonesian community, including the poor. The average cooking coil consumption among the poor was 23 g/cap/day, and the most commonly consumed is the unbranded cooking oil or 'minyak curah'. As, sprinkle, a pilot testing of "minyak curah" fortification with vitamin A at city of Makassar is now on-going under JFPR project. Expansion of this effort to find out more benefit proof of this effort in reducing the prevalence of vitamin A deficiency among poor children should be made prior a mandatory fortification policy on cooking oil is launched by the government.

97. Activities to be conducted are include the following: (i) facilitate the development of regulations, standard and manuals for cooking oil fortification with vitamin A; (ii) training the manpower and institution for quality assurance, quality control, law enforcement, and communications; (iii) strengthen laboratory facilities to support monitoring and law enforcement by BPOM; (iv) run fortification communication, particularly and advocacy program for legislative, executive, judiciary, food industry, and the general public; (v) conduct effectiveness study to collect sufficient scientific evidences with regards of the benefit of cooking oil fortification in reducing the VAD prevalence among children under five and women at reproductive age.

98. The activity aims to have a 50% reduction of the prevalence of VAD and improved nutritional status among at-risk groups through cooking oil fortification with vitamin A by the end of the Project. Specifically, the objectives are: (i) to develop the regulations and manuals (SNI, Notification to WTO, etc) regarding cooking oil fortification in the middle of the Project; (ii) to scale up cooking oil fortification with vitamin A at the middle of the Project, (iii) to assure at least 50% of poor population consumes fortified cooking oil in the end of the Project; (iv) to demonstrate the impact of cooking oil fortification on the vitamin A status of the poor population at the end of the Project. The program will train people, improve facilities to establish laboratory and communication networks in the private sector, the public sector, and among consumers. In private sector, the cooking oil industries will have improved ability to do compliance testing for QA (Quality Assurance) and QC (Quality Control) on their cooking oil products. In the public sector, BPOM laboratory will have improved capacity to assess fortification level of fortified cooking oil. Consumer groups will have a better understanding of the importance of fortified foods, and will begin to learn how to advocate for more nutritious manufactured foods.

iv. Strengthening the National Wheat Flour Fortification

99. Wheat flour fortification was started since 1999. However, the program for quality control of food manufacturing, monitoring at the consumer level, impact studies and marketing studies, as well as monitoring imported foods, advocacy, promotion, and law enforcement is still weak. This is the main cause why unfortified wheat flour can still be found in various parts of Indonesia, despite national legislation passed in 2001 mandated all wheat flour to be fortified. The activities to strengthen wheat flour fortification will include: (i) training the manpower and institution for quality assurance, quality control, law enforcement, and communications, (ii) strengthening lab facilities at government food monitoring agencies (BPOM); (iii) running fortification communication and advocacy program for legislative, executive, judiciary, food industry, and the general public, (iv) standardizing wheat flour quality; (v) Review effectiveness of existing regulations and explore new regulations for ensuring the quality of iron enriched wheat flour; (vi) monitoring iron fortification level of imported wheat flour; (vii) Monitoring wheat flour consumption by the "at-risk" population; h) Monitoring the prevalence of IDA; (viii) conducting bio-availability tests on fortified flour.

100. The expected output of these above mentioned activities are: a) qualified manpower for QA and QC for wheat flour fortification in the flour mills, major port laboratories, and national laboratories available in Project areas, (ii) Improved laboratory facilities to test milled wheat flour to see if it meets the standards and established network for QA and QC among the labs, (iii) Improved awareness of various target groups including legislative, executive, judiciary, food industry and consumers about the benefits of fortified wheat flour, (iv) Improved quality of wheat flour in the market as indicated by compliance to the national standard., (v) Increased prosecution of illegally imported unfortified wheat flour cases; (vi) All imported wheat flour will be monitored for compliance with national standard, (vii) an increase from 37% to 50% of households consuming fortified wheat flour. (viii) availability of data on trends of IDA by geographical region and risk groups in 8 provinces; (ix) decreased prevalence of IDA among target groups, and (x) capacity building. In the private sector, the milling industries will have improved ability to do compliance testing for QA (Quality Assurance) and QC (Quality Control) on their milled flour products (and other fortified food products as well). In the public sector, BPOM will have improved capacity to assess fortification level of imported milled wheat flour. National and district level legislature will have better understanding of nutrition, the functional consequences of anemia, as well as the importance of food fortification. Consumer groups will have a better understanding of the importance of fortified foods, and will begin to learn how to advocate for more nutritious manufactured foods.

COMPONENT 3: INSTITUTIONAL STRENGTHENING

101. The symptoms of dysfunction in nutrition institutions in Indonesia are hard to ignore, which include: (i) the scant improvement in overall nutrition status figures in recent years, (ii) the appearance of severe malnutrition, (iii) the failure of the information system to provide early warning system to prevent malnutrition, (iv) the weak position, to the point of absence, of nutrition in the national development plan, and (v) the deterioration of the *posyandu* system and the whole primary health care system, the main preventive nutrition program in Indonesia. The policy function is ineffective, the nutrition surveillance system is not working, the standards setting and compliance monitoring functions fail to yield high quality services, institutional linkages (both across sectors and between levels of government) are no longer in effect, program implementation is weak, and research is not utilized effectively in policy making and solving operational problems.

102. This component seeks to address the root causes of these problems. It uses a broad concept of institutional strengthening encompassing mission, goals, allocation of roles and responsibilities, manpower deployment, lateral and vertical communications, and management and information systems. The Project will support: (i) an in-depth organizational analysis and improvement; (ii) consolidating and improving food and nutrition surveillance systems; iii) strengthening institutional capacity at central local and community levels in policy and program development and implementation; (iv) comprehensive communications program; and (v) research and development.

i. Organizational Analysis and Improvement

103. The main purpose of the subcomponent is to identify the causes of dysfunction in the nutrition system in the aggregate and in its subsidiary parts, and to make the necessary changes to make it more effective. This will entail clarifying the vision and mission of the main actors in the nutrition system at the national and local levels. These main actors include MOH (not only Direktorat Gizi), MOA (not restricted to the DKP/BKP), MONE, MORA, BPOM, BULOG, BAPPENAS, Menko Kesra, parliament (DPR/DPD), local administrative and political authorities, and others. The institutional assessment will focus on MOH, MOA, BAPPENAS and their local counterparts. It will include, among other things, the review of existing structures, functions and linkages and clarification of roles and

responsibilities. Subsequently, the roles and functions under the proposed institutional arrangements and to the coordination of policy, surveillance and research will be prepared. Consensus will be secured from among pertinent stakeholders at central and local levels to ensure that the proposed medium to long–term institutional arrangements are acceptable and appropriate to government secured.

104. Particular attention will be paid to the following: (i) constraints in the policy-making process and program management in nutrition, especially relations among central, regional and local institutions concern in food and nutrition; (ii) organizational development and change at central level, particularly DKP, *Direktorat Gizi* in MOH, and BKP in MOA to enhance performance and multisectoral coordination; (iii) organizational development and change for similar institution at provincial and district levels to promote more effective planning and delivery of nutrition services across sectors and organizational boundaries, including relevant working parties and task forces; and (iv) human resources management including manpower planning, and staff development and training.

105. The institutional development component of the Project thus aims to restructure and strengthen the capacity of food and nutrition relevant institutions at central, provincial, and district levels, and linkages with appropriate external organizations, including CBOs, NGOs and the private sector. Organization development is also required to enhance DKP's(to become Food and Nutrition Council/FSC) role to include nutrition at all government levels which furthermore the DKP would. DKP is the apex organization in food and nutrition policy and needs to be strengthened but working just with that one institution is insufficient to turn around the situation and build consensus. That requires active outreach to attract private sector resources and influence private sector participation and cooperation. There may also be scope for organizational change at the *Direktorat Gizi* to take into account the effects of decentralization as well as the scope for innovations in policies and the need for coordination of research. The institutional restructuring will allow more flexible and effective organization of the nutrition functions and thus improved service delivery. This requires active outreach to attract private sector resources and influence private sector participation and cooperation. More flexibility in organization will assist in program delivery, including task forces and working parties to target crucial local problems. For example, a more integrated approach to the use of external and commercial organizations and to manage surveillance would be beneficial.

106. A manpower assessment will review gaps in technical and management skills in food and nutrition at the central, provincial, district and city health departments, and other abovementioned institutions and recommend appropriate remedial action. It will also review the quality and capacity of training facilities at the central, provincial, and district levels, at health centers, and in the community, including capacity for training needs assessment, training delivery, training evaluation and linkages to performance and career development. This will entail: (i) the development of a quality control system for nutrition training institutions; (ii) conduct of advocacy workshops on approaches to involving the private sector (CBOs, religious groups, PKK, stakeholder groups, professional/corporate associations) in nutrition service delivery and in surveillance activities; promoting a system for exchange of information on PPP schemes between districts; (iii) design of improvements in the human resource management system in the provinces and districts, e.g. developments to the performance appraisal system, linking training to development plans, and supervision and reporting practices (simple supplements to the established national system); (iv) preparation of documentation on proposed improvements in management and in HRM; and (v) conduct of workshops on HRM for nutrition staff and prepare recommendations for extending good practice. This will also entail assessment of existing manpower, and recruitment based on manpower plans developed to respond to institutional needs. The comprehensive communications subcomponent will provide support to this activity through its research and advocacy strategy for policy makers at the national and local levels. Creating support for institutional change will be critical to success.

ii. Strengthening Food and Nutrition Surveillance System

107. The main outcomes of this subcomponent will be better quality data, more timely data, and better use of data on food and nutrition at the national and local levels. The strengthening of FNSS will entail: (i) development of an information plan for national and local levels necessary for decision-making and early warning response; (ii) assessment of its institutional performance; (iii) systems improvement (including database management, guidelines and materials); and (iii) conduct of training on the improved system (collection, analyses, and reporting) at national, provincial, district and community levels. Improved FNSS is expected to: (i) optimize and increase coverage, accuracy, and accountability on collecting, analyzing, reporting, and establishing the FNSS data & information; and (ii) improve the usefulness of FNSS data and information for formulating, planning, implementing, monitoring and evaluation of food and nutrition programs.

108. FNSS is one of the important instruments necessary for the successful implementation of community-based food and nutrition improvement program, particularly program monitoring, analysis, and interpretation of indicators and causal factors in order to make appropriate decisions resulting in improved community nutritional status. At the same time, some of the key indicators (SKDN) derive from the *posyandu* system. Therefore, the revitalization and improvement of *posyandu*, through the CBINP, will be necessary to improve the overall quality of nutrition information system. The information required often has to cover not only dietary intake and outcome data but also the other important determinants of nutrition status, including income, food prices, sanitation, education, mortality, and morbidity.

109. FNSS requires highly skilled, stable, and well-motivated personnel, since information is necessary to guide policies and programs. Important recommendations will include staff recruitment and development as well as facility provision and distribution at respective agencies concerned with FNSS at national, local and community levels. Beyond the line ministries, there is a need for analysis of the data in order to examine nutrition within the context of poverty monitoring and general development policy. Poverty and Social Impact Analysis is critical to anticipate, compensate for negative effects, and monitor the effect of a wide range of macroeconomic and sectoral policies on food consumption and nutrition of the poor. Only by building capacity in the poverty monitoring unit at BAPPENAS will such analysis take place.

iii. Strengthening Institutional Capacity

110. This subcomponent will primarily involve strengthening institutional capacity for nutrion policy, strategy and IEC at central and local levels. There is an urgent need to build capacity and develop skills in food and nutrition planning and management, especially on health and agriculture departments responsible for food and nutrition. This will require further expansion of university graduate courses in food and nutrition with special competency on food and nutrition security program planning and management. Broader training and development in management is also necessary in provincial and local units, including program management, human resource management, leadership, training needs analysis, and data analysis. From the organization development subcomponent, a comprehensive staff development plan will be prepared to ensure effective nutrition services. Based on the assessment, the Project will provide support to strengthen the central and local staff (district or city and subdistrict). This includes nutrition programs in maternal and child health care (MCH) will be strengthened, which will have elements of training of health service providers on nutrition in the MCH programs. Technical assistance, both local and international, will be required to review curriculums, develop training modules and materials for the management and technical

areas, including the conduct of initial training for trainers. The full implementation of such training are integrated into the specific project components.

iv. Comprehensive Communications Program

111. The purposes of the nutrition communications subcomponent are to: (i) increase political commitment and budget for nutrition at the national and local levels; (ii) mobilize social support for nutrition programs at all levels, including the community; (iii) improve understanding about nutrition issues among policy makers, government personnel in health and non-health sectors, community volunteers, communities, the press and the commercial sector; (iv) improve the effectiveness of program communications (particularly nutrition counseling and education); (v) increase participation in community-based nutrition programs; (vi) improve the monitoring and supervision of nutrition programs; (vii) improve communications skills of personnel involved in health and nutrition programs; and (viii) improve key nutrition behaviors, especially among mothers and children under five.

112. This will be accomplished by using social marketing approach, implementing disciplined programs to achieve specific objectives with distinct audience segments, and institutionalize and professionalize behavior change communications (BCC) within the government. The program will consist of six separate audience segments: policy makers, providers, communities, the public, the commercial private food sector, and press/media. Interventions are to be designed for each segment based on formative research and programmatic environment. A communication situational analysis will be conducted to ascertain potential resources and experiences that will assist the development of communications for behavior change activities. Then formative research will be conducted for each of the audience segments. Comprehensive behavior-change strategies will be developed for each audience segment, which include communications, training needs, products, and message and media plans. Subsequently, messages and materials will be drafted, pretested, finalized, and produced. BCC strategies and plans will be developed and implemented based on the baseline survey of specific behaviors and outcomes. Finally, an impact evaluation conducted, and project achievements and lessons learned will be disseminated.

113. Reversing the steep decline in nutrition BCC and meeting the advocacy needs associated with many of the reform goals will require a major investment in human resource development at many levels. New skills and staff are needed to meet this challenge. Capacity building is required; methods and materials need upgrading, and a multisectoral program strategy needs to be designed, financed, and rendered operational. A nutrition education unit at the central level is a starting point. MOH and other relevant government staff must be recruited and trained to revamp a major BCC effort. Technical assistance, both local and international, will be required to meet the challenge. The starting point is a formative research exercise that investigates the current nutrition-related knowledge, attitudes and practices (KAP) at community level that are driving the nutritional status. Private sector resources are needed to understand the market issues associated with nutrition practices. Unlocking the power of the mass media to play its role in both advocacy and BCC will require professional media support. The public sector needs to develop the capability to acquire and manage professional services through well-designed procurement processes. Technical assistance will be a key component to trigger the reform and institutional development needed.

114. The capacity building needs at district and community levels to improve the BCC system will be identified, and specific action plans will be prepared and implemented. Support on the design of public education initiatives and the evaluation of new concepts will be provided, and training of trainers in BCC and social mobilization techniques for districts and *puskesmas* and *posyandu* staff, including collaboration with NGOs. Subsequent short training courses will be provided for outreach workers, community volunteers and NGOs.

BCC will include the education aspects to create awareness and behavior change in nutrition, child caring, health, food consumption, and food safety, hygiene and sanitation. This will be implemented at the central and local levels.

v. Strengthening Research and Development

115. It is clear that there is no watchdog in the government that is working to make sure that nutrition-related policies are having their intended effects and that nutrition-related programs are functioning well. The research subcomponent will develop strong nutrition policy and program research unit with a clear mandate to keep nutrition on the policy agenda and to continuously monitor and improve nutrition programs. This research unit in the MOH will be responsible for operations research, policy research, process evaluations, and impact evaluations in collaboration and coordination with the relevant actors in the nutrition system. Initially, this subcomponent will carry out a review of the capacities and the contributions of all major research institutions on nutrition-relevant policies and programs across sectors. Recommendations will be made to MOH and other food and nutrition agencies for developing policies on nutrition research and development, and on organizational mechanisms for policy review, including coordination with external bodies concerned with food and nutrition policy, research and development. The assessment will highlight the role of *Balitbangkes* in MOH, and the most effective policies for building its capacity and coordinating research at partner institutions, university departments and other external institutions. Gaps will be identified in the current research and development program and appropriate recommendations will be proposed on the capacity building needs of the key institutions.

COMPONENT 4 PROJECT MANAGEMENT

116. The objectives of this component is to provide the following support to strengthen Project implementation: (i) management support at central, provincial, and district levels, (ii) financial management and governance, (iii) independent Project performance monitoring, (iv) quality assurance and supervision, (iv) construction supervision of the upgrading of health centers, food laboratories and other nutrition–related facilities, and water and sanitation. The progress of Project implementation will be monitored through a set of key indicators to measure the development of policies programs and action plans including budget expenditures for nutrition sector development; the number of basic nutrition services with improved quality care standards; rates of access of children and women to inclusive quality basic nutrition services and their utilization; and knowledge, attitude and behavior change among different groups of the target population. The six– year BME will be supported by baseline surveys, midterm and end of Project surveys. Where possible, districts and provinces will be encouraged to utilize existing offices and staff for implementation. Where capacity does not exist or requires strengthening, Project funds will be used to finance the services of contractual Project management staff at district, province, and central levels for a limited period of time. As capacity increases due to Project support, regional governments will progressively replace contracted staff with permanent civil servants. At national level, an executive secretaries assisted by a finance officer, a procurement officer, a monitoring and evaluation officer, and a planning officer will be engaged and one executive secretary, one officer and two supporting staff will be recruited for each province. As capacity increases, and provinces will be able to progressively replace consultants with local staff.

C. Special Features

117. **Integrated Multisectoral Nutrition Approach**. The Project will address the underlying determinants to malnutrition. An integrated approach will be used in the Project covering

health, nutrition food security, early child development, education. and water and sanitation. The approach is expected to ensure a synchronized comprehensive nutrition improvement involving various health and nutrition-related sectors at the local and grassroots levels. Institutional strengthening covering organizational restructuring, training and human resources development, as well as operational research and development, will support the implementation of the program. Strong ownership of local governments is required to ensure successful implementation of Projects. Appropriate management, quality control and decision-making of local governments should be ensured to increase operational efficiencies, management morale, and adherence to standards.

118. **Lifecycle Approach**. The lifecycle approach will envision targeting key at-risk groups of the population starting from poor pregnant and lactating mothers, to poor undernourished children and adolescent girls, and carries on to the next generation. The approach is expected to improve poor nutrition behavior and practices, breaking the vicious cycle. The Project will focus on a holistic approach to child growth and development through caring and nutrition improvement of children under two and early child education for children of ages 3-5. Under this concept, health, nutrition and early child development are integrated and implemented in the *posyandus*.

119. **Community Driven Development Approach.** The community and private sector contribution was never systematically encouraged in the previous nutrition or health Projects. This is the first instance of combining CDD with nutrition. The Project focuses on exploring and piloting mechanisms for sustainable community-based nutrition interventions and outreach services. Complementary nutrition intervention study on the basis of local specific condition should be carried out. Using a community–based approach, the Project will strengthen capacities at local levels to address malnutrition. Establishing appropriate systems and schemes, such as "community-based nutrition program", will encourage increased participation. Community groups (ComGs) at the village level will be provided performance-based block grants based on community proposals aimed at improving nutrition status. ComGs are empowered to exhibit competence in the planning, management and implementation of sustainable nutrition programs. They will be assisted by community facilitator teams (CFTs), who will be deployed by the Project to work with both communities and with local authorities.

120. **Pro-poor Targeting and Outreach Program.** The Project will target malnourished poor community based on clear and consistent indicators, which are accessible and useful for decision-makers. The outreach activity conducted by the nutrition service providers will be strengthened to ensure effectiveness in implementing nutrition improvement programs.

121. **Direct Fund Channeling to Community Group.** Under decentralization, there has been a lack of support for the social sectors. In recent Projects, funds have been channeled directly to beneficiaries/institutions bypassing local government's supervision. The Project proposes to provide the communities with specific block grants for activities based on community proposals, evaluated and awarded by local government, and implemented by the communities through facilitators. The proposed approached is envisioned to be sustainable and focused on achievement of Project impact and outcomes.

122. **Transparency and Accountability.** For selected sites, a "Stakeholder Forum" mechanism will be used to ensure transparency and accountability in the Project. The forums, which exist in selected areas, basically consists of private organizations and religious groups which serve as check and balance to the government. This implementation arrangement will enhance transparency of Project operations; increase accountability, quality control and assurance; and minimize the risk of funds diversion in the areas of procurement of goods and services. Independent monitoring and evaluation will likewise be utilized under the Project.

D. Cost Estimates

123. The total cost of the Project is estimated to be $71.4 million, equivalent, comprising $17.63 million (25%) in foreign exchange cost and $53.77 million (75%) equivalent in local currency cost. The cost estimates include the provision of 5% of base costs for physical contingencies of some activities. A summary of cost estimates is in Table 4.

Table 5: Estimated Project Cost by Component
($ million)

Item	Foreign Exchange	Local Currency	Total Cost
A. Base Costs a/			
1. Integrated Community Nutrition Program	10.58	32.06	42.64
2. Food Fortification	0.67	1.84	2.51
3. Institutional Strengthening	2.11	6.83	8.94
4. Project Management	0.32	5.48	5.80
Subtotal (A)	13.68	46.21	59.89
B. Contingencies			
Physical Contingencies b/	0.18	0.28	0.46
Price Contingencies c/	0.00	7.28	7.28
Subtotal (B)	0.18	7.56	7. 74
C. Interest Charges	3.77	0.00	3.77
Total	17.63	53.77	71.40
%	24.5	75.5	100.0

a/ Includes materials and equipment costs.
b/ At 5% for equipment and civil works costs
c/ For foreign costs at 0% per year and for local costs at 6.0% for 2006 and 2007, 5.5% for 2008, and 5.0% per year thereafter.
Source: Asian Development Bank estimates.

E. Financing Plan

124. The Government has requested that ADB provide funding of $50.0 million, representing 70% of the total Project cost. ADB will cover 100% of the foreign exchange cost of the Project and 60% of the local currency cost, excluding taxes. The Government and the beneficiaries will provide $21.4 million equivalent, amounting to 30%. ADB will finance the civil works and equipment cost, consultant services, staff development, and Project management. The financing plan for the Project is in Table 6. Further details are in Appendix 5.

Table 6: Financing Plan
($ million)

Item	Foreign Exchange	Local Currency	Total Cost	%
Asian Development Bank	17.63	32.37	50.00	70.0
Government	0.00	21.40	21.40	30.0
Total	17.63	53.77	71.40	100.0

OCR=Ordinary Capital Resources; ADF=Asian Development Fund

F. Implementation Arrangements

1. Project Management

125. The Executing Agency (EA) for the Project will be the Directorate General of Community Health of MOH while Implementing Agencies will be the Food Security Agency (FSA) of MOA, Directorate General of Out-off School Education and Youth (MONE), and the Food and Drugs Control Agency (BPOM). The Project organization structure is in the attached Appendix 7. [57]

a. Central Level

126. A central Project management unit (CPMU) will be established at the EA to oversee Project implementation in nine provinces. A steering committee (SC), chaired by the Deputy for Human Resource and Culture in BAPPENAS, which include representatives from MOH, MOA, MONE, BPOM, Ministry of Social Affairs (MOSA), Ministry of Religious Affairs (MORA), Ministry of Finance (MOF), Ministry of Home Affairs (MOHA), Ministry of Industry (MOI), the Coordinating Ministry of Social Welfare, and PKK Central Team, will advice the CPMU on general policy directions, intersectoral coordination, and make strategic directions. The SC will assign a Central Technical Team (CTT) chaired by the Director of Health and Community Nutrition, BAPPENAS, composed of senior staff (Echelon 3) of MOH, MOA and other relevant institutions responsible to support the CPMU on technical aspects of the Project including institutional development, integrated multisectoral nutrition, food fortification, BCC, and food and nutrition surveillance system.

127. The CPMU, which will be under direct supervision of the Director General of Community Health, MOH as a Project director. The Director of Community Nutrition will be the central Project manager. The CPMU will be responsible for (i) Project management, monitoring, and supervision, and liaison with other ministries and ADB; (ii) preparing and managing the annual Project budget; (iii) undertaking competitive procurement of goods and selection of consultant services; (iv) overseeing the effective functioning of provincial and district Project management units; (v) establishing detailed guidelines for administration, technical support, and institutional capacity strengthening; (disseminating information to local government agencies, public and private institutions, and beneficiaries of the Project; (vi) establishing independent BME unit and conducting information dissemination; (vii) submitting quarterly progress and financial reports, as agreed upon by the Government and ADB; and (viii) conduct impact surveys, policy studies and operational research, technical audits, and midterm and Project completion evaluations. A Project secretariat will be established to support the CPMU in executing the Project including administration, finance, procurement, and training and staff development. Experienced and professional staff be hired as "executive secretary" to support the CPMU.

128. The Central Technical Support Team (CTST) includes international and national experts will be hired by the CPMU Project Manager, and will provide technical support to the CPMU in the overall management of the Project. In brief, the CTST will (i) assist the Project Manager in budgeting, procurement, contracting and administration; (ii) supervise coordinate monitor and technically support the regional consultants; (iii) design and implement project

[57] Project organization structure will cover central, provincial, and district level down to kecamatan and desa/kelurahan levels. The structure is designed based on the following consideration: (i) the Project is central Project where loan disbursement can only be done by the central government; (ii) the activities of the Project will be managed and implemented at central, provincial, and district levels; (iii) some of the activities of the Component 2 (Integrated Family Nutrition Improvement) will be caried our by participating community at village/kelurahan levels through a block grant mechanism.

training curriculum, syllabus, and modules; (iv) troubleshoot and resolve any issues in the field as needed; (v) review and verify data and reports from the provincial project management; and (vi) write periodic reports on overall project progress, as well as on technical issues as required from time to time.

b. Provincial Levels

129. A provincial project management unit (PPMU) will be established to manage and the Project at respective province. A provincial project coordinating committee (PPCC) chaired by the Head of provincial development planning agency (BAPPEDA) composed of senior staff of provincial health office (PHO), provincial food security agency-PFSA (or equivalent government unit), provincial education office (PEO), provincial religious affair office (*Kandepag*), and other related institutions, including PKK. PPCC will provide overall guidance to the PPMU and resolve policy and implementation issues. PPCC will assign a Provincial Technical Working Group (CTWG) chaired by the Head of PHO or Chairman of Provincial Food and Nutrition Team (depending on provincial government choice) composed of senior staff of POH, PAO, and other relevant institutions responsible to support the PPMU on technical aspects of the Project including institutional development, integrated family nutrition improvement, food fortification, BCC, and food and nutrition surveillance system.

130. The PPMU will be under the direct supervision of the Head of Provincial Health Office (PHO) as the provincial project manager. PPMU's main tasks include: (i) project management, monitoring, supervision, and liaison with the CPMU and other stakeholders; (ii) preparing, integrating, and managing the annual provincial and district project budgets; (iii) supervising the competitive procurement of goods at district levels; (iv) establishing local-specific guidelines for project administration, technical support, and institutional capacity strengthening; (v) conducting staff development for district core trainers; and (vi) preparing and integrating quarterly progress and financial reports of the districts for the CPMU. Similar to central level, a project secretariat will be established to support the PPMU in executing the Project including administration, finance, procurement, and training and staff development. Experienced and professional staff be hired as "executive secretary" to support the PPMU.

c. District Level

131. In each participating district, the project implementation will be carried out by the district project management unit (DPMU) chaired by the Head of DOH as the district project manager. The district coordination team (DCT) supported will support the DPMU in policy direction and strategic aspects of the Project, and the district working group (DWG) will support the DPMU in technical issue of the Project to ensure the quality of the project implementation in respective district. The project secretariat will be established to support the DPMU's day-to-day project implementation including administration, finance, training, and procurement. The main responsibilities of DPMU are to:

(i) manage the Project-related activities of all Government counterparts supporting project implementation at the district level and below;

(ii) monitor and evaluate project activities at the district level and below to ensure quality control of project outputs, and assure that monitoring indicators are properly collected and passed to the CPMU through DPMU on schedule;

(iii) work closely with the CFTs) to ensure that required services are provided in a timely and professional manner to communities participating in the Project;

(iv) evaluate the proposal submitted by participating community (community group) and quickly process the contract between the community group and the DPMU so that block grant funds are released and utilized in a timely manner.

132. The project secretariat will work closely with and be supported by the CFTs (10-20 persons) which will provide services directly to participating communities (community groups) and will be responsible for ensuring the full participatory involvement of the community in planning and implementing project activity of integrated community nutrition program (component 1). To the greatest extent possible, the CFTs will be hired by the PPMU from selected candidates proposed by the DPMU's. Main task of the CFTs are:

(i) assist the ComGs in the preparation of CBINP proposals for the beneficiaries;

(ii) supervise, monitor, and provide technical support to the ComGs;

(iii) oversight of utilization of block grants for CBINP;

(iv) facilitating the partnerships between ComGs, local government technical agencies, local private sector, and NGOs/CBOs.

d. Community Level

133. Most of the activities of CBINP (Component 1) will be implemented by ComGs (stakeholders) in each participating *kelurahan*. ComGs may comprise of informal leader, *posyandu* cadres, PKK, and other person who committed to nutrition improvement for the target beneficiaries at the grassroots level. The k*elurahan* head and the sub-district head (*camat*) will be the advisor of the ComGs, the *Badan Musyawarah Desa* (Village Council).

2. Implementation Period

134. The Project is expected to commence in mid–2006 and will be completed over a period of six years. Project activities will be undertaken at central level and in selected districts in a phased manner considering the institutional capacity and readiness for project implementation. In the first phase, the project activities will initially be undertaken at central level to prepare detailed project and financial planning (targeting, facilities mapping, staff development plans, etc.), recruitment of consultants, procurement, development of systems, preparation of training materials and conduct of initial training, advocacy with stakeholders, and detailed design of facilities. In this phase, parallel project preparatory work by the Implementing Agency (IA). Initially, only 4 project provinces will undertake the project activities, focusing mainly on the core activities that have been described in the project components. At mid-term, the remaining provinces and full implementation of activities will be undertaken in the project sites. Provinces with experience in community development, proximity to central level, local and community level capacity, among others, will be chosen to ensure success in the pilot implementation of the project concepts and approaches.

3. Procurement

135. All procurement of goods and services financed under the Project will be carried out in accordance with ADB's Guidelines for Procurement and the Government's procurement procedures acceptable to ADB. It is expected that international competitive bidding will consist mainly of procurement of goods $1 million and above. Equipment and material packages valued at $500,000 equivalent or less will be procured following international shopping procedures. Certain items costing the equivalent of less than $200,000 may be procured under local competitive bidding procedures acceptable to ADB. Packages valued at $50,000 equivalent or less will be procured under direct purchasing procedures. Civil contracts will be with an average of $260,000 equivalent for each district. Subsequently, the

CPMU will maintain specified documents for review by ADB. The indicative procurement packages are listed in Appendix 9.

4. Consulting Services

136. Consulting services will comprise 63 person–months international and 242 person erson–months domestic experts. All consultants to be financed under the loan will be recruited as firms or individuals in accordance with ADB's Guidelines on the use of consultants, using the quality and cost–based selection method or other arrangements satisfactory to ADB for engaging consultants. Detailed terms of reference are in Appendix 6.

5. Disbursement Arrangements

137. The Project is classified by the Government as a national project where the national government will provide the loan proceeds directly to the provincial and district governments, and participating communities on an on–grant basis. The loan proceeds will be disbursed in accordance with ADB's Loan Disbursement Handbook (2001). The Project will use direct payments, and an imprest account. The direct payment procedure will be used for payments over $50,000. All other payments will be channeled through the imprest account to increase flexibility in project disbursement. The initial advance to the imprest account will be based on approved contracts and planned expenditures for the first 6 months of the project. The statement of expenditure (SOE) procedure may be used to reimburse eligible project expenditures and to liquidate or replenish imprest account advances. The SOE procedure is applicable to individual payments not exceeding $100,000 equivalent. Detailed arrangements to establish the imprest account and SOE procedure will be made in accordance with ADB's Loan Disbursement Handbook (2001) as amended. Sufficient supporting documentation, as defined in the Loan Disbursement Handbook, must be kept at each level of project management to substantiate all expenditures incurred from the loan proceeds. DGCH, and regional government staff will be trained in ADB's disbursement procedures. Funds will be released based on project accomplishment reports of the selected districts and cities.

138. The funds flow mechanism is that from central level, the APBN (central budget) funds will flow down to the APBD (local budget) through the provinces and *kabupaten* (district) or (*kotamadya*) cities. The funds are proposed to be channeled to provincial and district governments through the deconcentration fund (*dana dekonsetrasi*). Through deconcentration fund, the EA issues Ministerial Decree on the budget authorization to the respective Governor which further issue the decree to authorize the Project Manager at provincial project management unit (PPMU) to manage the project fund as described in DIPA (Daftar Isian Pengeluaran Anggaran). Based on the decree the DPMU prepare DIPA as a budget document. Local governments *(kabupaten)* are proposed to provide block grants to communities on a competitive, performance, and participative-basis. That means that communities, with assistance of CFTs, will plan, manage, implement their community integrated nutrition package. Local and central government role will be to provide the technical standards and procedures, menu options/toolkits, evaluate monitor and control the project implementation. The funds flow mechanism of deconcentration fund are given in Appendix 9.

6. Accounting, Auditing, and Reporting

139. The EA has implemented a number of similar projects financed by ADB and others during the last 5 years, and its financial management capacity is considered adequate. The DGCH of the MOH and the selected provincial governments will maintain accounts and records showing a clear link between activities and expenditures related to the Project. They

will be assisted by an adequate number of suitably qualified accounting staff, including a financial manager in the CPMU and PPMU who will establish project accounting and recording systems and train staff to maintain the systems. Auditors will annually audit all accounts and statements of revenues and expenditure related to the Project, in accordance with auditing standards acceptable to ADB and using international accounting and auditing standards as a benchmark. Audited financial statements and project accounts, together with the report of the auditor, will be submitted within 6 months of the close of the financial year. A separate audit opinion on the imprest accounts will be included in the annual audit report. The EA will provide ADB with quarterly progress reports (on project implementation within 30 days of each calendar quarter period. The Progress reports will be in English.

7. Project Performance Monitoring and Evaluation

140. Project Performance Monitoring Systems (PPMS) will be established at national, local and field levels focusing on target beneficiaries, mainly poor children and pregnant and lactating women, and will encompass the following elements: (i) monitoring of physical and financial progress as well as the efficacy and efficiency in *puskesmas*, PGMTs, food laboratories, and other infrastructure under the project, (ii) monitoring of the level and adequacy of community participation of various stakeholders in planning and implementing project activities, (iii) collection of gender disaggregated data in benchmark surveys, poverty and food security mapping at community level, and policy and program development, (iv) monitoring the social, environmental, and economic impacts including the establishment of benchmark information and data, and (v) assessing the impact and utilization of the works. The staff and CFTs hired under the project will be trained for undertaking baseline and completion surveys and surveillance for the target areas. PPMS findings will be incorporated in quarterly project progress reports to be prepared by CPMU within four weeks of the end of the reporting period and submitted to ADB. The CPMU will also prepare and submit a consolidated project completion report to ADB within 6 months of project completion. Reporting should review progress of annual milestones vis-à-vis achievement of project indicators. Independent monitoring will be provided under the piggybacked technical assistance (TA).

8. Project Review

141. ADB will carry out regular loan reviews including midterm and project completion reviews. The reviews will focus on project impacts, particularly relating to institutional, administrative, organizational, technical, environmental, and social aspects. The reviews will also examine compliance with covenants specified in the loan agreement. DGCH and provincial governments will make sure that their staff visit the field frequently and join ADB for all project review missions.

9. Anticorruption Policy

142. ADB's Anticorruption Policy was explained to and discussed with the Government. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the Loan Regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the Executing Agency and all contractors, suppliers, consultants and other service providers related to the Project.

10. Project Readiness

143. The project implementation arrangements including national, provincial and district level offices will be established upon loan effectiveness. The staff at all levels will be trained and familiarized with the technical approach and project administration during the first three months of the Project. MOH will prepare and disseminate necessary administrative and technical guidelines for provinces, districts, and communities, which will form the basis of project administrative memorandum. The terms of reference for the consulting services have also been prepared, which will allow for fast track recruitment of consultants. The Project does not entail any land acquisition or resettlement. Overall, the Project will be ready for implementation by 2006.

144. Country project preparation in the form of project implementation readiness criteria (i.e., concurred by GOI and donors) will be implemented and are as follows*: A. Items to be complied with before loan negotiations:* (i) monitoring and evaluation performance indicators including baseline data are ready; (ii) counterpart funds for the first year of implementation have been exercised and committed; (iii) land acquisition and resettlement plans are in place; (iv) Project Management Units are established and staffed; (v) final draft of the Project Administration Memorandum (PAM) covering scope, organization and its terms of reference, procurement, budgeting, disbursement, reporting and auditing arrangements); (vi) procurement plan, (vii) Request For Proposals (for consulting services), and (viii) bidding documents (for goods and civil works) for the project implementation are in place; (ix) Statements from Original Governments (if applicable) expressing their commitments for participation, provision of counterpart funds. *B. Items to be complied with before loan effectiveness:* (i) Budget Approval Documents for the proposed loan and counterpart funds for the 1st year of project implementation have been issued; and, (ii) Budget documents for land acquisition and resettlement related to civil works during the first year of project implementation have been issued.

IV. PROJECT BENEFITS, IMPACTS AND RISKS

A. Summary of Expected Benefits and Impact

145. The purpose of the Project is to raise awareness across all levels of society about the critical role that good nutrition plays in a healthy and productive life. It aims to challenge apparent recent stagnation or even decline in nutrition progress in Indonesia, to address new emerging challenges related to changing lifestyles, particularly in urban areas, and, ultimately, to help in moving Indonesia toward achievement of established national and international nutrition goals (MDG). To accomplish this, the Project seeks to address nutritional opportunities across a range of sectors and at a variety of levels – through strengthening institutional structures at national, regional and local levels to more effectively deal with food and nutritional issues in an integrated and comprehensive manner and through supporting developments in both hardware (e.g. food fortification, safe water and sanitation) and software (e.g. knowledge of appropriate nutrition and hygiene behavior) that will both provide the means and increase underlying demand (including willingness to pay) for improved nutrition at both household and community levels.

146. Although good nutrition is recognized as an issue for all members of the population, the Project will focus on sub-groups that are known to be at greatest risk and where poor nutrition is known to carry the most severe implications for future generations. These include under-five children, pregnant and lactating women and, more generally women of reproductive age. Malnourished under-fives are both at greater risk of contracting life-threatening infectious disease and of suffering cognitive deficiencies that will affect their ability to become productive members of society in later life. Malnourishment and poor nutritional behavior among mothers also directly impacts on nutritional performance of their

children. In addition, the Project will target school children as a means of sustaining child nutrition and of instilling sound patterns of nutritional behavior in the next generation. Within these groups the Project will place special emphasis on persons and households in lower income groups (here roughly defined as those in the bottom two per-capita household expenditure quintiles)[58] as these are known to be at particular risk.

147. Benefits are expected to accrue in a number of areas.[59] At the individual level, these include reduced levels of malnutrition (underweight, stunting, wasting) among young children, improved access to micronutrients, including affordable and appropriate fortified foods and reduced levels of nutrition-linked infectious diseases. They include benefits for women reflected in improved nutrition during pregnancy and lactation, and more generally reduced levels of chronic energy deficiency among reproductive-age women.[60]

148. At family and community level there are expected benefits in the form of improved knowledge and application of appropriate nutritional practices and of safe sanitation and hygiene behavior, leading to increased real demand, particularly among the poor, for sound and affordable nutrition and hygiene products and services, as well as improved access to relevant hardware, including improved water and sanitation, particularly in relation to food sales and preparation,[61] and improved access to effective and affordable sources of fortified foods and appropriate food supplements.

149. Institutional benefits are expected in the form of national, regional and local bodies that are more capable of dealing with nutrition issues across a wider range of sectors (e.g. not just health), as well as being capable of raising political awareness and resulting in increased shares of public expenditure being devoted to addressing nutrition and nutrition-related concerns. The Project will also support development of improved public-private partnerships, particularly in the area of food fortification. Increased technical and operational capacity of existing central and local government institutions is expected to result in improved quality and quantity of key nutrition and nutrition-related services. Here, the Project will place special emphasis at the community level through empowerment of community-based *posyandu* and strengthening of in site and out-reach services through the existing *puskesmas* system. These have proven to be effective institutions in the past and the Project will complement existing broader government policies to revitalize these institutions in the current decentralized political environment.

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[58] This is a broader target than simply using population below the official poverty line (ca. 17% in 2004). However it is designed to take account of the large numbers who exist above, but very close to, the poverty line (near-poor) and for whom behavior and nutritional outcomes are often little different from their 'officially' poor cousins.

[59] A more detailed list of performance indicators or targets is contained in Appendix 19.

[60] Another way of looking at this is through a concept of direct and indirect gain: direct gains arising from improvements in physical stature and strength of children resulting improved nutrition status as well as resource savings that are currently directed to dealing with diseases and other problems related to malnutrition; and indirect gains arising from links between nutritional status and schooling, nutritional status and cognitive development and subsequent links between schooling, nutritional status and cognitive development and subsequent links between schooling, cognitive ability and adult productivity. Poorly nourished children tend to start school later, and progress through school less rapidly, have lower educational attainment, and perform less on cognitive achievement tests when older, well into adulthood. These associations appear to reflect significant and substantial effects in poor populations even when statistical methods such as instrumental variables are used to control for the behavioral determinants of pre–school malnutrition. In productivity terms, the magnitudes of these effects are likely to be substantial, easily exceeding the effects of height on productivity even if the indirect effect of height on wages mediated by the relationship between height and schooling is included.

[61] Food-borne transmission of bacteria and other dangerous chemicals is a major contributor to child illness. The Project will support improvements in access to water and sanitation at places such as local food markets, schools and among food vendors in urban areas.

150. Overall, it estimated that by 2011, the Project will be reaching approximately 750,000 pregnant and lactating women and over 2.0 million children under two the 32 participating districts. It is estimated that this will include around 90,000 women and nearly 300,000 children below the poverty line.[62] These targets make the overall Project marginally pro–poor as would be expected given the high levels of overall service that are expected to be achieved. However, the targeting strategy adopted under the Project (see sub-section C) is designed to maximize chances of reaching the poor and vulnerable, and Project components are designed to ensure that tangible benefits (e.g access to subsidized fortified foods and free access to other nutrition–related services) accrue mainly to the poor and near poor (estimated to include those in the bottom two income–quintiles). In this regard a significant poverty impact is expected from the Project.

B. *Economic Costs and Benefits*

151. Malnutrition involves serious economic costs, which make investments in nutrition an urgent priority. These losses are conservatively estimated at 2–3% of GDP in low–income countries. The Project will support the Indonesian health system's efforts to improve the nutrition status of the population, particularly poor and marginalized at risk–groups (under-two children, and pregnant and lactating mothers). Cost–Effectiveness Analysis (CEA) for the project was undertaken to indicate the economic attractiveness of project interventions. This was based on estimating costs per death averted resulting from expected improvements in mortality due to the nutritional improvements from the Project. Subsequent analysis also looked at the returns the Project was expected to generate with respect to the economic resources invested.

152. For the purpose of cost–benefit analysis, the economic benefits of the Project have been quantified in economic terms including (i) productivity gains, and (ii) resource cost savings. Productivity gains are the result of the future lives lost of children that would have otherwise been utilized in some economic activity. Future productivity losses occur due to the death of a potential worker. Beyond the issue of increased mortality, malnutrition increases the risk of illnesses that impair the welfare of survivors. This relationship between nutrition and infectious and chronic diseases can be traced through different parts of the lifecycle. Underweight children tend to utilize outpatient services more frequently than do children with normal weights. The financial costs of the Project were converted into economic terms, using varying assumptions.

- **Cost Effectiveness Analysis**

153. Cost Effectiveness Analysis (CEA) is one of the economic methods that can be used to evaluate health and nutrition services. For CEA, health effects are measured in physical units, such as the number of children fully immunized, the number of cases of disease prevented or treated, and the number of deaths averted.[63] The analysis commences with establishing a sound rationale for the proposed Project, and subsequently confirmed through cost effectiveness analyses to determine the achievement of Project economic viability. The total present value of both costs and benefits were calculated and discounted the future at 3 percent, which is the usual rate for investments in the social sector.

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[62] Estimates are based on parameters used in provincial Projections of population from 2000 by the Central Statistics Board (BPS) that are applied to baseline 2004 populations (from the 2004 SUSENAS) in the participation districts. Poverty rates are assumed to decline at 5% per year from 2004 and 2010 service levels are assumed to reach 80% of the poor and 75% overall in each target group. Numbers of pregnant and lactating women are roughly estimated at 1.5 times the projected population under 1 year of age.

[63] These output measures may or may not correspond directly with actual health benefits. However, they are expected to provide reasonable indications of project economic viability to the degree to which they conform methodologically with international best-practice and take careful account of the proposed project interventions. This was undertaken in this case.

154. As shown in Table 7 below, the Project cost effectiveness based on a cost per death averted is estimated to range from around $821 to $1.558 per death averted at project province level and to be around $1.122 per death averted at all project provinces combined. Based on the data above, the project in West Nusa Tenggara was estimated to provide for the most cost effective intervention in terms of cost per death averted with a cost of $821. However, comparison of these figures for any of the provinces with expected earnings over the lifetime of these beneficiaries clearly demonstrates the potential cost effectiveness of the proposed project interventions.

Table 7: Total Cost, Deaths Averted and Cost Effectiveness (CE) of the Project.

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Cost ('000 U$)	7,621	6,956	13,367	15,828	4,470	4,836	7,527	3,988	64,594
Death Averted	4,892	5,903	13,612	11,424	3,955	3,975	9,168	3,923	57,571
CE ($)	1,558	1,178	982	1,386	1,130	1,217	821	1,017	1,122

- **Cost Benefit Analysis and Economic Rates of Return**

155. The economic benefits of the project as a health and nutrition project can be identified and valued, so it is possible to subject the Project to a full cost–benefit analysis in which the values of health benefits are compared with project costs. Three criteria are commonly used to aggregate and compare benefits and costs: (i) economic Net Present Value (NPV), (ii) economic Benefit–Cost ratio (BCR), and (iii) Economic Internal Rate of Return (EIRR). However, it has been the standard practice for ADB to use the EIRR criterion because not all investment opportunities are evaluated together and compared in terms of economic net present value. Thus, the EIRR ensures that the Project creates net benefits that are at a minimum in excess of a discount rate representing the next best alternative project in the economy. [64]

156. The general framework for calculating the EIRR of the Project are as follows: (i) determination of the appropriate price numeraire, where the domestic price is used as numeraire as most benefits and costs are non-tradable; (ii) identification and valuation of economic benefits of the Project in terms of productivity gains and health care costs savings that are expected to be realized as well as economic costs to be invested and spent over the life of the project benefits; (iii) calculation of net annual economic benefits and benefit cost ratio; and (iv) calculation of the economic internal rate of return (EIRR) from the net economic benefit stream[65]. Based on the analyses, which is summarized in Table 5, the Project is deemed economically viable.

157. As shown in Table 8, the average net benefit cost ratio (BCR) of the Project is estimated at around 3.0 with levels in the individual project provinces ranging from around

[64] ADB's hurdle rate is 12 percent.

[65] Economic analysis of the project was carried out in constant 2005 prices, with domestic prices used as numeraire. The economic value of the project benefits and costs was calculated based on the annual project cost disbursement. Incremental recurrent cost was estimated at about 0.8% of civil work costs and 3% of component costs. Tradable goods of capital were adjusted by a shadow exchange rate factor (SERF) of 1.11 with tradable goods assumed at about 27% of project costs.

2.4 to 3.8. The average EIRR of the Project is calculated at about 26.0 percent with variations between 21.1 and 39.3 percent at province level. In term of BCR, the lowest project, the lowest BCR attempt will be achieved in Banten Province and South Sulawesi Province. The Project in Banten Province also was estimated also has the lowest EIRR in comparison to other provinces.

Table 8: The Project Benefit Cost Ratio (BCR) and Economic Internal of Return (EIRR)

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Benefit ('000 $)	14,954	15,185	24,437	31,500	9,505	8,968	21,877	9,056	135,482
Cost ('000 $)	5,777	5,273	10,134	11,999	3,389	3,666	5,706	3,024	48,968
NPV	9,176	9,911	14,304	19,502	6,116	5,302	16,171	6,032	86,514
BCR	2.6	2.9	2.4	2.6	2.8	2.4	3.8	3.0	2.8
EIRR	24.5	27.3	21.1	25.8	26.4	22.2	39.3	29.0	26.6

158. Based on the sensitivity of the EIRR to changes in project coverage, efficacy, and participation rates, even with the most pessimistic scenario assumption (under a scenario assuming that the efficacy of the Project is lower than expected), the Project still has a positive total EIRR of about 15.3%. The economic benefits that project is expected to generate will be realized only if it is sustainable over its lifetime. The key issues regarding sustainability are the institutional and financial capacity of the government to ensure that staff has the skills and training to operate, maintain, and administer the Project, and that financial resources are available to fund the recurrent costs that will be incurred in the future.

C. Cross-Cutting Issues

- **Poverty and Social Impact**

159. The nexus of causal factors associated with malnutrition (see Appendix 2) clearly demonstrates the degree to which addressing nutritional issues is extremely complex. Based on a framework developed by UNICEF (1998), direct causes of malnutrition are limited to actual nutritional intake and experience with infectious disease. But these are, in turn determined by aspects related to household food security, health and health-care practices and the availability and quality of health and nutrition services. Finally, these 'indirect causes" are affected by a variety of social, economic and environmental conditions that underlie and help explain various in food security, health behavior, etc. among different regions and population groups.

160. Analysis of relations of poverty and malnutrition clearly show the nature of this complexity in Indonesia and in the locations selected for more intensive project intervention. While it is clear that poverty and low socioeconomic status is associated with increased risk of malnutrition, significant levels of malnutrition are not only characteristic of the poor, but also of many non-poor confirming that it is not just low incomes, but also other factors (lack of education, information or deficient nutrition behavior) that are important. Overall, malnutrition is lower in urban than in rural areas, but, particularly in the larger cities, it is considerably higher than would be expected given the much wider gaps in poverty suggesting there may be specific urban factors (beyond poverty) in food access, dietary choices, etc. with nutritional impacts. Regional differences in malnutrition are also wide

among the project areas (see Appendix 11). While these differences generally correlate reasonably well with regional differences in levels of poverty, it should be understood that this is also consistent with regional variations in other underlying conditions beyond just poverty (e.g. environmental conditions affecting food access, employment patterns, educational levels, access to health services, etc.) that relate to both poverty and malnutrition and that need to be taken into account.[66]

161. While the Project cannot tackle all of these issues simultaneously, it is planned to place special emphasis on reaching the poor, for the simple reason that irrespective of other factors, it is also clear that the poor do represent a group of relatively high risk and that improving nutrition, particularly among poor children, does represent a cost-effective intervention in terms of enhancing their ability to escape from poverty in their adult years rather than remaining consigned to another generation at the bottom of the heap. Selection of specific locations (provinces and districts) to be included in the Project has attempted to deal this by including both poverty and malnutrition criteria to ensure, to the degree possible, that areas where both poverty and malnutrition are recognized problems have been given priority.

162. In this regard, while the Project will take a broad, holistic view of factors contributing to malnutrition (involving more than just the poor), it will also seek to place special attention on the poor and vulnerable (particularly poor pregnant and lactating women and under 5s) among whom risks are disproportionately high. Within project locations, this latter aim will be accomplished by (i) use of information on distribution of poverty and malnutrition to target local areas and population sub-groups most at risk and (ii) adopting an implementation strategy that will maximize accessibility, participation and affordability within poor communities and among poor households. The result is expected to be a both a relatively wide sharing of benefits among the general population in terms of improved nutritional outcomes, but, at the same time, a concerted effort to maximize inclusion of the poor so that the Project will disproportionately benefit the poor and, therefore, be at least moderately pro-poor in terms of key outcomes.

- **Gender**

163. Women are a logical primary focus for any nutrition improvement activity for the simple reason that it is their nutrition (during periods of pregnancy and breastfeeding) and their generally greater responsibilities (as opposed to men) for dietary choice and food preparation as well as decisions on other nutrition–related outcomes for their children that will have greatest impact on success. More than anything else, this will be determined by the ability of interventions to address conditions surrounding women's ability to provide an adequate diet to themselves and their children as well as to address deficiencies in women's nutrition and nutrition–related knowledge, attitudes and behaviors that lead to negative nutritional outcomes.

164. Women have long been the grassroots of nutrition interventions in Indonesia, primarily through the UPGK and voluntary community *posyandu*. These programs have served Indonesia well in the past, but have deteriorated since the crisis and introduction of decentralization in many areas. There is also seen to be needs to address new sets of issues affecting potential beneficiaries, particularly those reflected in social and economic conditions faced by women in poor, crowded urban slum areas that were not as prevalent

[66] Given the nature of selected locations ranging from areas within the country's largest city (Jakarta) to relatively isolated rural districts in West Kalimantan and Nusa Tenggara, it should not be surprising that there are wide variations in conditions, including in both poverty and malnutrition. These variations may result in differences in emphasis or priority in regard to various project activities, but whatever these differences it is expected that the will still be a common goal of identifying and seeking to reach those relatively most at risk, including the poor.

when these programs were started. There are also perceived needs to address concerns of other groups, for example adolescent girls, broader groups of reproductive age women and even the elderly that were not covered under previous programs, as well as to address emerging problems such as obesity.

165. The gender strategy and action plan adopted under the Project will seek to directly empower and benefit women and address these concerns by focusing on the effective participation of women (and where relevant, men), both in their capacity as facilitators and opinion leaders as well as the principal target group in their decision–making role in terms of nutritional behavior within their families. This will be carried out --

(i) At the national and regional levels, nutrition policies and strategies will acknowledge and actively incorporate the roles and functions of women in nutrition provision.

(ii) Specifically this will mean a pro-active effort to involve and empower women in nutrition decision-making and in the implementation of nutrition programs. Among others this will include:

a. Representation of women (with knowledge and concern for women's issues) on food and nutrition policy bodies at the national and regional levels.

b. Pro-active efforts to recruit and empower (through training, improved access to information and, where necessary financial support) women who can serve as facilitators or opinion leaders in promoting good nutrition and nutrition-related behavior. This includes not only personnel within the official health hierarchy (e.g. nutritionists at district and *puskesmas* level) but also medical and non-medical personnel (*bidan di desa*, traditional birth attendants, PKK and leadership of *posyandu* cadres, etc.) who are in contact with women at the grass-roots level.

(iii) Actively targeting women as both objects and subjects of nutrition programs. As objects this means development of campaign and information materials that are targeted specifically at women and that utilize channels that reach women, particularly those from poor households. As subjects, this means increased understanding of conditions faced by women in, particularly poor women, in different social and economic environments in applying sound nutritional behavior within their families, and tailoring responses to meet their real needs. It also means a focus on approaches that emphasize accessibility and, where necessary, affordability, of key nutrition and nutrition-related services, including, where necessary, appropriate medical intervention.

(iv) Utilizing an integrated and life-cycle approach to empower women and communities to deal with nutrition and nutrition-related issues.

(v) Involving men, to increase their understanding of nutritional issues and needs affecting key 'at risk' groups within their households and communities and to bring them into more active partnership with women in solving household nutritional problems.

166. The action plan (for more detailed indicative actions see Appendix 12) will seek to implement the strategy:

(i) Through increased representation of women (including relevant women's organizations) on food and nutrition-related policy-making bodies at national and regional levels.

(ii) Through research specifically aimed at women to gain a better understanding of existing practices regarding their own and children's feeding and other nutrition-related behavior.

(iii) Through training and empowerment of local service providers and cadres who are mainly women (e.g. *puskesmas* and *Pustu* nutrition personnel, *bidan di desa*, *posyuandu* leadership, etc.); to identify high-risk cases and to more effectively facilitate access to and use of appropriate foods and improved nutrition behavior where it is needed.

(iv) Through educational and action programs aimed directly at women (particularly poor women), and, where relevant, at men, in the project areas designed to maximize their participation and to enhance their roles as principal agents of change within their families and in their communities.

- **Environment**

167. Environmental impacts of the Project are expected to relatively small, and, in fact, there may even be improvements in local environmental conditions resulting from improved nutrition and sanitation/hygiene behavior in participating communities due to project activities. In urban areas, the Project will focus specifically on areas of poverty and poor environmental quality where residents are subject to greater environmental and social health risks, including diarrhea and typhoid from dirty water, tuberculosis from crowded housing conditions and malnutrition, hepatitis B and HIV/AIDS from medical wastes and drug use, malaria and dengue fever from mosquitoes breeding in stagnant water and uncollected wastes, STDs, traffic accidents, criminal and domestic violence, thus enhancing potential benefits from the Project.

168. In addition, the Project will support a limited amount of community-level water supply and sanitation interventions at community-level facilities (e.g. schools, markets) designed to reinforce good sanitation and hygiene behavior and to improve food handling and preparation to reduce risks of mitigating nutritional impacts through food-borne transmission of infectious disease. Together, it is estimated that these facilities will offer around 30% coverage of the population in the project areas. However, precise determination regarding need and levels of local demand will be based on community-level analysis and proposals that will be carried out during project implementation.

169. Due, in part, to this latter activity, the overall Project has been classified as a category B project under the ADB's Environmental Assessment Requirements (March 2003) and as such requires that an Initial Environmental Examination (IEE) be prepared in order to assess whether further environmental studies are required following the completion of PPTA preparation. Category B projects are those that are "judged to have some adverse environmental impacts but of lesser degree and/or significant than those for Category A projects." An initial environmental examination (IEE) is required to determine whether or not significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.

170. An evaluation matrix (Table 6) which covers basic environmental concerns for small-scale interventions of the types that will be supported under the Project shows that location and construction problems related to the environment are likely to be minimal and can be mitigated with relatively simple and well understood management and monitoring

interventions. While there are increased environmental risks associated with post-construction operation, these can also be mitigated through the development of necessary supporting facilities (such as for waste water drainage) and sustainable management systems both in local government and at community level.

Table 9: Matrix correlating environmental parameters, adverse impact and mitigating measures

Environmental Parameters	Adverse Impact	Mitigating Measures	Significant adverse impact
Environmental problems due to project location	• Waste disposal	• Waste disposal management • Monitoring water sample	No
Environmental problem associated with construction stage	• Water quality • Dumping of construction material/waste	• Controlled water quality • Controlled dumping of construction material/ waste	No
Environmental problems resulting in project operations	• Chemical/biological waste • Contamination of water supply • Waste water drainages	• Waste disposal management program • Avoid dumping of waste into water supply • Develop waste water and sewage drainage	Yes/No

D. Assumptions and Risks (see also Appendix 1)

171. Key assumptions and risks under the Project are identified in the Design and Monitoring Framework (Logframe) in Appendix 1. Achievement of project objectives is predicated on a number of assumptions and on effective mitigation of certain risks, for which failure could significantly impact on the Project, its achievements and its longer-term sustainability. Key assumptions envisaged during project preparation include the following:

Overall Assumptions

(i) National political and economic stability is maintained.

(ii) Government remains committed to the Project and ensures the sustainability of project outcomes.

(iii) The Project, in partnership with all stakeholders, creates sufficient momentum to sustain use of the integrated family nutrition packages among the at-risk groups and maintain positive changes in nutrition behavior.

- **Component 1 – Integrated Community Nutrition Program**

(i) Government provides adequate counterpart funding in support of community nutrition improvement interventions amounting to 30% of total (loan and counterpart) funding allocations.

(ii) Personnel and facilities for nutrition out-reach service delivery systems exist to reach the poor in urban slum and poor rural areas.

(iii) Central government effectively reallocates necessary resources to adequately fund pro-poor preventative (*puskesmas* and *posyandu*) nutrition services.

(iv) Local governments involved in the Project are able to develop prioritized budgets for necessary investments to provide for quality nutrition services (e.g. facilities upgrading, training, BCC, operation and maintenance, etc.).

(v) Community service providers are adequately trained and motivated through the provision of appropriate incentives to provide high quality nutrition services.

- **Component 2 – Food Fortification**

(i) Low-cost fortified complementary food becomes available in the market and is delivered in ways that meet needs of the urban and rural poor.

Principal Risks

- **Component 3 - Institutional Strengthening**

(ii) Nutrition is incorporated as a separate topic for policy and programming in national/regional economic/social development plans.

(iii) An Integrated multi-sectoral approach for nutrition policy, program development and management is adopted by central and local government.

(iv) Adequate human resources are made available or provided with sufficient skills and knowledge on technical and managerial aspects of nutrition, including professional staff, paramedical staff and community-level cadres, particularly at the local level.

(v) Local governments accept and seek to implement national guidelines on nutrition.

(vi) Local governments, *puskesmas* and *posyandu* are able to meet or demonstrate substantial progress toward meeting minimum service standards for nutrition as issued by MOH departments.

(vii) Government is able to identify and address key factors affecting nutrition of at-risk groups and is able to design and implement appropriate socialization activities to sustain positive changes in nutrition behavior.

- **Lack of Government Resources for Nutrition Programs**

172. Loan funding will only address a part of the nutritional problem and Project success is predicated to a large degree on adequate levels of funding being available in public budgets outside of the loan and addressing severe shortages that have existed in the recent past. However, government has committed to increasing public spending for nutrition, both overall and as a share of national health budget. This is reflected in a substantial increase already included in the budget for 2006.

- **Delays in Project Implementation**

173. The Project is envisaged to be implemented over six years. Past experience in the case of health sector projects suggests significant start up delays may be anticipated with respect to establishment of project implementation offices under decentralization, finalization of funds flow mechanisms and implementation arrangements, recruitment of consultants,

and approval of budgets. The Project will be implemented using existing approaches, and utilizing implementation and funds flow mechanisms that are already in place for the health sector. The use of established mechanisms, trained staff and provision of advanced action for procurement of consulting services will minimize risk of delays in project start–up.

- **Delays in Budget Approval**

174. Some of the more recent, ongoing projects have been experiencing systematic delays in release of budgets due to the adoption of a unified system of accounting, which has led to a shorter implementation period during a given year. The Government is in process of introducing a new budget approval process, which aims to make the funds available to the line agencies at start of the year. Nonetheless, the Project design seeks to address or mitigate at least some of the potential delays by scheduling consultant activity and procurement during the facilitator-dominated community mobilization activities at the start of the year and implementation of civil works in later part of the year.

- **Governance Related Issues**

175. Projects involving procurement of goods and services, particularly for a large volume of civil works are generally prone to corruption. By adopting an approach where responsibility for the planning and implementation of thee activities rests with the local governments, the Project seeks to promote transparency and good governance. Governance related risks will be further minimized by implementing an Action Plan that had been jointly developed by the Ministry of Health and ADB to improve efficiency of project implementation, enhance quality of outputs and prevent fraud and corruption.

V. PROPOSED ASSURANCES

A. Specific Assurances

176. In addition to the standard assurances, the Government has given the following assurances, which are incorporated into the legal documents for the Project:

(i) The loan and corresponding counterpart funds, necessary to finance the project activities, will be made available throughout the project implementation period by earmarking the funds;

(ii) Proceeds of the loan will be disbursed to project provinces and districts throughout the project implementation period as grant by using the budgetary transfers already in place for other projects;

(iii) Selection of the project districts has been carried out in accordance with the agreed selection criteria, and the list of selected districts will be shared with ADB prior to any disbursements for civil works and equipment;

(iv) The Project will not involve resettlement of people, relocation of houses, or land acquisition

VI. TECHNICAL ASSISTANCE

177. The proposed technical assistance will entail supporting the project implementation through food and nutrition policy and program development; strengthening institutional and human resource capacity of central and local government's to plan and manage integrated multisectoral nutrition programs; improving surveillance, monitoring and information systems; and promoting social mobilization and communications. The main tasks under the TA are to

assist in implementing the proposed organization restructuring, and conduct organization change at relevant agencies, improving system performance through quality assurance, and help oversee the implementation of various components under NICE through building capacity of the EA and IA's. The total cost of the TA is estimated to be $1.5 million equivalent. The TA will be implemented over the implementation period of UNP. Consultants will be recruited in accordance with ADB's Guidelines on the Use of Consultants and other arrangements for the engagement of domestic consultants satisfactory to ADB.

VII. RECOMMENDATION

178. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of $ 50 million for the Urban Nutrition Project from ADB's ordinary capital resources (OCR) and Asian Development Fund (ADF). OCR's interest is to be determined in accordance with ADB's London interbank offered rate (LIBOR)–based lending facility; a term of 25 years, including a grace period of 6 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreements presented to the Board.

President

5 December 2005

APPENDIX 1

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
Impact Improved nutrition status, especially of poor children under the age of 5 years, and pregnant and lactating women	Prevalence of malnutrition in children under 5 years reduced from 34% in 1995 to 17% by 2015, (Millennium Development Goal 1, Indonesia)	Reports and statistics from Government agencies, development partners, and non–government organizations (NGOs) ADB reports and reviews; ADB Project Performance Audit Reports (PPAR)	**Assumptions** Political and economic stable No national disasters and social conflict Poverty reduced Government commitment to nutrition increased Public private partnerships initiated Target communities have access to water supply and environmental sanitation **Risks** Lack of government resources for nutrition programs
Outcome			
Sustained and equitable access to quality integrated nutrition programs and services, especially for at–risk population in project areas	By 2012, in the Project areas: 80% increase in access of poor households to *posyandus*, particularly GMP	Ministry of Health (MOH) reports Quarterly project reports Project surveys (baseline, midterm, and end–of–project impact evaluation), independent monitoring, and surveillance reports	**Assumptions** Government is committed to the Project and ensure sustainability of project outcomes Project has created momentum to sustain at–risk groups use of nutrition programs and changed nutrition behavior CBINP Models and NutriComG established
	4% reduction in malnutrition prevalence of children under five by 2012	SKDN, surveys (SUSENAS, province, districts)	*Posyandu* coverage is 80-85%; attendance is 75%

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
	Integrated nutrition solutions successful in 50% of target communities by 2012	Regular Report, Project surveys	Existence of nutrition outreach service delivery system to reach the poor in slum and rural areas
	40% of poor households adopt improved nutrition behavior and practices tailored to specific messages related to *Kadarzi*. by 2012	-KAP survey -National household and health survey; - Demographic and Health Survey/ Special project survey	Promotion materials disseminated Socialization and communications program implemented
Outputs			
1. (Component 1) Improved access urban and rural poor households to equitable and quality community based integrated nutrition package (CBINP) in selected districts	80% participation of poor children minimum 10 mos./ calendar year in GMP by 2012 CBINP Models and NutriComG established and functioning in all target districts by 2012 Percentage of poor households in project districts participating in community activities increased 50% by 2012 At least 50% *puskesmas* fully implement nutrition activities (outreach, diagnosis, referrals) by 2012 No. of PKK, NGO, CBO, religious and private (corporate) groups implementing and supporting CBINP in 50% of project districts by 2012 Number of *posyandu* with cadres and operating & maintenance cost funded by local government in project districts increased by 50% by 2012	SKDN reports from *posyandu* Project reports NutriComG proposals BME reports Project baseline and annual surveys Client/user surveys Local budget allocation (APBD)	Central governments reallocate from resources to pro–poor preventive (*puskesmas* and *posyandu*) nutrition services *Posyandu* coverage is increased and highly effective Medical and health authorities buy into nutrition and prioritize Nutrition in *puskesmas/ posyandu* training for doctors, nurses, midwives, and community volunteers Correctly diagnosed problem and training of high quality Communication mobilized Food and nutrition surveillance system enhanced and implemented Local governments have prioritized budgets for investments to improve quality nutrition services

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
ACTIVITIES WITH MILESTONES			**Inputs**
Component 1:Community Based Integrated Nutrition Program for urban and rural population • Improving Nutrition Service Delivery • Establishing Community-Based Integrated Nutrition Program: a new UPGK **Component 2:Food Fortification** • Pilot Testing of Iron Fortification for the Poor • Expanding Distribution and Marketing of Sprinkles • Expanding Vitamin A Fortification of Cooking (Palm Oil) • Strengthening the National Wheat Flour Fortification **Component 3:Institutional Strengthening** • Organization analysis and improvement • Improved food and nutrition surveillance system • Strengthening institutional capacity • Comprehensive communications program • Strengthening research and development			Asian Development Fund (ADF)/Ordinary Capital Resources (OCR) loan: $50 million Government counterpart funds: $21.4 million International consultants: 63 person–months Domestic consultants: 242 person–months Civil works: $ 1.6 million Fellowships and training activities: $ 7.6 million Equipment: $ 10.7 million Systems Development, Workshops and Studies: $5.7 million Material and Supplies: $ 5.4 million CBINP/CFTs: $ 19.9 million

APPENDIX 2

SECTOR ANALYSIS

A. Overview

- **The Pre-Crisis Period and the Nutrition Transition**

1. Over the more than two decades from the mid 1970s to the late 1990s, Indonesia underwent an important and dynamic transition in nutrition, one in which the country arguably became a leader in the conceptualization, development and implementation of community-based multi-sector nutrition programs. At the core of the positive results realized in nutrition during this period was a fundamental appreciation that adequate nutrition was related to many critical factors – good sanitation, safe water supply, effective outreach combined with community empowerment, as well as access to a quality diet. While this appreciation was not generic to Indonesia, policies and programs were designed and implemented with this in mind so that nutrition was not exclusively within the domain of the health sector, but rather encompassed broad sector participation extending to education, agriculture, industry and trade. While the Health Ministry played the leading role, overall coordination under the National Development Planning Board (BAPPENAS) helped to create a mechanism to ensure that other sectors could play a role.

2. Crucial program elements included a strong Central Government commitment supported by external financial resources (principally loans from the World Bank) and technical assistance through collaboration with several universities, including Johns Hopkins University, University of Michigan, and Cornell University among others. Appropriate Indonesian institutions were formed or strengthened to facilitate nutrition policy formulation and planning (BAPPENAS), training (university and high school curricula in nutrition), operational and program research (e.g. *Puslitbang Gizi*, Bogor Agriculture University) and program implementation (Divisions for Nutrition in the Ministries of Health and Agriculture). At the local level, the village-based Family Welfare Movement (*Pendidikan Kesejahteraan Keluarga* or *PKK*) provided a framework for implementing nutrition programs, most notably through the voluntary, community-run network of Integrated Health Posts (*Pos Pelayanan* Terpadu or *Posyandu)* and the national Family Nutrition Improvement Program (*Usaha Perbaikan Gizi Keluarga* or *UPGK*).

3. An enabling environment was also created by 'Green Revolution' technologies that led to dramatic increases in staple food production, by rising educational levels – particularly among women[1], and by sustained reductions in poverty that meant that more people could afford not just a basic, but also a more diversified and nutritionally sound diet.[2] Many of the public health interventions made during this period were also supportive. This included a focus on immunization and diarheal disease control[3] as well as on access to key micro-nutrients (salt iodinization, provision of iron and Vitamin A supplements), particularly for pre-school age children and pregnant and lactating women. In addition, investments were made in local health facilities including Public Health Centers (*Pusat Kesehatan Masyarakat* or *Puskesmas*),

[1] In almost all studies and relevant data sets, female (mother's) education remains one of the strongest correlates of a variety of health and nutrition outcomes.

[2] While increased incomes are associated with a reduced percentage of total expenditure going to food, they are also generally associated with a smaller proportion of food expenditure going to so-called 'starchy staples' – e.g. rice, tubers, etc., and a higher percentage to such things as eggs, vegetables, fish and meat.

[3] Immunization and disease control are part of the nutrition paradigm for the simple reason that frequent or more severe bouts of illness are also associated with increased risk of malnutrition.

Auxiliary Health Centers (*Puskesmas Pembantu* or *Pustu*) and Village Maternity Posts (*Pondok Bersalin Desa* or *Polindes*) and on outreach, most notably through the program to contract and deploy trained midwives (*Bidan di Desa*) at the village level. The focus here was mainly on delivery of health services rather than nutrition per se. However, improved access and outreach supported improved flow of information, including on nutrition, as well as providing support through referral of high risk or problem cases where higher-level medical attention was required.

4. Impacts were seen in a variety of health and nutrition outcomes – steady declines in infant and child mortality (and commensurate increases in overall life expectancy) as well as in reductions in percentages of underweight children and prevalence of Goiter and Xerophtalmia.[4] Problems were hardly completely resolved, but progress was substantial and comparable to some of the other high growth rate countries in the region. A recently published sector review and policy analysis referred to the period between 1970 and 1998 as the "golden era" of nutrition in Indonesia.[5]

- **Impacts and Changes Due to the 1997/98 Economic Crisis**

5. The 1997/1998 economic crisis and the political changes in its aftermath had two important consequences. First the inflationary impacts, particularly on staple food prices and declining real incomes highlighted the increased risks faced by the poor. There were real concerns about deterioration in access to food and basic social services, including those associated with health and nutrition.[6] The crisis also resulted in severe strains on the Government budget and the ability to maintain services as pre-crisis levels. Second were the political changes resulting in decentralization of responsibility for program formulation and implementation from Central to Local Governments across a wide range of sectors, including health and nutrition. While the intention of decentralization was one of regional and local empowerment and bringing governance closer to those being governed, it was also undertaken in an environment where many of these local governments were institutionally and financially unprepared to take over planning and management functions that had previously been highly centralized.

6. Immediate reactions to the crisis focused on targeted food provision and on maintenance of health services, particularly those at the local level. GOI introduced a major food security program through the Ministry of Home Affairs and BULOG to provide subsidized rice (the main staple food) for poor households in 1998 known as Rice for Poor Communities (*Beras Untuk Rakyat Miskin* or *RASKIN*) and this has continued to the present day. The program had its widest coverage at the beginning of the crisis covering 14.6 million families in 1998 to 1999, but 8.3 million families were still receiving assistance in 2003 with Central Government expenditure of 4.8 trillion Rupiah. With the end of national crisis-related Social Safety Net programs in 2003, funding for subsidized rice has continued at a reduced level as part of the Fuel Subsidy Compensation Fund (BBM) activities that also provide for continued supplementary feeding of children in orphanages under the Ministry of Social Affairs.

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[4] While infant and child mortality rates have been fairly consistently mapped in Indonesia since the late 1960s, trend information on many of the other nutrition indicators, at least up to the 1990s, is more sketchy making detailed confirmation of what has actually occurred difficult if no impossible. Confidence in the general conclusions, however, is enhanced by a number of recent studies by qualified experts that have undertaken careful review of the available information as part of sector assessments covering both pre and post-crisis periods.

[5] Soekirman, Atmarita, Abas B. Jaharu, Sanjaya and Drajat Martianto, *Review of the Nutrition Situation, Policies and Strategies for Sustained Improvement of Nutrition in Indonesia*, Koalisi Fortifikasi Indonesia and The Micronutritional Inititative, September 2005.

[6] The food situation was exacerbated by the severe drought (El Nino) that affected Indonesia during the latter part of 1997 and first part of 1998.

7. The Social Protection Sector Development Program (SDSDP) funded by the ADB was also initiated in 1998 and focused, among others, on supplementary feeding for malnourished under-fives and operational funds to maintain services at *puskesmas* and among local health workers (e.g. *bidan di desa*).[7] These activities were sustained under the follow-up program (Health and Nutrition Sector Development Program or HNSDP), also funded by the ADB, which lasted to 2003, and with food supplementation continuing to be maintained with GOI funding alone. Other supplementary feeding programs were also introduced by UN agencies.[8] Finally, mention should be made of the School Feeding Program (PMT-AS) that was actually introduced in the mid-1990s (before the crisis), but which has also been maintained in the post-crisis period.

8. While these programs have been widely credited with effective mitigation of crisis impacts in the immediate aftermath (key child health and nutrition indicators continued to show improvement, at least during the first few years following the crisis), the increased emphasis on ensuring adequate protein-energy through subsidized food provision and supplementary feeding has been claimed to have compromised other macro and micronutrient-rich foods (fat, vegetables and eggs) leading particularly to stagnation or declines in micro-nutrient status.[9] This is reflected in patterns of public expenditure on nutrition that have not only declined as a percentage of total health expenditure since the crisis, but have also shown an increasing proportion of the nutrition budget going to food supplementation as opposed to other nutrition activities or interventions.[10]

9. Although decentralization had been on the political agenda for many years, the adoption of Law No. 22 and Law No. 25 in 1999 sharply accelerated the process. Under these laws, which were formally implemented in starting in 2001, district (regency/municipality) authorities and district parliaments (DPRD) became directly responsible for identifying local needs, addressing local issues, choosing locally suitable solutions, mobilizing necessary resources, and implementing appropriate decisions and plans of actions Within the sectors where formal transfer of powers occurred[11] the functions of Central Government are now generally limited to formulation of national health and policies and plans and assisting or facilitating local governments through their own resource mobilization and allocation.

10. In particular, the role of MOH is now primarily to set national standards and guidelines on nutrition, food and medicine quality and distribution, on provincial and district planning, and to monitor performance of districts and provinces on critical indicators. Provinces and districts receive funding mechanisms from the Central Government, but are responsible for managing their own health and nutrition planning and budgeting to reflect local needs and priorities and to provide community oriented-health services.

11. MOA has a similar role in food policy (food availability, food distribution, food consumption) through the National Food Security Council (DKP) established in 2000. DKP is inter-ministerial

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[7] This was part of the overall set of Social Safety Net (*Jaring Pengaman Sosial* or *JPS*) introduced in the immediate aftermath of the crisis. The health services components was also known as JPS-BK.

[8] These include the Vitadele Program of UNICEF (1998-2000) and the Delvita Program of WFP (1998-2003). The WFP assistance was integrated with the GOI subsidized rice program (RASKIN) and focused on the poor in major urban areas.

[9] See M.G. Vaenkatesh Mannar, *Indonesia: Nutrition Review and Issues Paper – Micronutrient Component*, 2003.

[10] The consultant report by Jonathan Gerstein shows an increase in resources invested in nutrition from about 80 billion rupiah in 2000 to nearly 170 billion in 2004. Over the same period, however, the proportion of this expenditure going to complimentary feeding rose from 36 to 71%. The nominal value of expenditure on other nutrition programs (outside of complimentary feeding) was actually less in 2004 than in 2000.

[11] A limited number of sectors such as defense, foreign affairs, religion, etc. remain centralized/

and is chaired by the President, but the Secretariat is located in MOA and effectively operates as part of the 'Directorate General of Food Security' within the ministry, reporting to the Minister of Agriculture, but with no direct authority over other Central Government ministries or over the subsidiary Food Security Agencies that have been set up in a number of provinces and districts.[12]

12. This has dramatically increased the freedom and autonomy of Local Governments regarding spending and, at the same time, reduced the power of Central Government to influence how local spending priorities are set and programs are implemented. Many Local Governments are still highly dependent on Central Government transfers, but key interventions to force local accountability for the use of these funds – through Performance-Based Budgeting and the application of Minimum Service Standards - are still in stages of development or early application.[13] Other central-local funding arrangements through on-lending or on-granting of foreign loans or through spending of central departmental development budgets for regional activities (*dana dekonsentrasi*) can be more directly targeted, but still often rely heavily on local capabilities for implementation. In nutrition, MOH has used *dana dekonsentrasi* to deliver the fortified supplementary food for poor children (under 2 years) that has made up a large part of the sector development budget in recent years. Foreign aid has declined generally in the health sector, as a proportion of total expenditure, in recent years and with the closure of HNSDP in 2003 has been virtually non-existent in the area of nutrition.

13. The results have been mixed. On the one hand, decentralization has apparently led to an increased sense of ownership and service. A recent World Bank study[14] showed high satisfaction of households with health services, with 40% reporting that *puskesmas* services had improved since decentralization, although perceptions on governance more generally showed little relation to local levels or patterns of public expenditure. However, this related mainly to 'curative' health services provided by *puskesmas*. There is wider evidence, confirmed by the site visits undertaken in preparing the PPTA, that outreach services and the functioning of community-level institutions (*posyandu*) that were fundamental to implementation of UPGK and related programs in the 1980s and 1990s have deteriorated dramatically in many areas due to lack of support. What is perhaps most important is the evidence of stagnation or even deterioration in some key nutrition outcomes since the turn of the century. Due to the importance of these and the need to place these in the context of wide regional variations and a complex set of causal relations, this is dealt with a separate section below.

14. Weaknesses in substantive post-crisis progress, however, are not reflected in the policy environment. A National Plan of Action for Food and Nutrition (2001-2005) was developed in collaboration with the World Health Organization in 2000. This plan was comprehensive, describing goals and objectives that spanned food production (rice, other staple foods, protein and micronutrient rich foods), dietary intakes (including food quality and diversity), infant feeding behaviors (breastfeeding, complementary feeding), nutritional status outcomes (underweight, iodine deficiency, anemia, vitamin A deficiency, overweight), food quality and safety, and family nutrition awareness. While it incorporated key elements of earlier policies that that had proven successful in reducing malnutrition, it included a new (or revitalized) emphasis on promoting

[12] See the consultant report on *Nutrition Institution Development and Reform* by Robert Raitt prepared for the PPTA.

[13] Performance-Based Budgeting is being piloted and is scheduled for full implementation by 2007. Minimum Service Standards, also referred to as obligatory functions, have been issued at Ministerial level for a number of sectors, including health and nutrition, but there is currently no basis yet for enforcement at the regional or local level.

[14] Robert Sparrow and Menno Pradham, *Health Spending, Utilization and Governance in Decentralizaed Indonesia*, 2005.

family nutritional awareness[15] and on aspects of institutional development aiming to deal specifically with issues presented by decentralization.[16]

15. Much of this work is also reflected in the more recent NAP that has recently been issued by MOH.[17] It targets a reduction in child malnutrition to a maximum of 20% and severe malnutrition to a maximum of 5% along with related targets for exclusive and extended breastfeeding, access to nutritious foods (including fortified complementary feeding of poor children), Vitamin A supplementation, and appropriate policy and program services through district-level health departments, hospitals and community health centers. Actions include (1) revitalization of *posyandu*, (2) revitalization of *puskesmas*, (3) nutrition and health interventions (targeted supplementary feeding, micronutrient supplementation), (4) family nutrition awareness, (5) cross-sector empowerment at family, community and institutional levels to improve abilities to address nutritional issues, (6) advocacy and support networks, and (7) nutrition surveillance.

16. In this regard, while there remains considerably scope for further policy work, current issues are seen to be more in areas of coordination and implementation at all levels that have been affected by impacts of the crisis and decentralization as well as from ongoing process of social and economic change. These include institutional, human resource capacity, financial and substantive or technical issues that will be returned to in a discussion of key issues and constraints and following a more detailed discussion of current conditions in the state of nutrition in Indonesia that is provided below.

B. Recent Trends and Current Conditions in Nutrition

- **Causes of Malnutrition**

17. Problems relate not only to overall levels and regional variations, but also the complex array of causal factors underlying malnutrition. Based on a model developed by UNICEF (Figure 1), malnutrition can be seen as a direct function of the nutritional intake and the infectious disease regimen experienced by the individual. These are, in turn determined by aspects related to household food security, health and health-related behavior, and the availability and quality of health and nutrition services. Finally, these "indirect causes" are affected by a variety of social, economic and environmental conditions that underlie and help explain variations in food security, health behavior, etc. among different regions and population groups. There is also a strong two-way relationship between nutrition intake and the frequency and severity of a number of infectious diseases, including those most responsible for death and disability among infants and young children.[18]

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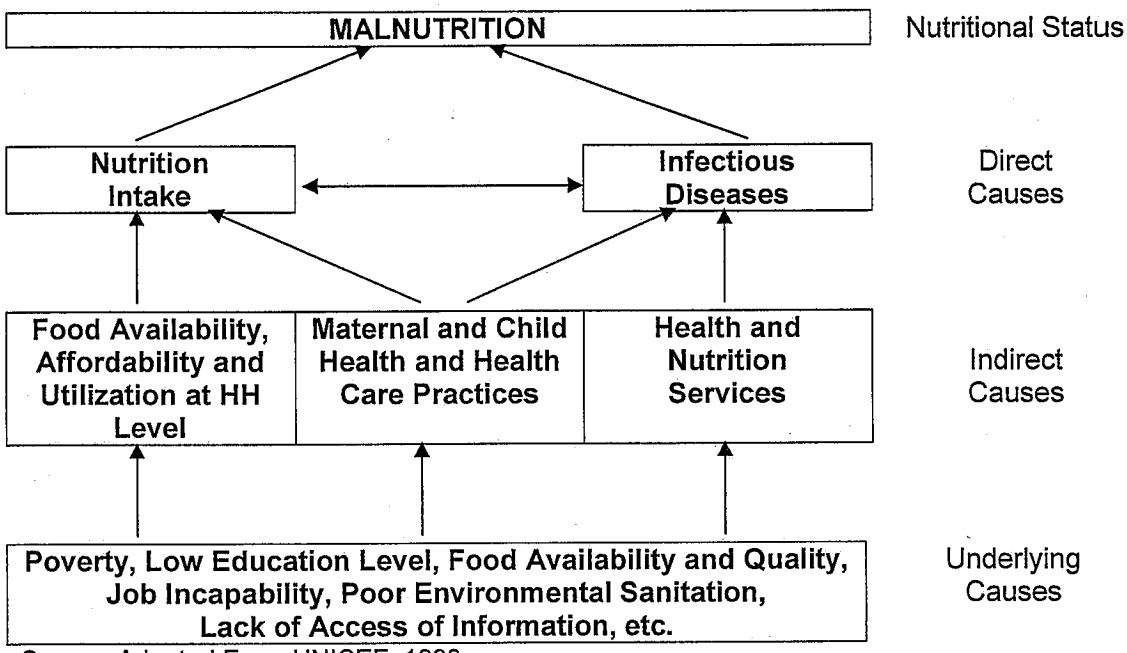
[15] Review of various consultant reports shows an almost universal agreement on the critical importance of nutrition promotion and education (Behavior Change Communication or BCC) at the individual and family level. Nutritional awareness and practice promotion was part of the original UPGK concept, but this has largely been lost in more recent years, particularly in the post-crisis period.

[16] Goeff Marks, *Protein-Energy Malnutrition in Indonesia: Key Challenges and Options*, August 2003, p. 33. The Plan included 10 specific programs: (1) institutional development in food and nutrition, (2) empowerment of food and nutrition manpower, (3) improvement of food security, (4) food and nutrition surveillance systems, (5) prevention and management of under-nutrition and over-nutrition, (6) prevention and management of micronutrient deficiency, (7) improvement of family awareness on food and nutrition practices, (8) nutrition services in institutions, (9) improvement of food quality and safety, and (10) research and development on food and nutrition.

[17] Departemen Kesehatan Republik Indonesia, *Rencana Aksi Nasional: Pencegahan dan Penanggulangan Gizi Buruk 2005-2009*, June 2005.

[18] Poor nutrition, particularly inadequate intake of key micronutrients, decreases resistance to infectious diseases. This includes virtually all infectious diseases, but is particularly critical for bacterial and viral infections where immunization is not a feasible option. Conversely, frequent and/or severe bouts of illness impact on the ability to consume an adequate diet.

Figure 2 - Causal Framework for Malnutrition



Source: Adapted From UNICEF, 1998.

18. This poses two major challenges for nutrition programs. First, a comprehensive approach to reduction of malnutrition requires a multi-sector approach. This includes the health sector, but also sectors associated with food production, distribution and manufacturing. The food processing and food service industries are becoming of increasing importance in Indonesia, particularly in urban areas, where more and more people, including small children, are consuming processed foods and prepared foods eaten outside the home. It also includes sectors responsible for improving hardware and software related to sanitation and hygiene, as well as sectors such as education and possibly others, such as religion, that can serve as communication channels to influence nutrition behavior.

19. Second, as there are large regional variations in malnutrition, there are also large variations in the relative importance of various direct, indirect and underlying causes in different areas. Some of these have been documented in preparations of the AOTA preceding this PPTA. Although it may be relevant to propose common institutional structures and general approaches (i.e. nutrition improvement program options) across regions, it is equally likely that to be effective, detailed priorities and strategies will need to be tailored to the specific mixes of constraints faced by different regions and communities. Decentralization and the adoption of Community-Driven Development (CDD) approaches in Indonesia offer a significant opportunity. But this also has to be approached in the face of weak and often deteriorating local-area information bases and limited capability in many Local Governments to undertake the kinds of strategic planning and programming required.

- **Protein Energy Malnutrition**

20. Trends in prevalence of underweight children are shown in Table 1. These data are based on the Nutritional Status Component of the National Socioeconomic Survey (SUSENS) that has

collected data on weight for age periodically since the late 1980s and annually since 1998. Based on these data, it can be seen that declines that were achieved in the period leading up to and in the initial years following the crisis have largely stagnated, with evidence of even some increase in the prevalence of underweight children since 2000.

Table 1: Trend in Prevalence of Underweight Children in Indonesia, 1989-2003 (% of children below standard)

Weight for Age	Year								
	1989	1992	1995	1998	1999	2000	2001	2002	2003
< -2 SD (Underweight)	37.5	35.5	31.6	29.5	26.4	24.6	26.1	27.3	27.5
< -3 SD (Severely Underweight)	6.3	7.2	11.6	10.5	8.1	7.5	6.3	8.0	8.3

Source: SUSENAS Data Sets, National Nutritional Component, 1989-2003

21. Data on other anthropometric indicators – stunting (height for age) and wasting (weight for height) are more fragmentary with the most recent national data sets being for 2001. However, both remain high. Stunting in 2001 was over 40% and little changed from levels reported from earlier data sets extending back to 1990. Wasting was around 16% with only moderate rural-urban differences (16.2% and 15.2% respectively) – representing a figure above the WHO critical emergency level.[19] However, a longitudinal surveillance carried out by Helen Keller International (HKI)[20] that focused on urban slum areas as well as rural samples in 7 provinces indicated a much higher relative prevalence of both wasting and stunting in these poor urban locations in the immediate aftermath of the crisis, reaching 20-30% for wasting in some areas. It has fallen since then, even in these poorer urban locations, but remains indicative of the risks faced by the urban poor, who are entirely dependent on commercial market sources for what they eat, in times of crisis.

22. These issues are mirrored in data reflecting nutritional intake that can be estimated based on patterns of food consumption collected in the periodic SUSENAS household consumption/expenditure modules used for poverty estimation. Information on average per-capita energy and protein consumption for available years between 1993 and 2002 are shown in Table 2. The decline in 1999 (near to the high point of the crisis) is clearly evident. And while energy and protein consumption levels did recover in 2002 neither were back to levels achieved in 1996 before the crisis started.

Table 2: Energy and Protein Consumption Levels Per-Capita, Per Day In Indonesia, Amounts and Percent of Standard 1993, 1996. 1999 and 2002

Area	Year							
	1993		1996		1999		2002	
	Energy							
	% of standard	Amount (Kcal)	% of standard	Amount (Kcal)	% of standard	Amount (Kcal)	% of standard	Amount (Kcal)

[19] The reader is referred to the consultant report by Jonathan Gorstein (Urban Nutrtion Specialist) prepared for the PPTA. High levels of wasting are of particular concern as they best reflect problems related to food shortages and the ability to access or afford a sufficient diet rather than longer-term issues related to poverty or other structural or social conditions underlying nutrition.

[20] This is also referred to as the National Surveillance System (NSS). See the report by Gorstein citied in the previous footnote for greater detail.

Urban	82.0	1,804	92.3	2.031	81.9	1,802	88.8	1,954
Rural	90.1	1,982	94.4	2,088	85.5	1,881	91.5	2,013
Total	87.4	1,923	94.0	2,068	84.0	1,848	90.3	1.987
Protein								
	% of standard	Amount (Gram)	% of standard	Amount (Gram)	% of standard	Amount (Gram)	% of standard	Amount (Gram)
Urban	98.3	47.2	121.0	58.1	102.7	49.3	118.7	56.0
Rural	98.7	47.7	116.2	55.8	100.4	48.2	110.8	53.0
Total	98.5	47.3	118.0	56.6	101.5	48.7	113.3	54.0

Source: Azul Azwar, *Aspek Kesehatan dan Gizi Dalam ketehanan Pangan (Nutrition and Health Aspect in Food Supply)*, Widyakaraya Nasional Pangan dan Gizi VIII, "Ketehanan dan Gizi di Era Otonomi Daerah dan Globalizasi" (The Eighth National Conference on Food and Nutrition, "Food and Nutrition Security in the Era of Autonomy and Globalization.

23. However, wide disparities also exist in nutrition outcomes across Indonesia, with rural-urban geographic and socio-economic differentials. Prevalence of underweight children in 2003 varied from a low of 16% in Bali and 18% in Yogyakarta to nearly 45% in Gorontalo and 41% in East Nusatenggara (Table 3). Although, not shown there are also significant variations within provinces. Urban-rural differences are generally smaller with urban rates being slightly lower, at least within the same province, but this belies the fact that economic conditions are generally much better in urban areas (lower incidence of poverty) meaning that relative to real purchasing power, malnutrition is in some ways a greater problem in urban areas. Regional variations partly reflect food access – until 2004, SUSENAS was conducted in February/March, toward the end of the rainy season, but before major harvests replenished food supplies. More isolated regions, areas subject to greater annual variation in food production and areas where food markets are integrated or developed come out as those subject to greater risk. Social factors, particularly, poverty and educational levels also play a role. It should not be surprising that regions where educational levels (particularly among mothers) is lagging also tend to be among those where malnutrition is a matter of greater concern. While poverty is clearly not the only factor explaining malnutrition, there remains a significant level of cross-sectional correlation between levels of poverty and prevalence of underweight children among provinces and districts in Indonesia.[21]

Table 3: Prevalence of Underweight Children by Province and Rural/Urban Residence in Indonesia, 2003 (% of children below standard)

Province	% of Malnourished Under-Fives		
	Urban	Rural	Total
North Sumatra	31.8	34.6	33.4
West Sumatra	30.9	24.6	26.4
Riau	23.5	30.8	27.7
Jambi	22.8	19.5	20.3
South Sumatra	28.2	31.6	30.4
Bengkulu	28.5	23.0	24.6
Lampung	24.2	29.9	28.5
Bangka-Belitung	27.6	29.5	28.8
Jakarta	23.3		23.3
West Java	20.7	27.4	24.1
Central Java	23.3	26.8	25.5

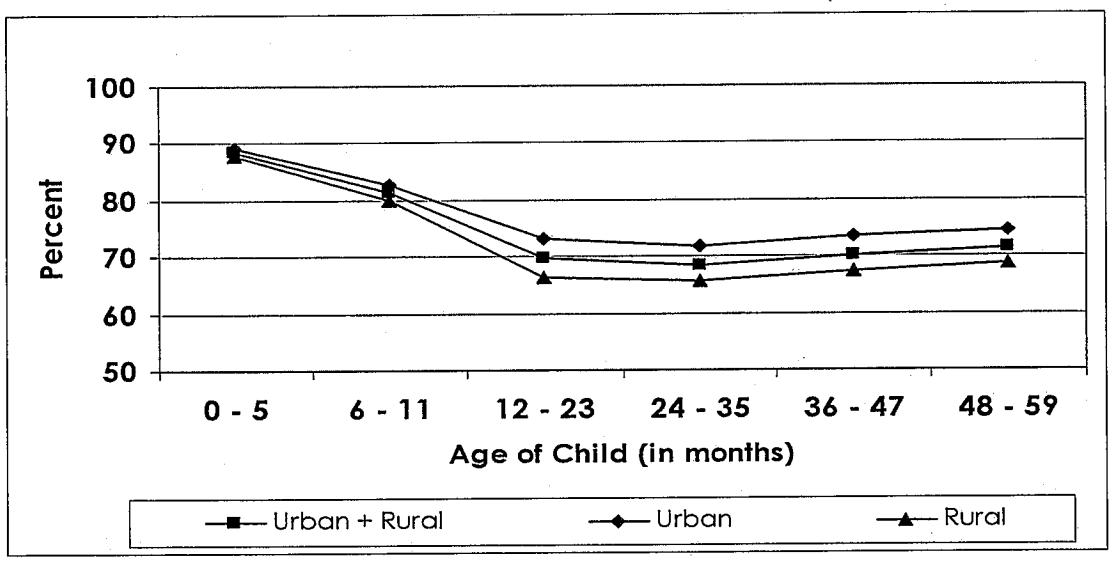
[21] See the consultant report on poverty prepared for the PPTA for greater detail on this issue.

Province	% of Malnourished Under-Fives		
	Urban	Rural	Total
Yogyakarta	14.5	21.7	17.6
East Java	20.3	26.0	23.7
Banten	25.8	27.0	26.5
Bali	15.3	17.6	16.4
West Nusatenggara	37.1	32.6	34.2
East Nusatenggara	33.8	42.0	40.8
West Kalimantan	41.9	28.1	39.1
Central Kalimantan	25.1	28.5	27.3
South Kalimantan	27.5	30.7	29.5
East Kalimantan	18.4	32.5	24.6
North Sulawesi	28.2	20.3	23.4
Central Sulawesi	38.4	27.6	29.6
South Sulawesi	37.6	28.9	31.4
Southeast Sulawesi	24.3	20.7	32.5
Gorontalo	52.0	42.6	44.8
Maluku	24.6	34.1	30.7
North Maluku	22.5	25.9	25.2
Papua	36.1	27.9	29.1
Indonesia	**24.0**	**28.4**	**26.5**

Source: SUSENAS, National Nutritional Component, 2003

24. There are also important variations in child malnutrition by age (although interestingly not by gender). On average, child weights at birth are only slightly below international standards, but deteriorate with age, slowly over the first 3-4 months where exclusive breastfeeding is still fairly widespread, and then more rapidly, reaching their low point relative to age around 15-18 months after which prevalence of malnutrition remains relatively stable (Figure 1). Similar patterns for stunting and wasting have been shown using the NSS data for poor urban areas in Jakarta and Makassar. This may be related to early cessation of exclusive breastfeeding and irregular introduction of complimentary feeding (particularly of nutritious foods) over the next several months. DHS data for 2002/2003 shows that only about 15% of children aged 4-5 months in Indonesia are still being exclusively breastfed and also suggest (although questions are limited) that maximum levels of access to nutrient-rich foods and micronutrient supplementation are generally not reached until children are into their second year of life.

Figure 1: Percent of Children Adequately Nourished (weight for Age >-2 SD) by Age in Months, Indonesia, 2001-2003



Source: SUSENAS Data Sets, National Nutritional Component, 2001-2003. Figures represent averages over the three years and refer to the 9 provinces included in the proposed Project.

- **Obesity**

25. While under-nutrition remains the predominant concern, there also needs to be recognition of and increasing trend in obesity and the need to take account of this before it spirals out of control. Based on NSS data, for example, prevalence of overweight among adults (BMI >25) in rural areas between 1999 and 2001 ranged from 10% among young adults (20-24 years) to 25% among those aged 35-44 and increased each year of data collection.[22] This is an issue even among the poor and evidence has been cited of cases of overweight mothers with underweight children creating a 'double burden' of nutritional problems even within the same household. More broadly, this term is used to refer to the emergence of diseases exacerbated by over-nutrition as a major health problem in an overall environment infectious morbidity associated with the prevalence of under-nutrition remain widespread.[23]

- **Micronutrient Deficiency**

26. Micronutrient deficiency (**Vitamin A, Iron and Iodine) is** also a problem. Although considerable progress in improving micronutrient intake was made up the start of the crisis, in 2001 reported rates for iron deficiency anemia (IDA) were around 63.5% among pregnant and lactating women, marginal vitamin A deficiency (VAD) in children under five around 50% and iodine deficiency (IDD) of around 9.8% (as measured by the goiter rate among school age children and with 33% of districts having a total goiter rate of over 5%) as recently as 2001.[24] Given the known relation of micronutrient deficiencies to poor health, poor educability (reduced IQ), and consequent poverty, even these levels remain a matter of concern.[25]

[22] See the consultant report by Jonathan Gorstein (Urban Nutrtion Specialist) prepared for the PPTA.
[23] Soekirman et. al., 2005, Op. Cit.
[24] M.G. Vankatesh Mannar, Op. Cit. A National IDD survey carried out in 2003 found an average Total Goiter Rate (TGR) of 11.3% and a median Urinary Iodine Excretion (UIE) of 229 ug/L, with a variation among provinces with a TGR of greater than 10% ranging from 110 to 320 ug/L, figures generally falling within the WHO range of acceptable values of between 100 and 300 ug/L. (Soekirman et. al., 2005, Op. Cit.)
[25] A country-by-country assessment in 87 countries (by UNICEF and Micronutrient International) using a software model linking deficiency levels with functional consequences projected the following results for Indonesia.

27. **Iodized salt consumption** in Indonesia has shown a steady upward trend and reached 73% of households consuming adequately iodized salt (>30 ppm) in 2003 representing a 10 percentage point increase over the level of 63% measured in 1999 (Table 4). There are significant rural-urban differences as shown in the table and also wide regional differences with consumption of adequately iodized salt exceeding 90% of households in most of Sumatra and Kalimantan, ranging around the national average in Java and reaching a low of less than 40% in West and East Nusatenggara. Ironically, the survey indicates low consumption levels in Jakarta and Bali (ca. 56% and 44% respectively) even though these are two of Indonesia's least poor provinces.[26]

Table 4: Iodized Salt Consumption by Rural/Urban Residence, Indonesia, 1999-2003

Region and level of salt iodination	Percent of households by status of salt iodination				
	1999	2000	2001	2002	2003
Urban					
Adequately iodized	72.9	73.2	71.6	74.1	78.5
Inadequately iodized	15.3	16.5	15.0	14.2	11.6
Not iodized	11.8	10.2	13.4	11.7	9.9
Rural					
Adequately iodized	57.7	59.2	60.8	64.4	69.6
Inadequately iodized	19.6	19.5	17.9	16.4	13.5
Not iodized	22.7	21.2	21.3	19.5	16.9
Urban + Rural					
Adequately iodized	62.6	64.5	65.5	68.5	73.2
Inadequately iodized	17.9	18.4	16.6	15.4	12.7
Not iodized	18.5	17.0	17.9	16.1	14.1

Functional Consequence	Cause
The deaths of approximately 20,000 Indonesian children each year	Vitamin A deficiency (damage to immune systems)
Average IQ of the nation lowered by 10-15 percentage points. Approximately 500,000 Indonesian babies a year born with intellectual impairment. Unknown number born with severe retardation.	Iodine deficiency
40% to 60% of Indonesia's children aged 6 months to 2 years sustaining damage to brain development. Iron deficiency now known to affect formation of cranial nerves and neurotransmitter cells, lowering IQ scores by 5-7 percentage points. Effects likely to be permanent.	Iron deficiency
Over 25% of Indonesian children growing up with lowered immunity to major childhood diseases, leading to frequent ill health and poor growth.	Vitamin A deficiency
Approximately 2500 deaths a year of young women in pregnancy and childbirth.	Iron deficiency
Lowered productivity of adult workforce. Estimated losses to Indonesia – over 500 million working days and $8 billion per year.	Iron deficiency
Over 17,000 neural tube birth defects annually, including spina bifida.	Folic acid deficiency
Unmeasured burden on health services, and on families caring for children left disabled and retarded.	Multiple micronutrient deficiencies
Overall loss to Indonesia's development currently estimated at 5% of GDP.	Multiple micronutrient deficiencies

M.G. Vankatesh Mannar, Op. Cit.

[26] Variations may be explained in part by levels of reliance on sea salt that is largely produced by small-scale salt farmers. While most of this is sold to traders who then sell to processing units that are supposed to add necessary iodine, some finds its way directly onto the market, accounting for the roughly 20% of salt that has no iodine. M.G. Vankatesh Mannar, Op. Cil.

Source: National Salt/Iodine Consumption Survey, 2003

28. **Success of Vitamin A programs** in the 1980s resulted in a decline in xerophalmia prevalence from 1.33% in 1978 to 0.34% in 1992, a level at which VAD was no longer classified as a health problem. However, the same 1992 survey suggested that marginal VAD was still a problem with 50% of children under 5 having a low serum retinol (<1.05 umol/L).[27] More recent clinical evidence is unfortunately lacking. But the 2002/2003 round of the DHS did include questions on receipt of high dosage Vitamin A capsules among children under age 5 in the previous 6 months and access to high Vitamin A foods (vegetables and fruits) during the past week among children under age 3. Overall figures were 64% of children for Vitamin A capsules and 67% for high Vitamin A foods, but performance was better among older children. For children in the critical age range of 6-9 months the levels were only 40% for Vitamin A supplementation and 56% for high Vitamin A foods. This is a matter of particular concern in an environment where low levels of exclusive breastfeeding (only 14% of children age 4-5 months and 5% of children age 6-9 months in 2002/2003) means that valuable resistance derived from breast milk is being lost and is not being replaced either through diet or supplementation when it is most needed.

29. **IDA levels** (Hb < 11g/dl) among pregnant women declined during the 1980s and 1990s, partly as a result of the national program to provide iron supplementation. Based on available data sources, rates of IDA are estimated to have declined from about 74% in the mid 1980s to around 53% in 1992, 51% in 1995 and 40% in 2001 (28% among all women aged 15-44). Full (90+ tablet) supplementation according to the 2002/2003 DHS was received by 78% of pregnant women although this represented a slight decline from the figure of just over 80% that was recorded in the previous DHS carried out just before the crisis in 1997. IDA among pre-school children was estimated to be around 40% in 1992 and the 1995 National Household Health Survey (NHHS) showed virtually no change from this level. However the 2001 NHHS showed a significant increase in the post-crisis period to 48%, a level higher than many countries in East Asia and the Pacific, except for Myanmar, Lao PDR and Cambodia.[28]

Table 6: Micronutrient Consumption Levels Per-Capita Per Day in Indonesia, Amounts and Percent of Standard, 1993, 1996, 1999, and 2002

Micro-Nutrient	Minimum Requirement	Year			
		1993	1996	1999	2002
Volume Consumed					
Vitamin A (RE)	510.00	258.79	512.68	653.90	506.32
Vitamin B1 (mg)	1.00	0.49	0.45	0.44	0.58
Vitamin B2 (mg)	1.10	0.41	0.44	0.54	0.54
Iron (mg)	16.40	5.22	9.09	17.33	11.18
Zinc (mg)	14.20	5.24	3.66	4.00	4.91
Calcium (mg)	563.00	164.84	326.14	421.17	331.74
Percent of Minimum Requirement					
Vitamin A (RE)	510.00	50.74	100.53	128.22	99.28
Vitamin B1 (mg)	1.00	49.00	45.00	44.00	58.00
Vitamin B2 (mg)	1.10	37.27	40.00	49.09	49.09
Iron (mg)	16.40	31.83	55.43	105.67	68,78
Zinc (mg)	14.20	36.90	25.77	28,17	34.58

[27] Soekirman, et. al., 2005, Op. Cit.
[28] Soekirman, et. al., 2005, Op. Cit.

Micro-Nutrient	Minimum Requirement	Year			
		1993	1996	1999	2002
Calcium (mg)	563.00	29.28	57.93	74.81	58.92

Source: Drajat Martianto and Mewa Ariani, *Analisis Perubahan Konsumsi dan Pola Konsumsi Pangan Marasyarakat Dalam Dekade Terakhir (Analysis of Changes in Consumption and Community Food Patterns in the Past Decade)*, Widyakaraya Nasional Pangan dan Gizi VIII, "Ketehanan dan Gizi di Era Otonomi Daerah dan Globalizasi" (The Eighth National Conference on Food and Nutrition, "Food and Nutrition Security in the Era of Autonomy and Globalization.

- **Food Fortification**

30. Micronutrient deficiency can be addressed in three ways – through diet modification using existing available and affordable foods, through supplementation, and through food fortification. Food fortification is part of an overall strategy to ensure adequate micronutrient intake that also include promotion of appropriate dietary practices (consumption of naturally nutritious foods) and micronutrient supplementation. Supplementation (Vitamin A, iron foliate, etc.), however, while extremely cost-effective and often critical in reaching populations with limited access to or limited ability to afford nutritious foods, is widely seen as an 'interim' solution that should be gradually replaced by having affordable fortified foods consistent with dietary practices of key target groups available on the market.

31. The scope and potential benefits of food fortification have arguably been enhanced over the past few decades by rapid urbanization, general expansion of food markets and dietary shifts to manufactured or processed foods. One of the important potential benefits when populations shift from consuming self-produced or fresh foods to manufactured or processed foods, is that processed foods can be fortified to improve the content of vitamins, minerals or calories. Flavoring can be added to make more palatable and acceptable to consumers. Fortification became a component of food manufacturing industries in Europe and North America as a way of increasing demand among well-educated consumers. Along with social and economic changes occurring in Indonesia, it has an increasing role there as well.

32. Food fortification has a history in Indonesia. National salt fortification in Indonesia dates back to the 1970s. At the present time, about 85% of salt is iodated and about 73% of households are consuming salt iodized to adequate levels, although significant regional variations in access to and use of iodized salt still remain. Interestingly, available data suggest that with the exception of the first few years if the crisis period, gradual upward trends in iodized salt consumption has been maintained. However, large numbers of people (an estimated 33 million in 2002) were still not consuming iodized salt and thus not protected from IDD. A fortification workshop organized by KFI in Bogor in December 2004 recommended that for effective advocacy there should be efforts to create an image that a large number of children with IQ losses to IDD would represent a disaster to the country's future generations.[29]

33. There is also a national program of wheat flour fortification. Efforts started in 1998 and took advantage of the fact that virtually all wheat is imported and milled at five large modern facilities. Regulations mandating the fortification of all wheat flour became effective in 2002. The "premix" used contains iron, zinc, folic acid, Vitamin B1 and Vitamin B2 and currently almost 90% of Indonesia's flour is fortified. Wheat fortification is seen to be particularly effective given widespread consumption of wheat noodles (about 45% of the population are estimated to consume them regularly) including in rural areas and among the poor. However, sustainability

[29] Soekirman, et. al., 2005, Op. Cit.

of investments remains fragile due to rising costs of the fortificant mix, which is set in dollars and weak communication and enforcement has led to increases in imports of cheaper, unfortified flour. Capacity building in food control and customs is needed to ensure that regulations are transparently enforced and competition in the market for fortified flour is on an equal footing. In parallel, a social marketing campaign needs to be launched to raise awareness of the health benefits of fortified products.[30]

34. Vitamin A fortification was experimented with using MSG in the 1980s, but this never got beyond the pilot stages due to technical difficulties and lack of strategic support. There was also an initial effort in 2003 to embark on large-scale Vitamin A fortification of cooking oil. But this also failed, as it was planned without an in-depth feasibility study and without up-dated VAD prevalence baseline data.[31] Vitamin A fortification, particularly of non-branded palm oil, which is widely used for cooking, remains a challenge to be addressed.

35. Complimentary feeding for infants and young children is common from very young ages in Indonesia, often to the detriment of exclusive breastfeeding. Unfortunately, for many of these infants, the small quantities of complimentary foods (generally cereal-based porridges) consumed do not contain enough energy and micronutrients to meet daily requirements. Fortification of commercial complementary foods as been in implemented since 1995, but consumption remains low. Further efforts to introduce low-cost fortified complimentary foods (FCF) took place during the crisis, starting in the form of a ready-to-eat fortified-blended cereal-soya mix under the brand name, "Vitadele." It was purchased by the Government and distributed free to young children in poor areas through *posyandu* as part of the emergency actions under the Social Safety Net. The program has continued during the post-crisis period (2000-2004) although the product is now distributed using the generic name of MP-ASI. The World Food Program also introduced another form of FDF from 1999-2003 in the form or fortified sprinkles called "Delvita." This was distributed in single-serving sachets to satisfy requirements for one-day, but, unlike the other ready-to-eat FCF, this had to be mixed with food prepared and cooked by the mother.

36. As has been noted earlier, free mass distribution of MP-ASI has eaten up the great majority of public nutrition budgets in recent years. At the same time, effectiveness has been questioned given the failure to achieve any noticeable reductions in overall nutrition (prevalence of underweight children) in Indonesia over the same period of time. There are also questions about the commercial viability of FCF, particularly for low income-households. Mannar in his report on micro-nutrients identifies a number of constraints[32] and concludes that there is unlikely to be any large or rapid growth in the production and consumption of FCF without new factors in the equation to tip the balance of risks and benefits and make a more favorable investment climate.[33]

37. At the present time food manufacturers in Indonesia are more active in promoting fortification to consumers, although this is mainly aimed at more wealthy and educated segments of the market where value is placed on nutritional content. There are also many more potential foods that can be fortified, such as cooking oil, soya sauce, and sambal. Approaches

[30] M.G. Venkatesh Mannar, Op. Cit.
[31] Soekirman, et. al., 2005, Op. Cit.
[32] These include: (1) cost to consumer and affordability, (2) high factory start-up costs, (3) high turn-over in the customer pool, (4) volume per consumer is inherently small, (5) mothers are conservative about trying new kinds of baby food, (6) health policies tend to be unfavorable to the infant food industry, and (7) risk of the poor hygiene of the socio-economically disadvantaged.
[33] M.G. Venkatesh Mannar, Op. Cit.

toward fortification of food during preparation, such as in school feeding programs, and among food vendors also needs to be explored. Continued legislation, improved lab facilities for the food and drug organization, along with manpower development will help the government better monitoring quality of the fortified products, along with enforcement of standards which is essential to make fortification programs effective. In addition social awareness, branding, promotion, and involvement of NGO's is also necessary for programs to work effectively.

38. Lack of food safety also remains a matter of concern as this can undermine any benefits obtained from nutrition.[34] The food manufacturing industry includes many household industries, which are not well monitored and sometimes uses paint instead of food colorings, and other food additives not included in the USDA "generally regarded as safe" (GRAS) list. Beyond food manufacturing, the food service industry is not adequately monitored by the health department, so that among many small food stalls (*warung*), and push-cart food vendors (*kaki lima*) appropriate sanitation measures have not been implemented. Overall, the risk of food safety underlies the existing urban nutritional problems of children, and poor communities are particularly susceptible to higher risk of chronic disease due to exposure of industrial pollution entering the food chain, the use of toxic food additives or preservatives, in addition to poor sanitation in food preparation.

39. In general though, most *warungs* offer high volume, good value, reasonably safe sources of caloric variety. There are also numerous types of food vended from push carts, offering soups, cakes, drinks, salads, meats, noodles, and rice dishes. *Warungs* or other street food vendors are also businessmen, and know that they will not keep customers that get sick. They are also an increasingly important source of food, particularly in urban areas where up to 20% or more of household food expenditure may go these sources, including among poor households and among pre-school and young school-age children. Thus, finding ways of improving organization within the food service industry and monitoring of this sector with a view toward improving the nutritional status of poor children in urban areas represents a major challenge and opportunity to the nutrition sector.

Urbanization

40. Urbanization has been a major factor in Indonesian development over the past several decades and with it a shift away from agriculture to jobs in the industrial and service sectors of the economy. In the 1970s less than a quarter of Indonesia's population lived in cities and towns. By 2000 the figure was more than 40 percent and it is expected that more than half of the population will be urban in the not too distant future. The key characteristic of urbanization, of course, is that the capacity to produce food is much more limited. All or nearly all of food needs must be purchased on the market with cash, making affordability, as opposed to availability, a matter of relatively greater concern. Even in many rural areas, population growth has outstripped the availability of land increasing landlessness and meaning that an increasing proportion of the rural population are net consumers of food as well. Monetization of the rural economy and the transport revolution that occurred during the 1970s and 1980s along with the introduction of green-revolution technology had profound effects on food marketing, among others largely destroying more traditional community-level food safety net structures such as village granaries (*lumbung desa*).

[34] A recent study by the Food and Drug Safety Board (*Badan Pengawas Obat-Obat dan Makanan*) showed substantial chemical and biological contamination of vended food normally eaten by young school-children (*Kompas*, 11/11/2005).

41. Nutritional concerns in urban areas in Indonesia were raised in the HKI-NSS data that showed poor urban children to be at least as malnourished as many of their rural counterparts. While stunting was higher in the NSS rural sample, there were only small differences in levels of underweight and, as a result, wasting was actually markedly higher among the urban poor in the NSS sample.[35] This raises questions about adequacy of energy consumption among poor urban children. And while it does not include a rural urban breakdown, Table 7 clearly shows the effect of poverty on energy consumption in Indonesia.

42. Urban areas are clearly more socially and economically complex than their rural counterparts, and this raises questions both about the impacts of 'urban' lifestyles on quantity and quality of food consumed as well as on the ability to effectively deliver nutritional information and services to what is widely viewed as a more fragmented (or less well attached) and more difficult to mobilize community. It was largely these types of questions, backed by the evidence of high urban malnutrition that prompted government to seek to address 'urban' malnutrition as a distinct problem through the Urban Nutrition AOTA.

Table 7: Average of Energy and Protein Consumption of the Indonesian Population by Expenditure Group, 2002 and 2003

Expenditure Class (Rp./Capita/ Month)	2002			2003		
	Consumption/ Capita/Day		Population ('000)	Consumption/ Capita/Day		Population ('000)
	Energy (Kcals)	Protein (Grams)		Protein (Grams)	Energy (Kcals)	
< 40,000	1.249	28,7	67	-	-	-
40,000- 59,999	1,322	32.3	1,758	1,322	32.6	1.210
60,000- 79,999	1,488	37.3	10,252	1.410	36.0	7.051
80,000- 99,999	1,652	42.0	19,676	1,578	41.3	15,501
100,000-149,999	1,838	48.2	60,561	1,784	47.5	57,735
150,000-199,999	2,029	55.1	41.479	1,998	55.1	46,417
200,000-299,999	1,186	61.4	38,203	2,183	61.4	46,864
300,000-499,999	2,339	69.0	21,847	2,292	67.8	27,197
500,000 +	2,492	78.5	8,963	2,433	73.8	12.399
Indonesia	1,986	54.4	202,707	1,989	55.4	213,722

Source: Achmad Suryana, *Ketahanan Pangan di Indonesia (Food Security in Indonesia)*, Widyakaraya Nasional Pangan dan Gizi VIII, "Ketehanan dan Gizi di Era Otonomi Daerah dan Globalizasi" (The Eighth National Conference on Food and Nutrition, "Food and Nutrition Security in the Era of Autonomy and Globalization.

Key Issues and Constraints

43. Given current conditions there are a number of key issues and constraints related to nutrition that need to be addressed if new momentum in improvement of nutritional conditions is to be maintained. These include institutional, human resource and financing issues as well as more substantive and technical issues that relate to development of effective nutrition interventions in different regional, residential and socioeconomic environments.

[35] It is important to recognize that the NSS urban sample was largely restricted to urban slum areas, whereas the rural sample was more representative of rural areas as a whole. Thus a strict rural-urban comparison is not possible. However, this does not reduce the relevance of the evidence on the nutritional problems faced by the urban poor.

- **Policy Framework**[36]

44. The formal legislative or regulatory framework remains relatively underdeveloped in the nutrition sector. BAPPENAS has initiated a working group to review the structure and staffing of MOH and MOA and their respective roles at central and local levels, and this may strengthen the regulatory basis for nutrition services. Law No. 23/2002 on Child Protection stipulates the government's obligation to safeguard children's rights, including, among others, the consumption of a balanced nutritious diet, basic immunization and access to Vitamin A supplementation.

45. Community nutrition development has been included in the health sector component of the medium-term National Development Plan for 2005-2009. Key targets under this program include the reduction of under-nutrition to a maximum of 20% of children and severe malnutrition to maximum of 5% of children by 2009.[37] As noted earlier, MOH has developed NAP, as well a Nutrition Action Plan for IDD. MOH has also declared a commitment to strengthening multi-sectoral linkages, building capacity in nutrition policy development, program management and research, and adopting an integrated approach, including community-based approaches and linkages with the private sector.

- **Institutional Structure and Capacity**

46. Unfortunately, the existing base of policies and intentions is not currently translated into effective institutions and human resource capabilities necessary to implement these polices. The national-level UPMMR and BPGDs that were established under Menko Kesra in 1974[38] have now largely ceased to exist. The UPMMR was supplanted at the time of the crisis by the National Food Security Council (DKP), which, as noted earlier, is basically an arm of MOA and is concerned mainly with examination of issues related to food security from economic, political, geographical and nutritional perspectives. Provincial and district Food Security Boards and Agencies that are supposed to be responsible for policy and implementation, respectively, have also been established in many areas. These are multi-sector, supposedly involving departments of health, agriculture, education and manpower, but, due to low funding and limited capacity they are generally not seen as being very effective. More important, they are largely limited to a focus on overall food security in contrast to the broader mandate of the BPGD that included, among others, a strong focus on family nutrition improvement at the community level through UPGK. BPGD still exist, at least on paper, in some areas, but the general view is that, since the crisis, few continue to operate.

47. Other health and health-related inter-sectoral bodies have also been established at district and city levels, including district health councils and local committees for *posyandu,* AIDS and family planning. Many of these have also ceased to operate since decentralization and, in any case, have generally had little to do with nutrition. However, proliferation of committees has caused some officials to feel that this has diverted resources and time of key staff from core

[36] This material is taken from the consultant report on Nutritional Institutional Development and Reform by Robert Raitt.

[37] This can be compared to the base-line values ca. 2003 of around 27% and 8% respectively.

[38] BPGD included a Steering Committee headed by the provincial governor/district mayor with sector representation from agriculture, health, trade, industry, education and statistics. Implementing committees covered five core groups: (i) Information, education and communication, (ii) The Family Nutrition Improvement Program (UPGK), (iii) The Iodized Salt Program, (iv) The Food and Nutrition Surveillance System (SKPG), and (v) Food Balance Sheet (NBM).

functions and this has contributed to a reluctance of some local governments to maintain or develop such intersectoral activities since decentralization.

48. As a result, in terms of administration and direct service delivery, nutrition functions in practice are currently situated pretty much solely in health sector institutions. The organization, management and financing of the nutrition sectors is thus mainly the responsibility of the MOH, even though the activities of a number of other ministries remain relevant to nutritional objectives.[39] Centrally, nutrition functions are discharged through the Directorate for Community Nutrition under the Directorate General of Community Health. Since decentralization, however, district and city health service departments (*dinas kesehatan*) that are administratively responsible to the district government have become the primary providers of health and nutrition services in their areas, with the main vehicles for primary health care and nutrition service delivery continuing to be through the longer-standing networks of district and sub-district health centers (*puskesmas*) and *posyandu* organized by volunteers with support from the health centers. Networks of central government offices (*kanwil*) at province and district level have been abolished meaning that much wider responsibility now lies with the districts and with much less effective central control.[40] Policies, targets and guidelines (e.g. on minimum service standards) issued by MOH through the Directorate of Community Nutrition are frequently re-shaped by districts in accordance with local priorities and with little or no feedback to the center on policy implementation, service provision or social impact.

49. The limited capacity of district offices to manage public services is generally acknowledged. Before decentralization, experience was largely limited to implementing central MOH programs and in maintaining local compliance with nationally determined regulations and procedures. Very little training in management has been received and the capability of district staff to formulate policies and plans, manage and monitor programs, and manage budgets and human resources is generally very low. This is also reflected in levels of professional and technical competence in nutrition.

50. In many districts, overall priority given to health remains low with generally less, and sometimes substantially less than 10% of local expenditure going to the sector. In terms of public expenditure per-capita there is wide variation, however, with some exceeding recommended standards and others considerably below.[41] Sub-units (*sub-dinas*) within local health departments tend to emphasize health aspects,[42] with nutrition generally relegated as

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[39] These include the Ministry of Agriculture (MOA) through its relation to the National Food Security Agency (BKP), the Ministry of Industry (MOI) through its role in monitoring and enforcement of food standards, including chemical standards (salt, IDD, etc.) as well as food fortification, and the National Agency for Drug and Food Control (*Badan POM*) that is responsible for drug and food control for protection of public health including legislation, regulation and standardization, licensing for pharmaceutical industries, pre-market product evaluation, post-market monitoring and inspection, audit of product advertising and research and public communication. POM was formerly part of MOH, but is now a separate agency. It also has 27 provincial laboratories for product analysis in addition to its Jakarta headquarters.

[40] *Dinas* existed in parallel with *kanwil* before decentralization. In practice, then, *dinas* were responsible for routine functioning of local institutions and activities within their jurisdiction, while the great bulk of development programs and expenditure came through Central Government programs executed through the *kanwil*.

[41] For health, there is an estimated standard or Rp. 42,000 per capita per year, although this is already a few years old. This is partly a function of locally determined spending priorities, but is also likely affected by wide variations in block grant transfers from Central Government with the highest transfers in per capita terms being more than 50 times the lowest.

[42] Typically there are five or six sub-units dealing with: (i) Maternal/child health and family planning, (ii) Communicable Diseases, (iii) Community participation (in some areas), (iv) Support for hospitals and health centers, (v) Sanitation, and (vi) Pharmacy (in some areas).

one function of the sub-unit dealing with maternal and child health and family planning. Nutrition budgets are generally extremely limited and efforts, at district level tend to focus on limited support to direct nutrition interventions, more general support for *puskesmas* including short-term training, problem identification and monitoring and evaluation.

51. Nutrition is supposed to be one of the six basic functions of *puskesmas*,[43] but it has been neglected in recent years. About 30% of *puskesmas* have a dedicated nutrition officer with at least D1 (one year of tertiary education) while most others at best have only general nursing or midwife staff with short course training in nutrition that vary in length from 3 to 30 days. MOH wants to upgrade as much of this staffing as possible to D3 (three years of tertiary training) level. Below the *puskesmas* are sub-health centers (*puskesmas pembantu*), generally staffed by a nurse and midwife as well as out-posted midwives (known as *bidan di desa*) who work at the community level, particularly in rural areas. The *bidan di desa* have been seen as particularly powerful agents because of their close working relation with and generally high levels of respect received from members of the communities in which they work, and play an important role in out-reach activities, including those associated with nutrition.[44]

52. Operational funds were provided to *bidan di desa* along with other *puskesmas* staff during the crisis under SPSDP and HNSDP, but since then any funding is restricted to local governments. Because these have generally been very limited, the view is that out-reach activities have generally declined and the system is now largely becoming increasing dedicated to concentration on largely curative out-patient services rather than to preventative health initiatives, including nutrition. This has also had a negative impact on the functioning of the *posyandu* that have been at the core of nutrition service delivery in Indonesia since the 1970s.

53. From the mid 1970s, the primary focus on direct nutrition intervention has been at the community level, most notably through UPGK and the *posyandu* that were run by village women under the general umbrella of the village women-run PKK. UPGK, itself, evolved from the FAO/UNICEF supported Applied Nutrition Program that was implemented in Indonesia from the late 1960s. UPGK focused on child nutrition, initially through child growth monitoring and promotion (GMP), food and nutrition supplementation (using locally available foods and targeted at children showing lack of weight gain) and nutrition education for the mothers, including support for home/community gardening of nutritious foods. It was run by local volunteer cadres who were trained to undertake UPGK activities and was supported by nutrition and other health personnel from the local health system (*puskesmas*). Over time, functions expanded to include, first the distribution of micronutrient supplementation such as Vitamin A and iodine capsules, and subsequently from the mid 1980s to include family planning and immunization services. While this was seen as a complimentary strategy, it has also been argued that it tended to shift the emphasis of *posyandu* away from nutrition toward a greater focus on maternal and child health and family planning services, to the detriment, even before the onset of the crisis, of the focus on family and community nutrition that was at the core of the original UPGK program,[45]

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[43] *Puskesmas* are based at sub-district (*kecamatan*) level. According to MOH data there were a total of 7,550 *puskesmas* operating in 4,820 *kecamatan* in 2004.

[44] See the report on *Lessons Learned during Implementation of the Family Health and Nutrition Project*, (ADB 1471-INO) that ran from 1997-2003.

[45] For example, Soekirman et. al., 2005 noted a report by Sutanto in 2000 stating that while monthly weighing was still being carried out in most *posyandu*, it was generally being done without clear objectives and serious supervision. Mothers did not actively participate in the weighing and most of them did not understand the purpose of the weighing.

54. UPGK and *posyandu* were recognized as models internationally and, according to BAPPENAS, by the mid-1990s there were more than 250,000 *posyandu* in over 62,000 villages across the country serving more than 25 million pre-school children annually. Community ownership and empowerment in monitoring and dealing with nutritional issues, and which was at the core of the original UPGK design, was likely a factor in success. But it also may have benefited from the strong political will from higher levels, particularly in relation to the role of the PKK, which was led by the wife of the village head, and was thus able to be utilized as an integral part of the vertical network for implementation of national policies at the local level. For much of this period leading up to the crisis, PKK received denominated funding allocations as part of general Central Government grants of villages (*Inpres desa*).

55. While questions have been raised in more recent years about the benefits of GMP to child health, a major international seminar held in Jakarta in late 2002 concluded that was still considered as a critical community-based nutrition program in Indonesia, not only for GMP, but also for other micronutrient intervention activities. *Posyandu* was also seen as the most effective mechanism to reach young children in poor and remote areas. Although existence of a large number of *posyandu* is recognized,[46] it is also that many, if not most of them are not currently functioning in any effective manner. This has not only impacted on the availability of nutrition services at the community level, but has also impacted on nutrition surveillance and early warning system that was largely based on the results of the monthly weighing of infants and young children by the *posyandu*. While the focus of this activity was on monitoring weight gain as opposed to weight itself, child weight data was routinely reported up through the health system and it is estimated that at its height in the early 1990s, up to 75% of under-fives in the country were being covered. Although health and nutrition surveys have also been used to provide information on a variety of nutrition indicators, because of the time required to process and analyze survey results their use as an early warning system is limited and sample size limitations mean that in general only fairly aggregate estimates are possible, at province or, at best, at district level.

56. Reasons for weaknesses in the functioning of local nutrition service delivery systems include: (i) not enough functioning *posyandu* in some localities, (ii) the system does not reach more than a fraction of the poorest families, (iii) the system has no effective ante-natal outreach by *puskesmas* staff such as midwives to pregnant women, (iv) there has been declining attendance and growth monitoring at *posyandu*, (v) volunteer cadres are ill-trained, both in nutritional and social mobilization skills, (vi) the system is not focused enough on nutrition to deliver services effectively, (vii) it provides no significant nutrition services to communities between *posyandu* meetings (one morning each month), (viii) the system is currently starved of adequate budgets by local governments, and (ix) cadre members often have transport problems.[47] While some of these problems preceded the crisis and decentralization, it is also clear that many of them have been exacerbated by conditions over the past few years.

[46] A MOH publication, *Basic Data on Local Health* Centers, reported a total of 206,971 *posyandu* nationally in 1994, an average of about 27 for each *puskesmas*.

[47] See the consultant report by Robert Raitt cited earlier for the PPTA.

PROJECT CONCEPTUAL FRAMEWORK

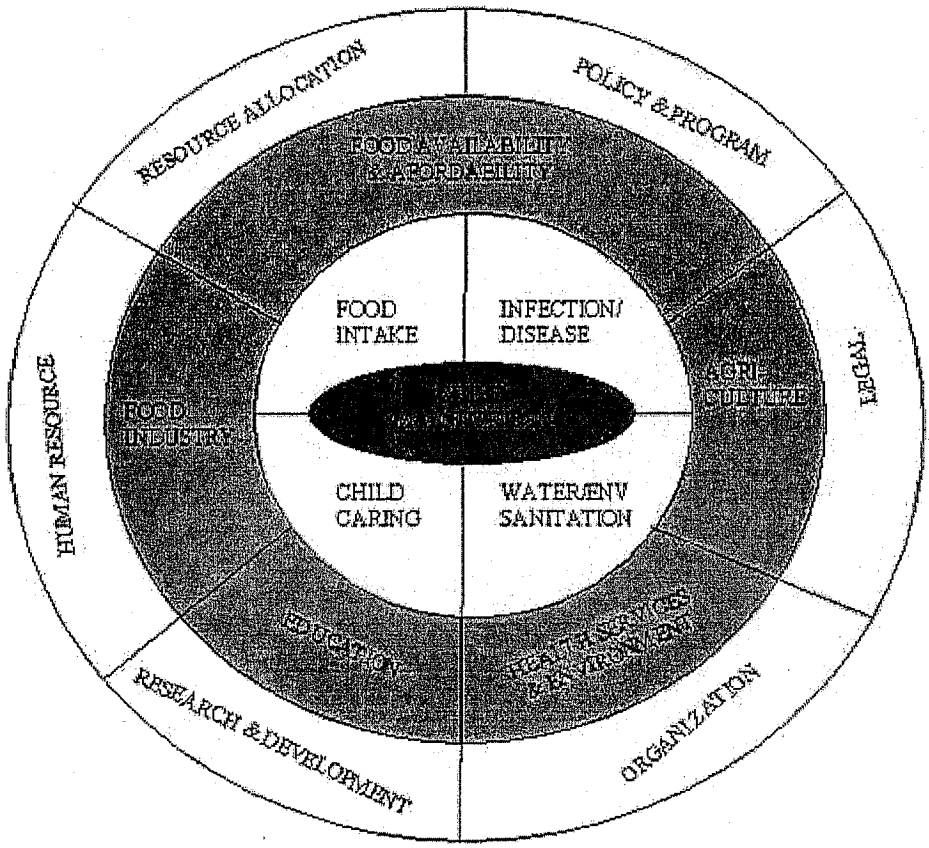
b. Conceptual Framework for Integrated Nutrition: A Multisectoral Approach

1. Malnutrition is basically multidimensional in nature where various factors contribute to the nutritional status of the population, particularly mothers and children as vulnerable groups. Major interrelated factors that affect malnutrition include: (i) inadequate food intake in terms of quantity and quality; (ii) inappropriate child caring, particularly at an early age that may cause not only imbalanced food consumption necessary for growth but also to development of children; (iii) presence of infectious diseases which cause inappropriate food absorption; and (iv) inadequate supply of safe drinking water and sanitation. Several determinants influence these four main causes. Food intake is affected by food consumption of individuals. The health status of individuals also affects food consumption and, hence, food intake. Food security at the household level is a key determinant of food intake. By definition food security is accessibility[48] of people to adequate quality food at any times for a productive and healthy life. Nutritional status of the people is basically embedded in this concept of food security. Accessibility to food is dependent on food availability at local level. Agriculture sector plays a major role in producing unprocessed (raw) food products. Since raw food products is usually perishable, then food will not naturally available at any time for consumption. Post–harvest technology including food technology in the food industry then functions to improve the availability of quality food to ensure food security. More specifically, the food industry plays an important role to produce affordable fortified food. Food availability is necessary but not sufficient to ensure good nutritional status of individuals and community. Lifestyle, culture, beliefs, and level of education particularly of mothers affect child caring and food consumption habits. Poor people with low education tend to exhibit inappropriate child caring including breastfeeding practices. Poor people will also have low accessibility to health and other basic social services such as safe drinking water and healthy environment, which results in malnutrition. Poverty is then usually considered as a root cause of malnutrition. To improve nutrition status of particularly the poor urban and rural community, an integrated multisectoral to nutrition is therefore required.

2. An integrated multisectoral approach to nutrition is dependent on institutional setup at the macro level related policy and program development which will ensure that interventions are cost–effective and delivered efficiently; legal aspect which will ensure sustainable support for all determinant factors; effective organization which will ensure well–organized program and quality service delivery; sustainable and appropriate resource mobilization which will effectively guarantee the program implementation and development as well as service delivery; assurance of adequate human resources availability which will ensure appropriate institutional competencies at all related sectors and levels; and research and development which will enhance the policy and programs, coordinating organization, human resource quality. The following diagram (Figure 1) presents the integrated multisectoral approach to nutrition.

[48]There two type of accessibility: physical and economic accessibility. Purchasing power of household affects economic accessibility.

Figure 1. Conceptual Framework for Integrated Nutrition: A Multisectoral Approach



Component 1: Integrated Community Nutrition Program

APPENDIX 4

EXTERNAL ASSISTANCE

DONOR AGENCY: ADB			
Projects	**Total Value of Projects**	**Period of Implementation**	**Objectives**
Community Water Services and Health Project	USD 64,690,000		The objective of the Project is to enhance the health status of low income communities in rural areas based on better hygiene behavior and sustained access to safe drinking water and improved sanitation. The Project aims to (i) improve the capacity of local governments for facilitating, regulating, and delivering quality services in water and sanitation to the target communities; (ii) strengthen the community capability to design, co finance, build, operate, and manage community–based water supply and sanitation facilities; (iii) improve access to water and sanitation services through construction of adequate facilities based on community demand; and (iv) increase hygiene awareness through information, education, and communication campaigns.
Second Decentralized Health Services Project	USD 100,000,000	2005–2009	The Project will help improve the health of the population in the Project area, as measured by health–related indicators of the Millennium Development Goals (MDG), through better Primary Health Care (PHC) services focusing on the needs of women, infants, children and the poor. The purpose of the Project is to improve health services in 8 provinces and 90 districts and cities. During 2005, the Government of Indonesia and the Asian Development Bank agreed to refocus Project activity into Maternal, Neonatal and Child Health (MNCH).
Decentralized Health Service Project	USD 50,531,000	2001– 2006	The objective of the Project is to improve the health of the population in all districts of the Project provinces by improving access, delivery and quality of health and family planning services, with special attention to the poor and vulnerable groups. In the context of decentralization, the Project aims to strengthen local capacity in health services delivery, including planning and management. The Project also aims at improving cost–efficiency and sustainability of health and family planning services in the Project Districts, through appropriate investments and sector reforms. During 2005, the Government of Indonesia and the Asian Development Bank agreed to refocus project activity into Maternal, Neonatal and Child Health (MNCH).
Family Health And Nutrition Project In Less Developed Villages	USD 54,707,000	1996– 2001	To improve the health and nutritional status of the population and to ensure that this improved health status is sustained. The project has three objectives : a. To increase the capacity of the families and their village community to make informed decisions

DONOR AGENCY: ADB			
Projects	**Total Value of Projects**	**Period of Implementation**	**Objectives**
			and take actions to directly improve health and nutrition of there members. b. To improve the capacity of the health service providers to provide quality services, with the support and participation, when necessary of local leaders and local government. c. to reduce the total fertility rate in the project area.
Health And Nutrition Sector Development Program	IDR 300,000,000	1999– 2001	The principal objectives of Project are to: a. protect the health and nutritional status of the poor, particularly pregnant women, mothers, infants and children; b. maintain the quality of health services; c. facilitate continued availability of family planning services for the poor.
Intensified Communicable Disease Control Project	USD 87,000,000	1997– 2002	Improve MOH capacity especially at district and peripheral levels, to manage for the more important communicable disease control (CDC) programmes– malaria, tuberculosis, acute respiratory infections (AKI) in children under five years of age, and the vaccine preventable diseases, using epidemiological data to guide planning, budgeting, monitoring, supervision, health education and training. Gather information needed to manage resource deployment and test cost effective approaches to disease control.
Rural Health And Population Project	USD 40,000,000	1995– 2000	The objectives of the project are a. in raising the health status of its population in the 4 project provinces, and in reducing infant mortality rates, maternal mortality rates and total fertility rates through the improvement of quality, relevance, efficiency and effectiveness of community–based rural health and family planning delivery system; and b. in promoting long–term family planning methods in West Sumatra province through innovative strategies.
GSocial Protection Sector Development Program FAMILY HEALTH AND NUTRITION PROJECT	USD 300,000,000	1997– 2002	Maintain and increase quality health of the poor: (v) Health Protection with health support (subsidy) for the poor (vi) Guarantee health services access for the poor who have health card (vii) Prevent mother & babies death in poor family

DONOR AGENCY: WORLD BANK			
Projects	**Total Value of Projects**	**Period of Implementation**	**Objectives**
Third Health Project	USD 43,500,000	1989– 1993	To improve the delivery of health services to raise the health status of the population in East Kalimantan and NTB and strengthen sector management through: a. improving service coverage and quality in the provinces by supporting the proposed health sector expenditure program for Repelita V (89/90– 93/94) with increased emphasis on preventive and promotive activities. b. Increasing efficiency in the use of available resources and encouraging greater resource mobilization at the provincial level by implementing, on a pilot basis: (1) policy measures for decentralized and integrated planning, budgeting and management in line with the two recent Public Laws (PP7/87 and PP6/88) and (2) adjustments in pricing and subsidy policies; and (3) Strengthening institutional capabilities at the provincial and central levels.
Third Community Health And Nutrition Project	USD 95,000,000	1993– 1998	The objectives of the project are to enhance the level of infant, child and maternal health status in the project province by, inter alia: a. developing the provincial and district level capacity to plan, implement and evaluate safe motherhood, child survival and nutrition program, including health and nutrition education and health information system; b. establishing flexibility in the management of resources at the Borrower's central, provincial and district levels aimed at achieving greater specificity and effectiveness in health and nutrition program; and c. strengthening the capacity of the Directorate General of Community Health of the Borrower's Ministry of Health to effectively provide support to the provincial and district efforts in these areas.
Water Supply And Sanitation Project For Low Income Communities Project	USD 80,000,000	1994– 1999	To provide safe, adequate and easily accessible water supply and sanitation services and support hygiene / health education to the poor in the un–served / underserved rural villages and the communities around a few densely populated centers through sustainable and community based arrangements.
Fourth Health Project Improving Equity And Quality Of Care	USD 49,000,000	1995– 2001	The objectives of the project are to improving health outcomes by giving provinces, districts and health center managers greater authority, responsibility, resources and skills to enhance health care quality and equity, through: a. increasing the authority and capacity of provincial and district health offices to plan and implement health programs as appropriate for local conditions; b. ensuring that the provision and consumption of key health services conform to c. affordable and cost effective standards of care; d. improving access and utilization of key health services by the poor; and e. improving the efficiency in the delivery of basic health services.
Intensified Iodine Deficiency	USD 28,500,000	1996– 2001	The objective of the project is to lower the prevalence of iodine deficiency. This will be achieved through the following component: - Increasing the supply of iodized salt

DONOR AGENCY: WORLD BANK			
Projects	**Total Value of Projects**	**Period of Implementation**	**Objectives**
Control Project			- Increasing consumption of iodized salt - Monitoring the iodine status of the community - Targeted distribution of capsules - Improve coordination of activities between ministries and with the private sector
Safe Motherhoo0d Projects A Partnership And Family Approach	USD 18,000,000	1997– 2002	The objectives of the project are a. in raising the health status of its population in the 4 project provinces, and in reducing infant mortality rates, maternal mortality rates and total fertility rates through the improvement of quality, relevance, efficiency and effectiveness of community–based rural health and family planning delivery system; and b. in promoting long–term family planning methods in West Sumatra province through innovative strategies.
Fifth Health Project (Health Professionals Development Project)	USD 39,700,000	1997– 2002	The objective of the Technical Assistance is to assist the Recipient in the preparation of a health professional development project.
Early Child Development Project	USD 28,800,000	1998– 2004	- Strengthening the borrower's policy framework for ECD - Improving the quality of the borrower's ECD - Increasing the demand for ECD - Expanding access to ECD - Implementation of a program of emergency food assistance
First Provincial Health Project	USD 37,000,000	2000– 2006	The objective of the project is to bringing about effective health sector decentralization in Lampung and Yogyakarta and at the national level. The project consists of the following parts, subject to such modifications thereof as the Borrower and the Association may agree upon from time to time to achieve such objectives. During 2005, the Minister of Health ordered to refocus project activity into Maternal, Neonatal and Child Health (MNCH).
Second Provincial Health Project	USD 96,640,000	2001– 2007	a. Efficiency decentralization development in Sumatra, West Java, and Banten b. Support Ministry of Health in its role as facilitator in health decentralization During 2005, the Minister of Health ordered to refocus project activity into Maternal, Neonatal and Child Health (MNCH).
Second Water Sanitation For Low Income Communities Project	USD 74,600,000	2002– 2005	To fund activities that will improve the health status, productivity, and quality of life of poor communities in under–served rural villages in the project provinces. This will be achieved by improving health behavior and health services of the communities related to water borne diseases, providing safe, adequate, cost effective and easily accessible water supply and sanitary services to, and improving health behavior and health services in, poor communities in under–served rural villages in the project provinces through community participation, in order to improve their health and nutrition status, productivity and quality of life

DONOR AGENCY: AUSAID			
Projects	**Total Value of Projects**	**Period of Implement ation**	**Objectives**
Alor Community Based Health Project	IDR 1,300,000	1996– 2000	To improve the quality of life of selected community in Alor.
Flores Water Supply Project	IDR 25,143,000	1994– 1999	To improve urban and small town water supply system in area suffer from earthquake.
Healthy Mothers Healthy Babies And Child	AUD 9,860,000	1996– 2001	- To reduce MMR & IMR - To improve the quality of Health Services
Healthy Start for Child Survival in Indonesia	AUD 1,500,000	1993– 1996	To strengthen Lombok's existing birth countered system for delivering clusters.
Healthy Start for Child Survival in Indonesia (Phase II)	AUD 47,250,000	1995– 1997	To strengthen Lombok's existing birth countered system for delivering clusters.
Jayawijaya Watch Project	AUD 1,100,000	1991– 1997	To improve community health especially the health of women and their children in rural community.
The Women's Health and Family Planning	IDR 7,164,000	1995–1998	- To decrease MMR and IMR - To enhance the quality of health services and family planning

DONOR AGENCY: JBIC/OECF			
Projects	**Total Value of Projects**	**Period of Implement ation**	**Objectives**
Construction of Health Manpower Training Institution in North Sulawesi and Improvement Health Manpower training Institution in South Sulawesi	JPY 120,000,000	1998–1999	Increase Bapelkes facilities
Drug Warehouse Strengthening Project	IDR 20,510,000,000	1995– 1996	To improve the District Pharmacy Warehouse facilities Drug and Food Quality Control
Improvement of Community Health Center Project	JPY 1,644,000,000	1995– 1998	To improve health condition of the area through strengthening the community health in order to increase coverage and quality of the health services extended particularly to those isolated and underserved areas and specific groups of community.
Sector Program Loan Project	JPY –	1998– 2002	To improve basic health care and improve facilities and to prevent the spread of communicable diseases and improvement of in referral health services.

163. DONOR AGENCY: JICA			
Projects	**Total Value of Projects**	**Period of Implement ation**	**Objectives**
Emergency Program (Japan International Cooperation System)	JPY 993,562,753	1998– 1999	Decrease the affects of economic crisis in 1997
Health Professionals Development Project	JPY 50,800,000	1996– 1997	The objective of the Technical Assistance is to assist the Recipient in the preparation of a health professionals development project.
Improvement Of District Health Services In South Sulawesi	IDR 256,395,000	1997– 2002	Decrease mortality value with improving health services in South Sulawesi in districts level
Improvement Of Health Care System		2002	By implementing the forum at the district level it is expected that the autonomous district health office and other relevant units would be governed based on the principles of self–reliance and the activities would be undertaken on the basis of transparent policies and procedures. Policies and procedures to be developed would cover some issues on health resources management including health institutions revenues and expenditures, decision–making process including program and services management decisions, reporting system as well as community involvement and participation. Specifically of the objectives are: 1. Increased ability of health officers at the district level to identify local priority health problems and their alternative solution using various techniques and methods as introduced in the previous forums. 2. Establishment of forum for information exchange 3. Provision of technical inputs from national and international sources to sharpen the analysis and problem solving process.
Strengthening Provincial Laboratories for Food and Drug Quality Control	JPY 117,000,000	1997– 1998	To improve institutional and technical capabilities of the Provincial Quality Control Laboratories (PQCL) with appropriate facilities is order to carry out test and assays required to assure that all pharmaceuticals and food conform to the quality specification claimed for them.
The Ensuring Quality Of MCH Services Through MCH Handbook	JPY 212,320,000	1998– 2003	Status of Maternal and Child Health is improved in the West Sumatra and the North Sulawesi Province Matters, children and their families receive the benefit of better quality health care services and improve their awareness and practice for a healthy life.

OTHER DONOR AGENCIES

Donor Agencies	Projects	Total Value of Projects	Period of Implementation	Objectives
UNDP	Environmental Health Programme	USD 2,500,000	1973–1974	To support the National Programme on environmental Health conceived in the REPELITA V it address a set of inter–related problems concerned with: – Food safety – Food sanitation – Poison center network – Environmental health impact assessment The corner stone of the project's success is disease prevention and rapid problem remediation
WFP	Essential Reproductive Health	USD 3,905,428	2001–2005	Contribute in Indonesian life quality's achievement with implementation and integration of Essential Reproduction Health Services.
	Emergency Assistance To Drug Victims	IDR 88,161,781	1998–1999	To prevent the present food shortage from developing into a famine situation, alleviating the hardship faced by the most vulnerable segments of the population as the country is making the necessary adjustments in order to overcome the communed impact of crisis.
USAID	Healthy Start For Child Survival	USD 178,201	1995–1997	Improve mothers' health services
KFW	Third Community Health And Nutrition Project	DM 30,000,000	1993–1996	The objectives of the project are to enhance the level of infant, child and maternal health status in the project province by: a. developing the provincial and district level capacity to plan, implement and evaluate safe motherhood, child survival and nutrition program, including health and nutrition education and health information system; b. establishing flexibility in the management of resources at the Borrower's central, provincial and district levels aimed at achieving greater specificity and effectiveness in health and nutrition program; and c. Strengthening the capacity of the Directorate General of Community Health of the Borrower's Ministry of Health to effectively provide support to the provincial and district efforts in these areas.
GTZ	Drinking Water Quality Surveillance Project	DM 2,500,000	1997–2000	Drinking water controller in all project areas : - Improve PDAM/BPAM quality - Improve resources, knowledge, and skills
Korea	Hospital Waste Water Treatment Plant Project	USD 40,000,000	2000–2003	- To improve the environmental quality of hospitals and their surroundings; and - to elevate the health level of the communities and to preserve natural resources by reducing the adverse impacts caused by hospital activities.
UNDP	Primary Health Care Development for Remote Areas in Maluku and Irian Jaya	IDR 1,683,250	1993–1998	To strengthen the national capabilities in developing comprehensive PHC intervention package to meet the health needs of the people who live in very remote areas such as Maluku and Irian Jaya
Spanish	Strengthening Community Urban Health (Phase–I)	USD 25,801,358	2000–2002	Increase quality and status health services in city. Specific purpose : Development of Puskesmas in City

Project Cost Estimates and Financing Plan

Description	Total Cost			ADB Financing			Government Financing			Percent Total
	Foreign Currency	Local Currency	Total	Foreign Currency	Local Currency	Total	Foreign Currency	Local Currency	Total	
A. Investment Cost										
1. Civil Works	633,600	950,400	1,584,000	633,600	475,200	1,108,800	-	475,200	475,200	2.6%
2. Equipment	2,983,940	4,714,760	7,698,700	2,983,940	3,944,890	6,928,830	-	769,870	769,870	12.9%
a. Puskesmas equipment	332,640	142,560	475,200	332,640	95,040	427,680	-	47,520	47,520	
b. Posyandu equipment	960,000	2,240,000	3,200,000	960,000	1,920,000	2,880,000	-	320,000	320,000	
c. Laboratory equipment	196,000	112,000	308,000	196,000	81,200	277,200	-	30,800	30,800	
d. Equipment for cooking oil fortification	49,000	21,000	70,000	49,000	14,000	63,000	-	7,000	7,000	
e. BCC equipment	969,000	2,086,000	3,055,000	969,000	1,780,500	2,749,500	-	305,500	305,500	
f. FNSS equipment	251,100	27,900	279,000	251,100	-	251,100	-	27,900	27,900	
g. Project management equipment	226,200	85,300	311,500	226,200	54,150	280,350	-	31,150	31,150	
3. Consultant Services	1,110,000	1,140,000	2,250,000	1,110,000	1,140,000	2,250,000	-	-	-	3.8%
a. International consultants	1,110,000	-	1,110,000	1,110,000	-	1,110,000	-	-	-	
b. Domestic consultants	-	1,140,000	1,140,000	-	1,140,000	1,140,000	-	-	-	
4. Fellowships, Trainings and Workshops	725,000	5,088,520	5,813,520	725,000	3,344,464	4,069,464	-	1,744,056	1,744,056	9.7%
a. Fellowships	725,000	1,035,000	1,760,000	725,000	507,000	1,232,000	-	528,000	528,000	
b. Training	-	2,925,520	2,925,520	-	2,047,864	2,047,864	-	877,656	877,656	
c. Workshop	-	1,128,000	1,128,000	-	789,600	789,600	-	338,400	338,400	
5. System Development	300,000	1,112,500	1,412,500	300,000	853,750	1,153,750	-	258,750	258,750	2.4%
a. Software development	300,000	250,000	550,000	300,000	250,000	550,000	-	-	-	
b. Advocacy and socialization	-	497,500	497,500	-	348,250	348,250	-	149,250	149,250	
c. Nutrition education and communication	-	365,000	365,000	-	255,500	255,500	-	109,500	109,500	
6. Reseach and Studies	-	2,925,000	2,925,000	-	2,047,500	2,047,500	-	877,500	877,500	4.9%
7. Materials and Supplies	972,500	2,736,200	3,708,700	972,500	1,623,590	2,596,090	-	1,112,610	1,112,610	6.2%
8. Community-Based Integrated Nutrition	6,240,000	21,568,000	27,808,000	6,240,000	9,968,000	16,208,000	-	11,600,000	11,600,000	46.4%
a. Package	6,240,000	16,960,000	23,200,000	6,240,000	5,360,000	11,600,000	-	11,600,000	11,600,000	
b. Community facilitator teams (CFTs)	-	4,608,000	4,608,000	-	4,608,000	4,608,000	-	-	-	
9. Project Management	-	4,426,400	4,426,400	-	4,426,400	4,426,400	-	-	-	7.4%
Total Investment Cost	12,965,040	44,661,780	57,626,820	12,965,040	27,823,794	40,788,834	-	16,837,986	16,837,986	96.2%
B. Recurrent Cost	712,800	1,557,040	2,269,840	712,800	-	712,800	-	1,557,040	1,557,040	3.8%
C. Total Base Cost	13,677,840	46,218,820	59,896,660	13,677,840	27,823,794	41,501,634	-	18,395,026	18,395,026	100.0%
D. Contingencies	180,877	7,551,277	7,732,154	180,877	4,545,385	4,726,262	-	3,005,892	3,005,892	16.3%
a. Physical contingencies	180,877	283,258	464,135	180,877	-	180,877	-	283,258	283,258	9.4%
b. Price contingencies	-	7,268,019	7,268,019	-	4,545,385	4,545,385	-	2,722,634	2,722,634	90.6%
E. Interest and Commitment Charges	3,772,104	-	3,772,104	3,772,104	-	3,772,104	-	-	-	-
Total Cost	17,630,821	53,770,097	71,400,918	17,630,821	32,369,179	50,000,000	-	21,400,918	21,400,918	116.3%
Percentage			100%			70.0%			30.0%	

APPENDIX 6

OUTLINE OF TERMS OF REFERENCE FOR CONSULTANTS

Introduction

1. Table 1 presents the list of consultants and the number of person–months allocated to each consultant. Detailed terms of reference are provided below:

TABLE 1: SUMMARY OF EXPERTISE

Role	Person Months (International)	Person Months (Domestic)	Number of Consultants	
			International	Domestic
INTEGRATED COMMUNITY NUTRITION PROGRAM				
Community Driven Development Specialist	12	36	1	2
Community-based Food and Nutrtion Planning Specialist	6	32	1	2
Nutrition Service Management Specialist	4	24	1	2
Pool of Specialist		6		1
FOOD FORTIFICATION				
Food Policy/Fortification Specialists	4	20	8	8
INSTITUTIONAL STRENGTHENING				
Institutional Development Specialist	5	10	1	1
Organization Developments and Change Specialist	2	8	1	2
Public Administration	2	6	1	1
Financial Economist	3	12	1	1
Information Management Specialist	3	24	1	1
Nutrition Training Specialist	3	12	1	2
Nutrition Policy Advisor	3	12	1	2
Social Marketing Specialist	6	12	1	1
Nutrition Research Specialist	2	4	1	1
PROJECT MANAGEMENT				
Financial Management and Governance Specialist	2	6	1	1
BME Specialist	2	6	1	1
Nutrition QA Specialist	1	6	1	1
Total	**63**	**242**	**23**	**31**

Integrated Community Nutrition Program

2. **Community Driven Development Specialist** (12 person–months of international consultant and 36 person–months of domestic consultant). The consultants will (i) assess possibility and acceptability of local specific community–based integrated nutrition package; (ii) develop appropriate design and models of local specific community–based integrated nutrition package; (iii) provide implementation and management guidelines for community involvement in integrated nutrition package; (v) develop acceptable *posyandu* revitalization using UPGK approaches to the local community in accordance with nutrition service delivery; and (v) develop sustainability community empowerment mechanism in supporting integrated nutrition package implementation, particularly through sustainable *posyandu* activities.

3. **Community Based Food and Nutrition Planning Specialist/Nutrition Service Management Specialist** (10 person–months of international consultant and 56 person–months of domestic consultant). The consultants will (i) evaluate current nutrition delivery system, particularly to poor and vulnerable group; (ii) help develop comprehensive integrated multisectoral nutrition package that will covering provision of the essential nutrition actions; (iii) help develop local specific models for private sector in designing and implementing integrated multisectoral nutrition package services delivery; (iv) assist in implementing food and nutrition surveillance system for adequate data collecting, analyzing, formulating relevant nutrition information, and recommend alternative for strategic interventions (v) in cooperation with Public Health or Food and Nutrition Surveillance and Monitoring Specialist); (vi) help develop new nutrition service approach for maternal and child by introducing the "life cycle" approach and changing the paradigm from the "sick/ underweight" child to the "healthy/wealthy/well–growth" child; and (vi) developing balance dietary model and other appropriate food model based local food availability with special attention on available fortified food.

4. **Pool of Specialists** (6 person–months of domestic consultant). The consultants will (i) assist project management in compiling food and nutrition related water supply and sanitation technical guidelines; (ii) develop the food and nutrition related appropriate model of local specific water supply and sanitation; and (iii) develop quality assurance mechanism and implementation modeling in accordance with locally selected food and nutrition related water supply and sanitation technique.

Food Fortification

5. **Food Policy Specialists** (4 person–months of international consultants and 20 person–months of domestic consultants). The consultants will: (i) review policies and laws related to fortification; (ii) assess the laboratory equipment needs for fortified food control of the regional FDA laboratory units; (ii) provide standards for fortified food control at the regional FDA laboratory units: (iii) assess the existing fortified food control guidelines and training modules; (iv) provide inputs and recommendation for improving fortified food control guidelines and training modules and training curricula; (v) provide inputs and recommendation for fortified food control standard operating procedures (SOP); and (vi) facilitate training of trainers for fortified food control laboratory examination.

Institutional Strengthening

6. **Institutional Development Specialist** with experience in nutrition (5 person–months of international consultant and 10 person–months of domestic consultant). The consultants will (i)

assess problems and gaps in intersectoral policy–making and planning in nutrition services in detail: (ii) consult with relevant departments in MOH, MOA, BPOM, BAPPENAS, Menko Kesra and others as necessary; (iii) design institutional arrangements to resolve these issues at national and regional levels, possibly by extending the role of the Food Security Council and Agency into the nutrition field; (iv) Specify the roles and functions under the proposed institutional arrangements in relation to the NAP and to the coordination of policy, surveillance and research; (v) Secure reasonable consensus regarding institutions, roles and functions, and (vi) Develop a detailed action plan for establishing the appropriate institutional arrangements.

7. **Organization Change Specialist** (2 person–months of international consultant and 8 person–months of domestic consultant). The consultants will (i) review constraints in the policy–making process and management control in the nutrition sector, especially relations between central MOH and the regional dinas organizations; (ii) draw up recommendations for a policy making and planning cycle for nutrition with input from the districts and health centres, under central management and coordination; (iii) conduct training needs analysis in policy analysis and programme management in nutrition at central level and in policy formulation and planning at provincial and district levels; (iv) assess the organization development (OD) needs of the Directorate of Community Nutrition in MOH to enhance performance and multisectoral coordination, especially with MOA and Badan POM; (v) assess OD needs for provincial and district dinas organizations to promote more effective planning and delivery of nutrition services across sectors and organisational boundaries, including relevant working parties and task forces; (vi) conduct workshops on the policy process, planning, analysis, and organisation development as required; (vii) review and clarify the primary functions in these units and for the Nutrition Officer in health centres so as to enhance efficiency and effectiveness; (viii) identify further training and development needs in nutrition policy and programme management; (ix) prepare a specification for the recommended organisation structure of the above units, and (x) prepare a specification for strategic planning procedures based on the improved policy cycle.

8. **Public Administration Specialist** (2 person–months of international consultant and 6 person–months of domestic consultant). The consultants will (i) perform a training needs analysis for nutrition staff at province and district levels so as to manage the programme more effectively, potentially including programme planning, data analysis, programme monitoring, coordination across units and developing links with external organizations; (ii) develop a standard basic management training module for delivery in short courses to staff in provinces and districts, with particular reference to nutrition staff; (iii) deliver one or more of these modules together with local staff as a pilot exercise; (iv) develop TOT program and materials for this module; (v) deliver workshops on approaches to involving the private sector in nutrition service delivery and in surveillance activities; (vi) promoting a system for exchange of information on public–private partnership (PPP) schemes between districts; (vii) design simple improvements in the human resource management system in the provinces and districts, e.g. developments to the performance appraisal system, linking training to development plans, and supervision and reporting practices; (viii) prepare documentation on proposed improvements in management and in human resources management (HRM), and (ix) organize workshops on HRM for nutrition staff and prepare recommendations for extending good practice.

9. **Financial Economist** (3 person–months of international consultant and 12 person–months of domestic consultant). The consultants will (i) review health and nutrition finance legislation and strategies, elaborate health and nutrition financing policy on the central and regional/district levels in accordance with the decentralization strategy; (ii) help develop nutrition program and activities costing approaches and prioritization systems; (iii) help enhance and implement social health insurance system; (iv) help develop output based funding mechanisms for integrated

nutrition multisectoral package and pilot test them in the project sites; (v) support MOH by reviewing health and nutrition financing roles and plan changes; (vi) develop and piloting the community–based resources mobilization mechanism for food and nutrition services sustainability; and (vii) help MOH and pilot districts evaluate the financial impacts of the food and nutrition services on sites.

10. **Information Management Specialist** (3 person–months of international consultants and 24 person–months of domestic consultants). The consultants will: (i) help develop the Integrated Food and Nutrition Information Communication Technology (ICT) system; (ii) develop a matrix for ICT system role, functions and responsibilities and assess skills–mixed requirements; (iii) develop and maintain internet connections between districts, provinces and the central level to enhance efficient flow of relevant food and nutrition–related information; (iv) design and establish distance learning system with appropriate training modules for local nutrition–related staff in collaboration with national universities; (v) install efficient internet–based mechanisms for project supervision and technical support; and (vi) develop and implement continuous training process for local staff on the use of ICT system.

11. **Nutrition Training Specialist** (3 person–months of international consultant and 12 person–months of domestic consultant). The consultants will (i) review the curricula and standards at Nutrition Academies and develop a recommendation on establishing a quality control system through the Jakarta Academy or the Nutrition Association; (ii) perform a training needs analysis for non–graduate staff in province and district nutrition units and for midwives and nurses involved in nutrition at *puskesmas* in the context of the NAP; (iii) develop detailed plans for implementing a training plan for nutrition staff in central, local and health centre organizations; (iv) develop a standard training module for short–term training of nurses and midwives in nutrition with appropriate documentation and materials; (v) deliver one or more of these modules as a pilot exercise; (vi) develop a specification for a training of trainers programme to deliver the above module; (vii) conduct a number of these training of trainer sessions together with Pusdiklat or Bappelkes staffs; (viii) assess the overall training management system for nutrition staff at districts and health centres, including capacity for TNA, training delivery, training evaluation and linkages to performance and career development, and make recommendations accordingly, and (ix) prepare a proposal for short practical training events for community volunteers in the field conducted by health centre staff.

12. **Nutrition Policy Advisor (**3 person–months of international consultant and 12 person–months of domestic consultant). The consultants will (i) consult with officials at all levels and relevant sectors on nutrition policy issues; (ii) review current policies on food and nutrition among relevant agencies (MOH, MOA, BPOM, etc) as well as policy coordination issues across departments; (iii) conduct workshops on policy development in central level and selected provinces and districts, highlighting policy recommendations with different social and economic characteristics, including the use of community and NGO resources; (iv) review the current system of food and nutrition surveillance to highlight weaknesses and strengths, and to recommend how it should be developed and if continuing arrangements should be made for review, e.g. a cross–departmental working group; and (v) develop an action plan for developing the nutrition subsector, allowing for variations in local approaches.

13. **Social Marketing Specialist (**2 person–months of international consultant and 4 person–months of domestic consultant). The consultants will (i) appraise the current situation and limitations in nutrition BCC; (ii) consult with relevant officials across sectors and departments, and at all levels including at community level; (iii) recommend an effective approach and strategy for nutrition BCC in Indonesia, given the political, cultural, geographical and budgetary

constraints in which it will be implemented; (iv) identify the capacity building needs at district and *puskesmas* levels to improve the BCC system, and develop an action plan for implementation; (v) support the design of public education initiatives and the evaluation of new concepts; (vi) training of trainers in BCC and social mobilization techniques for district/city and puskesmas staff, including collaboration with NGOs, and (vii) subsequent short training courses provided for outreach workers, community volunteers and NGOs.

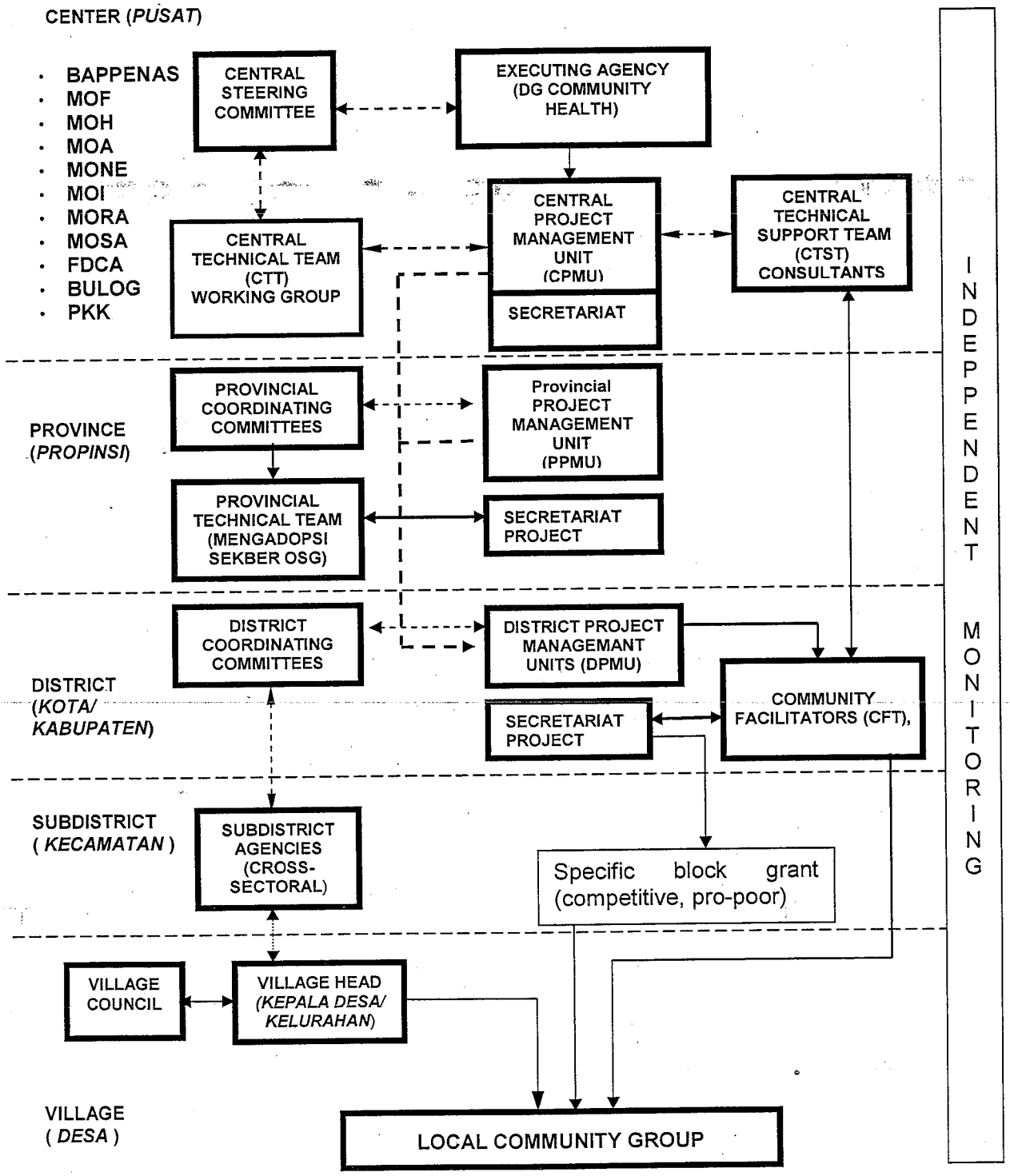
14. **Nutrition Research Specialist** (2 person–months of international consultant and 4 person–months of domestic consultant). The consultants will (i) review the capacities and the contributions of all major research institutions in the nutrition field across sectors; (ii) prepare recommendations to MOH for developing policies on nutrition research and development, and on organisational mechanisms for policy review, including coordination with external bodies such as the Food and Nutrition Policy Center; (iii) highlight the most effective role for Balitbang in MOH, and the most effective policies for building its capacity and coordinating research at institutions such as the Institute of Agriculture in Bogor, university departments and other external institutions; (iv) identify gaps in the current research and development program, and (v) provide appropriate recommendations on the capacity building needs of the key institutions.

Project Management

15. **Project Management Specialists** (6 person–months of international consultants and 18 person–months of domestic consultants). The consultants will: (i) help develop a comprehensive plan for the project management activities; (ii) prepare proeject monitoring indicators; (iii) prepare lists and specifications of equipment, materials, and services to be purchased through ADB funding; (iii) prepare tender documents for the bidding of equipment and supplies in the project sites; (iv) assist the project management in the bidding process and evaluation of bids for equipment, supplies and services; (v) develop detailed guidelines for all procurement procedures; (vi) monitor the timeliness, progress and quality of equipment, materials, and services provided by contractors/suppliers, and prepare reports on work progress; (vii) ensure that contract documents, procurement procedures conform with ADB anti–corruption requirements; and (viii) report quarterly on procurements and on Project activities to ensure transparency and accountability at each level.

APPENDIX 7

PROJECT ORGANIZATION STRUCTURE

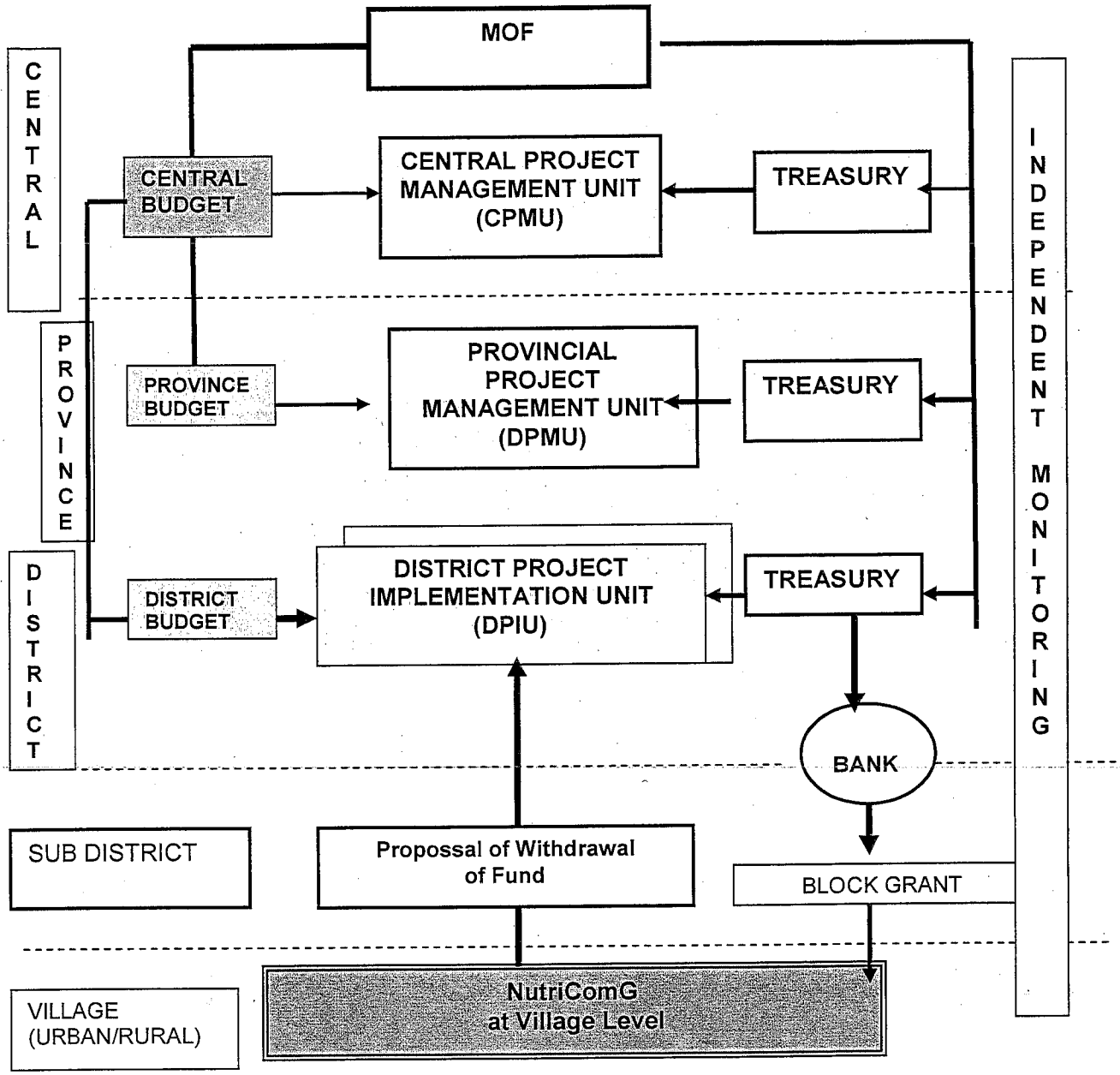


Appendix 8: Implementation Schedule

Activities	2006				2007				2008				2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A Advance Actions																								
1 Establishment of CPIU, PIU, DIU																								
2 Staff selection for CPIU, PIU, DIU																								
3 Selection of survey firm																								
4 Selection of engineering firm																								
B Component 1: Institutional Development																								
1 Food and nutrition development																								
2 Organization development																								
3 Human resource management																								
4 Food and nutrition surveillance system																								
5 Research and development																								
6 Behavior change communication																								
C Component 2: Integrated Multisectoral Nutrion Package																								
1 Nutrition education																								
2 Enhancing nutrition services																								
3 Supporting household food security																								
4 Making FNSS more effective																								
5 Support clean water and sanitation																								
D Component 3: Food Fortification																								
1 Strengthening the national wheat flour fortification																								
2 Vitamin A fortification to cooking oil																								
3 Salt fortification																								
4 Complimentary food and sprinkles																								
5 RASKIN fortification																								
E Component 4: Project Management																								
1 Management support																								
2 Financial management and governance																								
3 Project performance monitoring																								
4 Quality assurance and supervision																								
5 Construction supervision																								

APPENDIX 9

FUNDS FLOW MECAHNISM



APPENDIX 10

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY AND GENDER ACTION PLAN

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY FORM

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in the country poverty analysis? ☐ Yes ☐ No

Is the sector identified as a national priority in the country poverty partnership agreement? ☑ Yes ☐ No

Nutrition is an integral part of Indonesia's national health and food security strategies and was a major component in ADB assistance to the health sector in Indonesia during the crisis period under the SSDP and HNSDP. This is reflected in the National Nutrition Action Plan for the period from 2005-2009 (Depkes, June 2005) that emphasizes appropriate nutrition behavior and access to appropriate foods and other nutrition needs in a context of strengthened national, regional and local institutions and delivery systems, particularly among the poor and population groups most at risk of deleterious nutritional impacts (e.g pregnant and lactating women, infants and young children).

On the other hand, funding for nutrition (along with other preventative programs) remains relatively small in terms of GDP, overall national and local budgets or even health budgets in particular and this lack of emphasis is widely seen as a major concern. Recent reports on cases of severe malnutrition (*busung lapar*) as well as evidence of stagnation or even slight increases in overall incidence of malnutrition highlight these concerns and strengthen views that improved nutrition and social protection of the poor and vulnerable in this area needs to be accorded a higher visibility and priority.

In this context, the project represents a consistent and timely intervention. It is expected to lead to improved nutrition status through sustained access to quality integrated nutrition programs and services, particularly among poor children under the age of 5 years and pregnant and lactating women in the project areas. It will also seek to improve government capability to facilitate, manage and promote integrated nutrition interventions and public-private partnership to ensure supplies of appropriate and affordable foods to poor families, all of which are expected to contribute substantially to poverty objectives as reflected in national policy.

B. Poverty and Social Analysis

Targeting Classification: Targeted Poverty Intervention

Summary of Poverty and Social Analysis (see Appendix 11)

With the exception of selected project locations in Nusa Tenggara Barat (NTB) and Nusa Tenggara Timur (NTT) where poverty levels are disproportionately high, poverty in most of

the other locations fluctuates around national averages. However, throughout all of these areas, poverty and low socioeconomic status is associated with increased risk of malnutrition.

However, interactions of poverty and malnutrition are complex. Significant levels of malnutrition are not only characteristic of the poor, but also of many non-poor suggesting that it is not just low incomes, but also other factors (lack of education or information, poor child-care practices, poor environmental conditions, etc.) that are important. Overall, urban malnutrition is lower in urban than in rural areas, but, particularly in the larger cities, it is considerably higher than would be expected given the much lower levels of income poverty, suggesting there may be specific urban factors beyond poverty in food access, dietary choices, environmental conditions and exposure to infectious disease, etc. with nutritional impacts. Regional differences in malnutrition are also wide and correlate well with regional differences in poverty. While this tends to confirm the need to target the poor, it also is consistent with a situation where there are other regionally-specific factors (possibly having to do with food availability or choice, access to nutrition services, or disease regimens) that relate to both poverty and malnutrition and that therefore need to be taken into account.

The Project will attempt to tackle these issues in two ways; first by taking a broad, holistic view of factors contributing to malnutrition and second by placing special attention on the poor and vulnerable (particularly poor pregnant and lactating women and under 5s) among whom risks are disproportionately high. This will be accomplished by (i) use of information on distribution of poverty and malnutrition to target areas and sub-groups most at risk and (ii) adopting an implementation strategy that will maximize accessibility, participation and affordability within poor communities and among poor households. This latter aspect will focus most intensively on local health and health-related institutions and service providers that are most knowledgeable about and accessible to the poor and by including the poor and vulnerable (mainly through community structures such as *posyandu*) as active subjects in the design and implementation of improved nutrition initiatives relevant to their specific needs. Experience during the crisis period has shown that local-level out-reach (through village nurses) and *posyandu* have been reasonably effective in reaching the poor. This will be built upon and augmented where possible through use of available information identifying poor households and through involvement of other village CBOs, local NGOs, religious organizations, etc. that has experience and track records in dealing with the poor.

Finally, the Project will seek to ensure that the poor are not excluded by the fact of low income. Affordability of nutrition goods and services (for example in market access to appropriate fortified foods) will be a prime consideration and, where necessary, consideration will be given to access to subsidies through existing "poor card" or "heath card" systems that are applied to curative services as well.

It is estimated that by 2010, the Project be reaching approximately 750 thousand pregnant and lactating women and 2.4 million children under the age of 5 in the participating districts. It is estimated that this will include around 90 thousand women and nearly 300,000 children below the poverty line.[1] These targets make the overall Project marginally pro-poor as would be expected given the high levels of overall service that are expected to be achieved. However, the targeting strategy is designed to maximize chances of reaching the poor and

[1] Estimates are based on parameters used in provincial Projections of population from 2000 by the Central Statistics Board (BPS) that are applied to baseline 2004 populations (from the 2004 SUSENAS) in the participation districts. Poverty rates are assumed to decline at 5% per year from 2004 and 2010 service levels are assumed to reach 80% of the poor and 75% overall in each target group. Numbers of pregnant and lactating women are roughly estimated at 1.5 times the Projected population under 1 year of age.

vulnerable, and project components are designed to ensure that tangible benefits (e.g access to subsidized fortified foods and free access to other nutrition-related services) accrue mainly to the poor and near poor (estimated to include those in the bottom two income-quintiles). In this regard a significant poverty impact is expected from the Project.

C. Participation Process

Effective stakeholder participation is central to the Project. Central government (MOH and MOA) will work with province and district level government to strengthen policy frameworks and local institutions (public and private) concerned with nutrition. Local governments will prepare action plans containing measurable objectives that will support local ownership and that can be monitored and refined in a process of central-local partnership over the course of the Project.

Sub-district and community level institutions (*puskesmas* -, outreach facilities and service provides – *puskesmas pembantu, bidan di desa, etc.*) and voluntary community-based efforts – e.g. *posyandu*) will be supported, empowered and strengthened in order to enhance local recognition and foci on nutrition and to deliver effective nutrition services to the groups most at risk (under 5s, school-age children and pregnant and lactating women) in their respective service areas.

Strengthening of voluntary community-based groups such as *posyandu* will form the basis for active local participation and will include specific efforts to ensure participation by the poor through local identification as well as through incentives (e.g. subsidized access to fortified food, income generating activities, etc.) to enhance participation. The Project will emphasize and facilitate participatory practices to define local needs, establish appropriate behavior and to build increased local demand for nutritious foods and related services. Where possible this will be carried out through existing heath networks, but can also involve NGOs as facilitators and organizers in areas where more spontaneous formation and sustainability of such voluntary groups is a particular problem.

In addition, the Project recognizes that while targeting will remain focused on those most at risk (mothers, children and adolescent girls), good nutrition also represents a national objective that should involve as wide a range of interested parties as possible. Thus, where possible, the Project will seek to involve a range of other local opinion leaders and organizations (e.g. local political leaders, other CBOs, religious institutions, etc.).

D. Gender in Development

Summary of Gender Analysis (see Appendix 12)

Women are a primary focus of the Project for the simple reason that it is their nutrition (during periods of pregnancy and breastfeeding) and their generally greater responsibilities (as opposed to men) for dietary choice and food preparation as well as decisions on other nutrition-related outcomes for their children that will have greatest impact on project success. More than anything else, this will be determined by the ability of the Project to address conditions surrounding women's ability to provide an adequate diet to themselves and their children as well as to address deficiencies in women's nutrition and nutrition-related knowledge, attitudes and behaviors that lead to negative nutritional outcomes. This includes

not just adult women, but also adolescent girls who are the future mothers and whose own nutritional behavior as teen-agers will have impacts later on.

The gender action plan will seek to address these concerns by focusing on the effective participation of women, both in their capacity as facilitators and opinion leaders as well as the principal target group in their decision-making role in terms of nutritional behavior within their families. This will be carried out at several levels:

1. Through increased representation of women (including relevant women's organizations) on food and nutrition-related policy-making bodies at national and regional levels;
2. Through research specifically aimed at women to gain a better understanding of existing practices regarding their own and children's feeding and other nutrition-related behavior;
3. Through training and empowerment of local service providers and cadres who are mainly women (e.g. *puskesmas* and *Pustu* nutrition personnel, *bidan di desa*, *posyuandu* leadership, etc.); to identify high-risk cases and to more effectively facilitate access to and use of appropriate foods and improved nutrition behavior where it is needed, and;
4. Through educational and action programs aimed directly at women (particularly poor women) in the project areas designed to maximize their participation and to enhance their roles as principal agents of change within their families and in their communities.

E. Social Safeguards and Other Social Risks

Issue	Significance	Strategy to Address Issue	Plan Required
Resettlement	☐ Significant ☐ Not significant ☐ None	Only limited project support will be provided for civil works and that is expected to be on a very small scale that is unlikely to impact on local private assets or livelihoods. If necessary, resettlement will be implemented under relevant GOI regulations and in accordance with ADB policies regarding land acquisition and resettlement of affected persons.	☐ Full ☐ Short ☐ None (see Appendix 17)
Affordability	☐ Significant ☐ Not significant ☐ None	The Project is expected to reduce costs of obtaining adequate nutrition through subsidized provision of fortified foods, expanded use of health cards and, in general, making nutrition and nutrition-related health services more accessible and affordable for poor households.	☐ Yes ☐ No
Labor	☐ Significant	No adverse impacts are expected in	☐ Yes

	☐ Not significant ☐ None	regard to normal livelihoods of persons living in project locations. Beneficiaries will, however, voluntarily contribute time and effort in implementing community-level nutrition interventions through existing village-level voluntary institutions (*Posyandu*).	☐ No
Indigenous Peoples	☐ Significant ☐ Not significant ☐ None	Concentrations of indigenous peoples exist in several of the project areas. While adverse impacts requiring preparation of separate IPDPs are not anticipated, the Project will incorporate mechanisms designed to ensure participation and access to program benefits by these groups.	☐ Yes ☐ No (see Appendix 18)
Other Risks and/or Vulnerabilities	☐ Significant ☐ Not significant ☐ None		☐ Yes ☐ No

APPENDIX 11

POVERTY AND SOCIAL ANALYSIS

A. Introduction

1. Core objectives of the Project relate to overall improvement in nutritional status and general health conditions in the project areas, particularly among pregnant and lactating women and among infants and your (pre-school age) children. However, an emphasis on the poor and other vulnerable groups is essential for the simple reason that these groups are often the ones at greatest risk and face the greatest difficulty in gaining access to appropriate interventions. Known relations between inadequate nutrition and deficiencies in early childhood development, including mental development,[1] can become a ticket to perpetuating a continuous vicious cycle of poverty and deprivation through poor educational performance and inability to compete in a modern skills-based labor market.

2. From a project perspective, the principal concern is a very practical one - how to reach and effectively serve the poor; in effect, how to ensure that the Project is designed to maximize inclusion (minimize exclusion) of eligible poor women and children no matter what their location of residence or living conditions. This involves supply-side considerations, particularly those aimed at giving nutrition services and interventions a higher priority in the health system and among key care providers and in making them more affordable and accessible to poor households. This includes improved methods to target those most at risk both at regional and community levels. Finally, it involves demand-side considerations in raising nutrition awareness and perceptions of the important role that good nutrition plays in overall family welfare.[2]

3. The poverty and social analysis has three parts. First is a more or less descriptive analysis of poverty and more general socioeconomic conditions focusing on the areas to be covered by the Project. This uses available survey data and is largely carried out at more aggregate (national, province) level. It includes, as far as possible, a risk assessment for poor and near poor households (bottom two expenditure quintiles) relative to nutrition and other relevant aspects of health behavior. This is to help define the rationale for a poverty (pro-poor) focus in the Project.

4. Second is a brief discussion of issues involved in targeting the poor. This includes macro level (area) targeting to identify locations where poor are concentrated and/or where populations are most at risk of facing nutrition related problems. It also includes micro level (community-based) targeting to ensure that local health institutions and communities are aware of a focus on those most in need. While there is a fairly long history of community-based poverty assessment, macro-targeting has generally been consultant driven. There is a need to build capacities, particularly within local government to understand the dimensions of poverty, what it means to be poor and how to use available information to reach them in the most efficient manner.

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[1] Nutrition during the first three years of life is seen as a principal determinant of future health and mental development, with sustained protein energy malnutrition leading to 15% lower IQ, iodine deficiency to 14% lower IQ and iron deficiency anemia to 12% lower IQ, all being permanent and irreversible later in life.

[2] This is not a trivial issue. Aside from demand for curative services when ill, health (including key related interventions such as clean water) is often given a relatively low priority by households compared to other investments (for example in shelter, education or electrification).

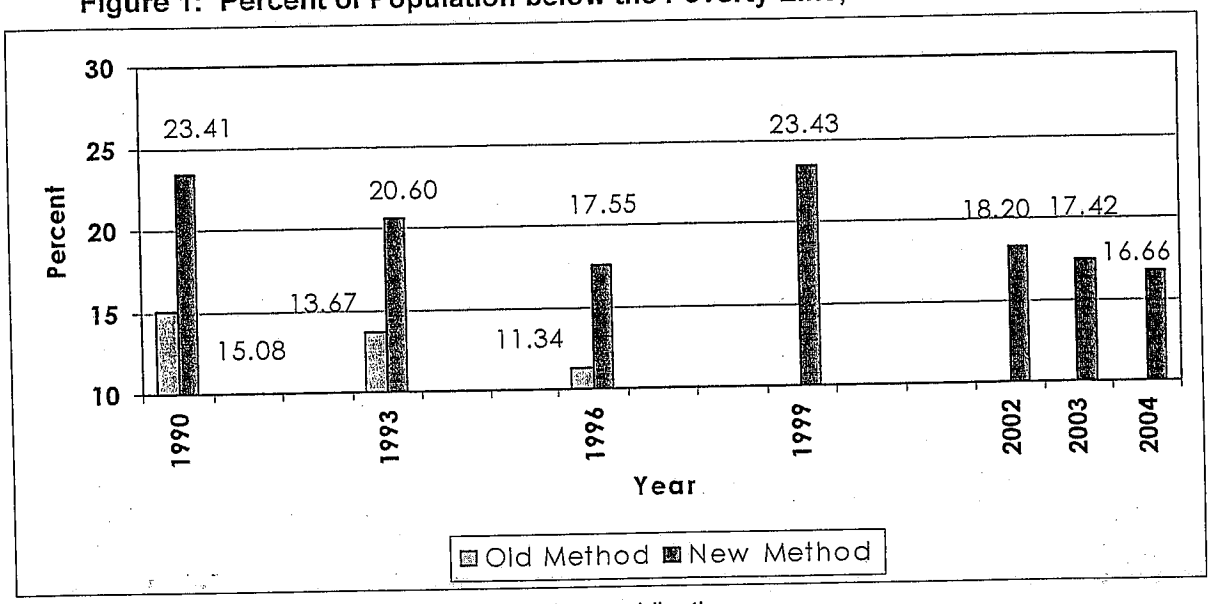
5. Finally is a discussion of other strategies for reaching the poor, particularly through the institutional arrangements and designs for service delivery. This discussion offers little new, but rather focuses on how and why the approach and design adopted for project implementation is compatible with a pro-poor orientation and is likely to maximize their inclusion in the Project.

B. Overall Trends and Conditions in Poverty and Nutrition

6. Poverty trends in Indonesia since the 1970s have been well documented. Although changes in calculation methodologies (and more recently questions about most appropriate definitions) require that care be taken in interpretation, the trend up until the economic crisis of 1997/1998 was virtually inexorably downward, not just at the national level, but across most regions of the country.[3] However, gaps between regions have proven more resistant to change, likely due in large part to differences in both in the natural resource base (including that for agriculture) and in degrees of economic isolation from larger national and international markets.

7. The crisis saw a sharp rise in poverty to levels more characteristic of the early 1990s. However, this was largely due to short-term hyperinflation in tradable goods associated with the collapse of the rupiah that impacted most heavily on precisely those staple food commodities (rice, tubers etc.) that formed a large part of the diet of poor households. Economic policies to curtail inflation assisted in recovery so that by around 2003, poverty levels were back close to the levels achieved in the period just before the crisis took hold.

Figure 1: Percent of Population below the Poverty Line, Indonesia 1990-2004



Source: Indonesia, Central Statistics Board, various publications.

8. Currently, around 17% of the population is estimated to be below the official poverty line in Indonesia.[4] This poverty line is based on the cost of a basic food basket of 2100 calories per capita (with the basket based on actual consumption patterns of those near the poverty line) along with an allowance for non-food consumption. However, there are wide regional variations

[3] The simplest test here is one of first order dominance. If real incomes rise across the entire income distribution, then poverty will fall by definition irrespective of the choice of poverty line. This was the case in almost all areas during this period.

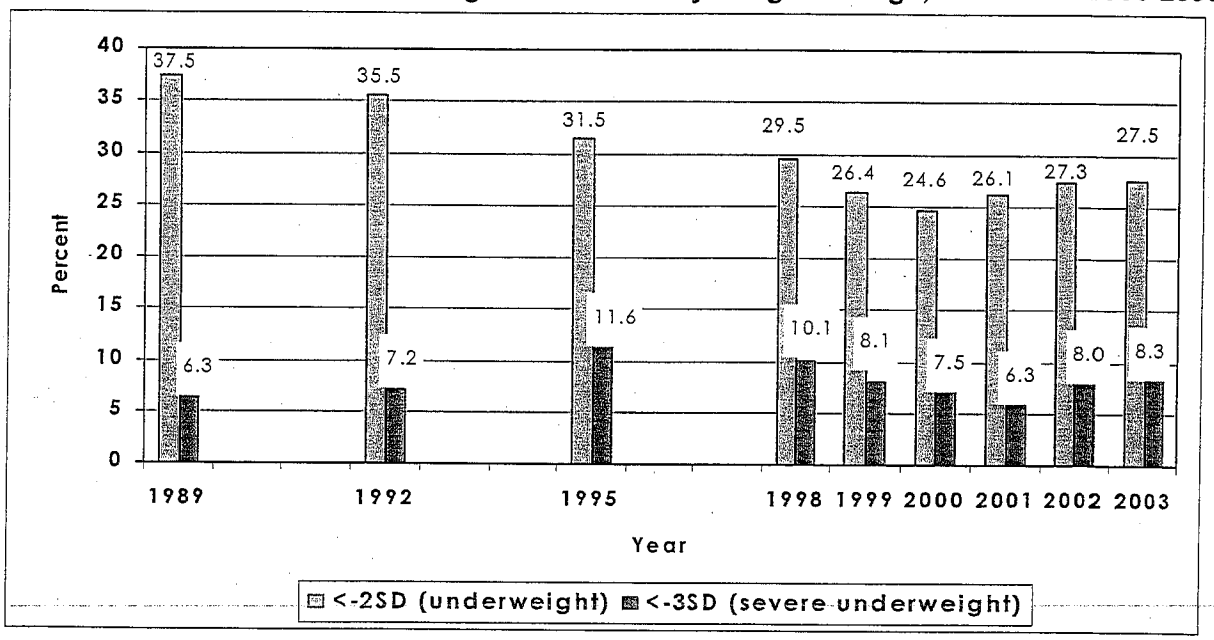
[4] Badan Pusat Statistik, *Data dan Informasi Kemiskinan, Tahun 2004*, Jakarta, December 2004.

with poverty estimates ranging from a low of 3% in the urban capital province of DKI Jakarta to nearly 50% (49.3%) in rural areas of Papua.

9. Figure 1 summarizes national poverty trends from 1990 to 2004 consistent with a revised calculation methodology adopted by BPS in 1999.[5] The increase due to the crisis can clearly be seen along with the pattern of recovery since then, relatively rapid during the early stages and then slower over the past several years.[6]

10. Health conditions, including nutrition, also showed fairly steady improvement up to the time of crisis. In fact, some key indicators (including those reflecting levels of child nutrition) continued to improve through the initial years of the crisis although evidence on more recent trends, particularly for child nutrition remained less than satisfactory (see Figure 2).

Figure 2: Prevalence of Underweight in Children by Weight for Age, Indonesia 1993-2003



Source: Dini Latief, *Nutrtion Problems in Indonesia and Its Possible Solutions*, presentation at Seminar on Prospective of Indonesia Poverty, July 2005.

11. There are a number of factors at play here. Poverty reduction in the early to mid 1990s was reflected in increasing real incomes among the poor and near poor in Indonesia and there is clear evidence from the SUSENAS consumption data that part of this was put toward increased quantity and, particularly, quality in food consumption. This was impacted by the crisis although overall impact was mitigated to some degree because households were able to shift expenditure (proportionately) from non-food to food items.[7]

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[5] Revisions to the official time series have been made for 1996 by BPS. Revised estimates for 1990 and 1993 consistent with the 1999 definition are taken from unpublished calculations by Guntur Soegyarto of the ADB.

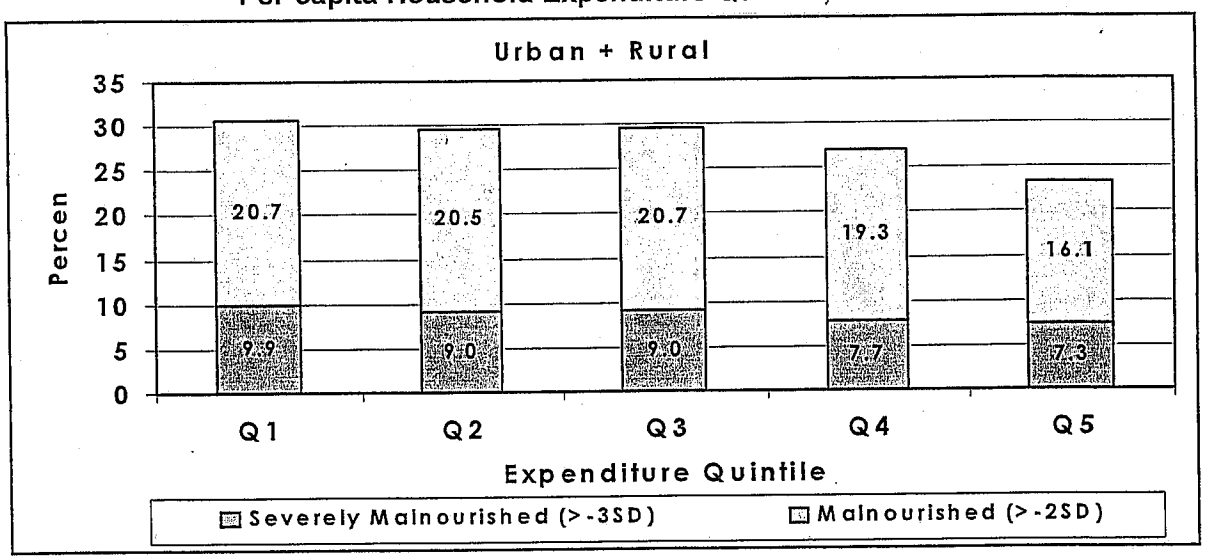
[6] However, figures for 2003 and 2004 should be treated with some caution as they are effectively extrapolations based on much less complete expenditure information contained in the SUSENAS Core. More reliable results are expected from the 2005 SUSENAS that includes the full consumption/expenditure module.

[7] This may have been assisted by subsidies provided as part of crisis programs (JPS) to assist the poor. But it was also a result of disproportionately slower inflation in non-tradables during the height of the crisis resulting in significant declines in the real cost of key public services, including education and health, that lasted up to 2000.

12. Credit has also been accorded to Government programs aimed at bringing basic health services closer to the community level. This included the *posyandu* and the program started in the early 1990s to provided trained midwives (Bidan di desa) at village level. Results are indicated by indicators (such as use of trained attendants at birth) that would be expected to be reflected in such improved access. And a key aspect of the ADB sector loan at the start of the crisis was to provide budget support to ensure that these programs were not adversely affected by budget constraints during the height of the crisis.

13. Interestingly, the evidence is less clear on the strength of linkages between poverty and nutrition. Data on weight for age from the special SUSENAS Nutrition Module do not show an overwhelming variation when cross-tabulated by per-capita household expenditure quintile (Figure 3).[8] Even so, the trend is in the expected direction, indicating that while child malnutrition is not exclusively a prerogative of the poor and vulnerable, it is clearly disproportionately concentrated among low-income households. The same pattern emerges using data on Body Mass Index (BMI) for fertile-aged women from the same source (Figure 4).

Figure 3: Prevalence of Underweight in Children by Weight for Age and Per-capita Household Expenditure Quintile, 2001-2002



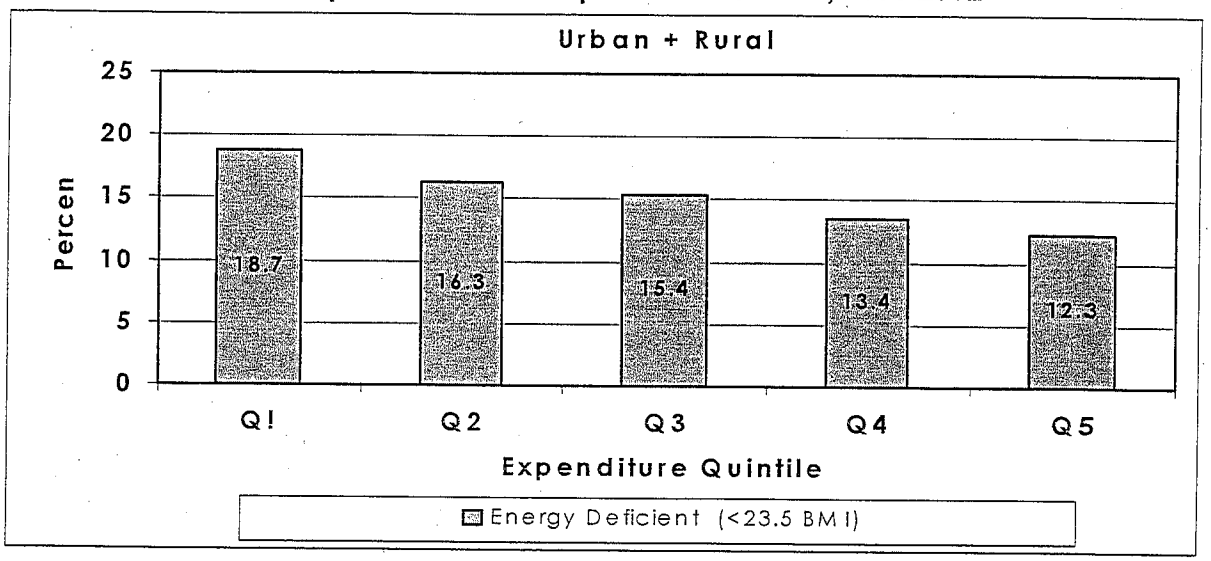
Note: Data reflect averages for 2001-2002 and refer to the 9 provinces proposed for inclusion in the Project.

14. However the relations between poverty and child or maternal malnutrition become more striking when cross-sectional comparisons are made at regional level. Figures 5a and 5b shows measures of poverty, child and maternal malnutrition each of the 34 proposed project districts.[9] This clearly shows the degree to which areas with higher poverty (notably many of the locations outside Java) also appear to have greater incidence of nutritional problems relevant to the Project.[10]

[8] Data on malnutrition are averages for 2001 to 2002 and refer to the 9 provinces targeted for the Project.
[9] District poverty rates are from the 2002 SUSENAS as calculated by BPS.
[10] This confirms more general, unpublished, work by Atmarita and Jack Molyneaux using aggregated data from the child health reporting system has also shown that malnutrition (measured by weight for age) is significantly correlated with difference in poverty levels (as measured using SUSENAS data) across regions in Indonesia.

15. Age relations in child and maternal, and gender relations in child malnutrition are also of interest. First there is no evidence that boys are favored over girls as far as nutrition is concerned. If anything prevalence of malnutrition is slightly lower among female under 5s in Indonesia, including in the proposed project provinces. This is consistent with other health indicators, including infant and child mortality rates, and suggests that children's gender is likely to be relatively minor concern in developing and implementing nutrition programs.

Figure 4: Prevalence of Chronic Energy Deficiency Among Women Age 15-49 by Per-capita Household Expenditure Quintile, 2001-2002



Note: Data reflect averages for 2001-2002 and refer to the 9 provinces proposed for inclusion in the Project

16. On the other hand, child malnutrition (weight for age) has a clear age pattern with the lowest levels seen among young infants (0-5 months); then increasing incidence among children up to around 3 years of age and then a leveling off or even a sight improvement among older children of 4-5 years old. Much of this is likely due to nutrition problems associated with weaning of infants from exclusive breastfeeding to solid food. This emphasizes both the importance of breastfeeding (including both 6 months of exclusive breastfeeding and extended breastfeeding

17. A final interesting comparison is between rural and urban areas. Poverty rates are much lower in the selected project cities than in the adjacent proposed rural project areas, but urban-rural differences in malnutrition are generally nowhere near as great. This can also be seen in the urban-rural comparisons for child malnutrition Figure 6. Urban malnutrition is clearly a problem that goes beyond levels of absolute poverty, a fact that provides additional justification for an urban focus to the Project.[11]

[11] However, this should not obscure the fact that overall urban malnutrition rates are generally lower than those in the rural areas of the same provinces. Other child health and nutrition indicators obtainable from the 2004 SUSENAS (receipt of high dosage Vitamin A and check-ups by health workers in the past year, having been weighed in the past month) are also more favored toward urban areas.

Figure 5a: Poverty and Child Malnutrition by Province

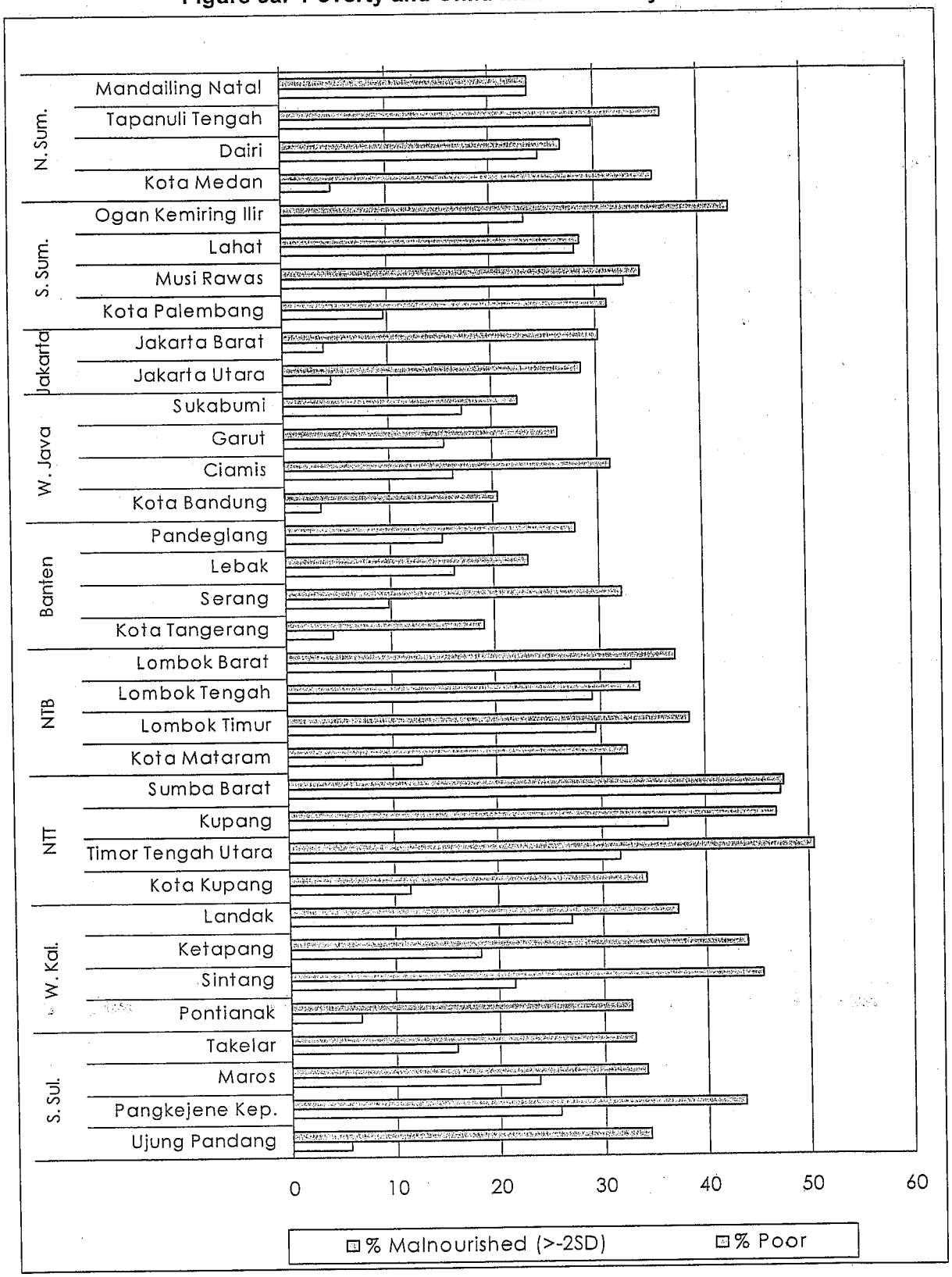


Figure 5b: Poverty and Maternal Malnutrition by Province

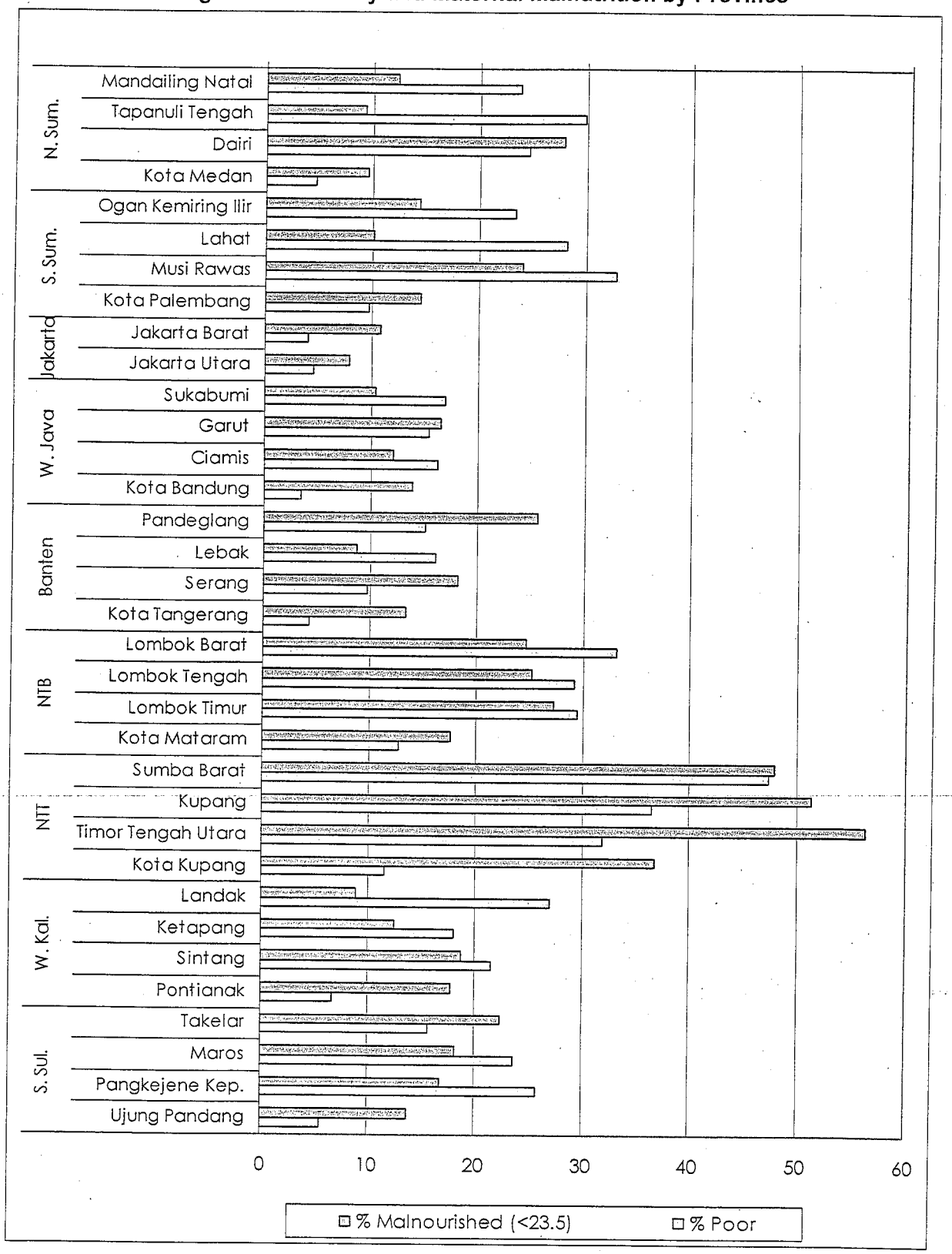
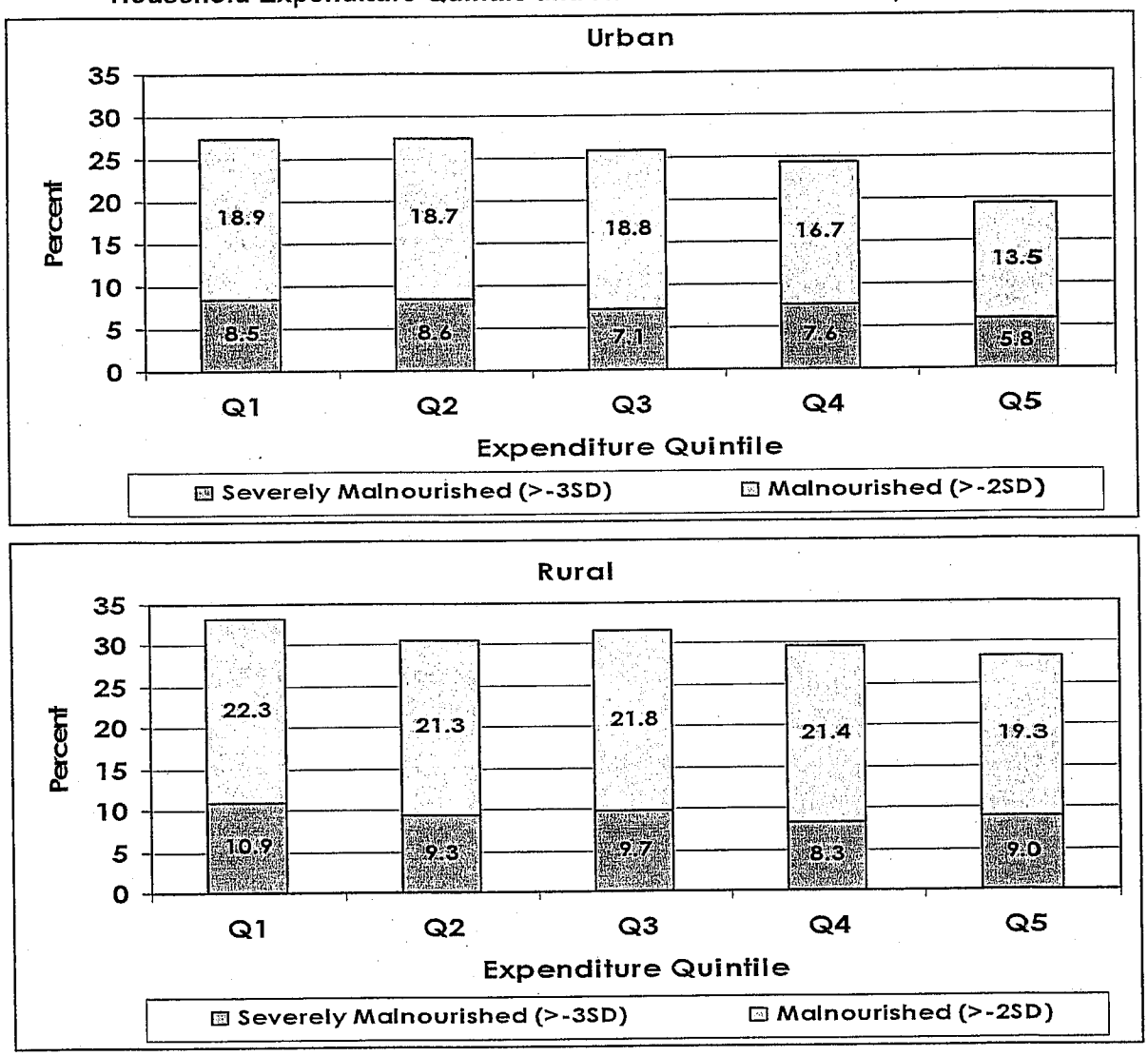


Figure 6: Prevalence of Underweight in Children by Weight for Age, Per-capita Household Expenditure Quintile and Rural-Urban Residence, 2001-2002



Note: Data reflect averages for 2001-2002 and refer to the 9 provinces proposed for inclusion in the Project.

18. It should also be understood that official definitions of absolute poverty do not adequate describe differences in levels of nutritional behavior. From a poverty perspective, Indonesia is characterized by a large segment of the population living close to the poverty line. World Bank calculations using PPP dollars indicate less than 10% of the population living on less than $1 per-capita per day (a level indicative of extreme poverty), but more than 50% living on less than $2 per-capita per day. In many parts of the country, raising the official poverty line by just 25% (around $3 per-capita per month) almost doubles the number of poor. And nutrition indicators classified by expenditure quintile generally shows little variation among the bottom 40 or even 60% of the population. In short, poor nutrition is characteristic of much more than the absolute poor (according to official definitions) and the Project needs to take this into account.

19. Existing data do not allow us to provide an unequivocal explanation of phenomenon, in particular the degree to which it reflects an inability to access/purchase good nutrition versus a lack of knowledge or motivation on the part of the population. However, there is substantial evidence that the latter issue is a crucial one that goes beyond simple questions of access or affordability. The institutional review (see Supplementary Appendix C) makes a clear case from the supply side on the extent to which nutrition has been accorded a relatively low priority in the broader nexus of public health services.

20. There is also evidence that real demand for health services beyond those predicated on sufficiently severe illness is low in Indonesia. On average, less that 2% of household expenditure goes to health (including both curative and preventative services) and this includes among the poor, reflecting the extremely low absolute outlays involved. Marginal propensities (the proportions of additional income allocated to health) fare little better. Health remains a relatively low priority for most households compared to many other areas of consumption such as food, housing, education, electricity, etc.[12]

21. Contact and visit rates to modern health facilities and providers that were rising before 1998, fell when the crisis hit. There is evidence of some recovery, but it has not been consistent with recovery in poverty rates in many areas. Furthermore, there is no evidence of historically wide gaps between the poor and the better-off in recent years.[13] Visit rates (which reflect both demand for curative and preventative services) among the poor are low compared to much of the rest of Asia, more comparable to countries like Cambodia than in a country link Thailand, at least according to SUSENAS data.

22. Poor health and nutritional behavior is also a well-known issue. This includes lack of good hygienic practices and dietary choices. Some of this, particularly among the poor, relates to problems of access (for example to safe drinking water or sanitation facilities). Some also undoubtedly relates to affordability in terms of the ability to purchase an appropriate diet where currently many of the foods providing key micro-nutrients are also relatively expensive. But there are also behavioral concerns that are not just functions of poverty and that may help explain why malnutrition is such a widespread concern.

23. With the exception of Jakarta, households on average spend more than half of their total expenditure on food. As would be expected, the poor spend a higher proportion on food than the better off, reaching 70% or more of total expenditure in the lowest quintile in all areas except for Jakarta. There is some evidence of a secular decline in the proportion of expenditure on food based on SUSENAS data in more recent years (since 2001), but this may have as much to do with more rapid increase in prices of some key non-food commodities relative to food as with improvements in overall welfare.

24. Rice is the main staple food with the percentage of total food expenditure going to rice ranging from 12% in Jakarta to 37% in East Nusatenggara among the project provinces according to data from the 2003 SUSENAS Core. The percentage of food expenditure going to rice (along with other starchy-staples such as tubers) declines as one moves from poorer to

[12] During the period of declining poverty and rising real incomes in the 1990s there is evidence that the rural poor did use part of their income increases to purchase not just more food, but also improved quality (meat, eggs, vegetables, etc.). However this was not the case in urban areas where there was little change in dietary composition and marginal change was more in favor of non-food consumption.

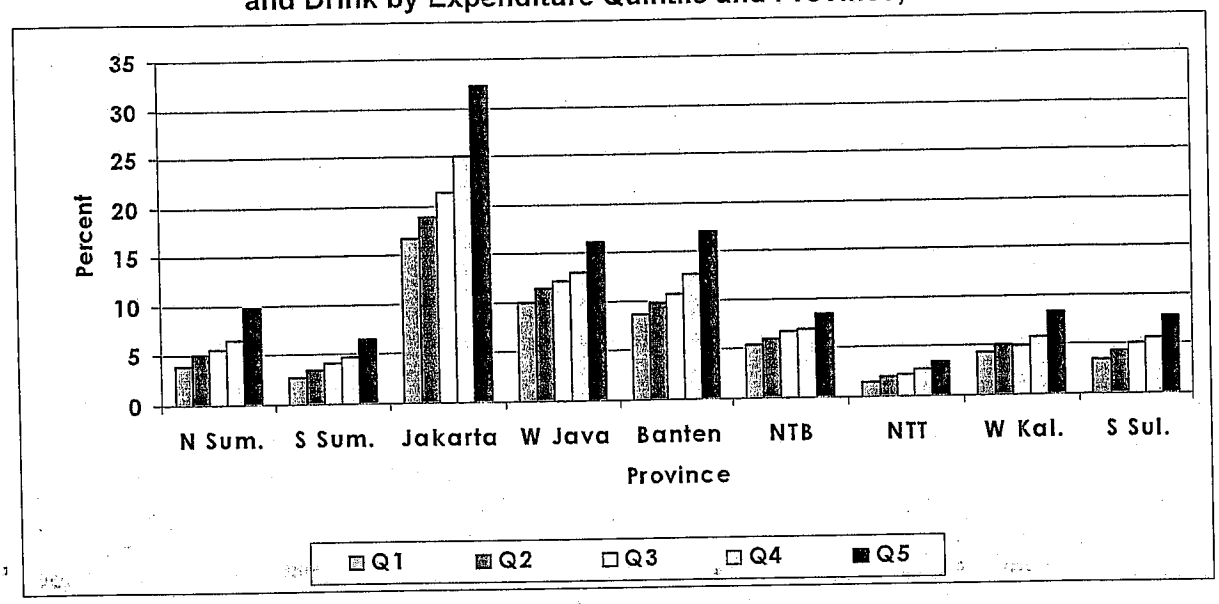
[13] This is mainly a function of much higher propensities among the rich to seek qualified medical attention conditional on illness. The poor are much more likely to go to traditional healers or, even more often, attempt self-treatment or none at all.

richer households, mirrored in increased diversity in food consumption, particularly fish and vegetables among richer households.

25. However, there are other disturbing trends. One is the large proportion of food expenditure going to tobacco – more than 10% of the total in almost all of the project locations and showing little variation by expenditure class. Another is reliance on snack or ready-to-eat foods that often have only limited nutritional value. This is a particular problem in many parts of larger cities where food preparation is hampered by crowded conditions, lack of adequate kitchen facilities and high cost of cooking fuel. Even with low incomes it may often be more cost-efficient to buy food from local vendors even for very young children in the household. In Jakarta, for example, around a prepared foods accounted for close to one-quarter of total food expenditure in 2003. In West Java and Banten it was around 13% and was around 8-10% in the areas (except for East Nusatenggara) outside Java.

26. Reliance on prepared food also increases with expenditure class. The variation was widest in Jakarta (17% of food expenditure in the lowest expenditure quintile compared to 32% for the richest quintile in 2003), but was also significant in other areas (Figure 7). More detailed breakdowns available from the 2002 SUSENAS Consumption/Expenditure Module show that there are also considerable variations between project provinces in the nature of this expenditure.[14]

Figure 7: Percentage of Household Expenditure for Buying Ready-to-eat Food and Drink by Expenditure Quintile and Province, 2003.



Source: Special tabulations from 2003 SUSENAS.

[14] For example, households in East Nusatenggara allocated more of their prepared food expenditure to bread with sweet filling (24%), steamed cake (15%) and crackers (13%); in West Nusatenggara it was snacks for kids (21%), noodles (14%) and steamed cake (12%); in South Sumatra it was fried food (15%), noodles (12%) and steamed cake (11%); in North Sumatra top places were taken by noodles and steamed cake (13%); in Jakarta, rice dishes/*nasi campur* (19%) and noodles (15%) were most popular; in West Java it was noodles (19%) and various fried food (16%); in Banten it was noodles (17%) and rice dishes (14%); in West Kalimantan it was steamed cake (19%), ices (11%) and fried foods (10%); and in South Sulawesi it was noodles (23%) and steamed cake (17%).

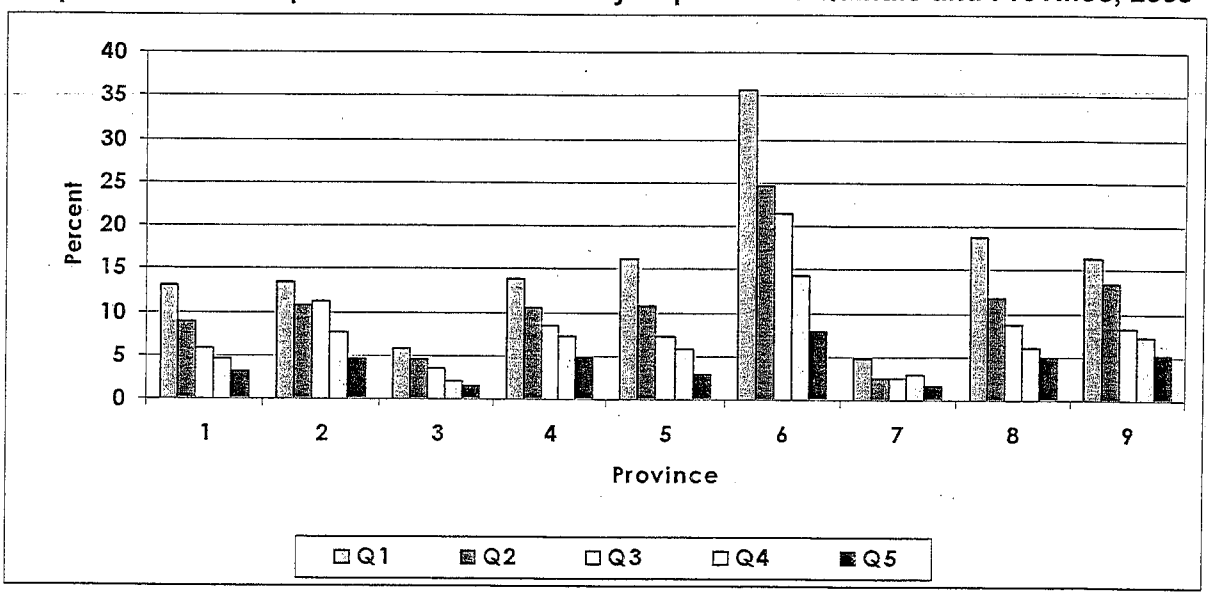
27. Perhaps of greater interest is the clear tendency of poorer households to spend a higher proportion of prepared food expenditure on fried foods and children's snack foods and less on rice dishes than those in higher expenditure quintiles (Figures 8 and 9). Richer households, in turn, spent a higher proportion on prepared rice dishes. As child snack foods and various fried foods tend to be less expensive than rice dishes, this should not be surprising, but these foods are also often lower in nutritional value and may represent a poor bargain in terms of nutrient content per rupiah spent on them. Where this happens, it is the poor who are discriminated against through lack of more expensive nutritious food products for under-fives and/or pregnant or lactating women.

28. In summary the relations of poverty and malnutrition are complex and represent a major challenge for the Project. It has to do with the conditions imposed by poverty, but it also has to do with health and nutrition-related behaviors that extend far beyond those with constraints imposed by low income or other conditions of vulnerability. In this sense, the "poverty" challenge is less to prevent "leakages" of project benefits to the non-poor (at least those who are in need of improved nutrition), but rather to ensure that that the poor and other high risk groups are not excluded. This will require a concerted effort to focus on population groups and areas where risks of malnutrition are particularly high and to ensure their active participation in project activities.

C. Targeting and Reaching the Poor

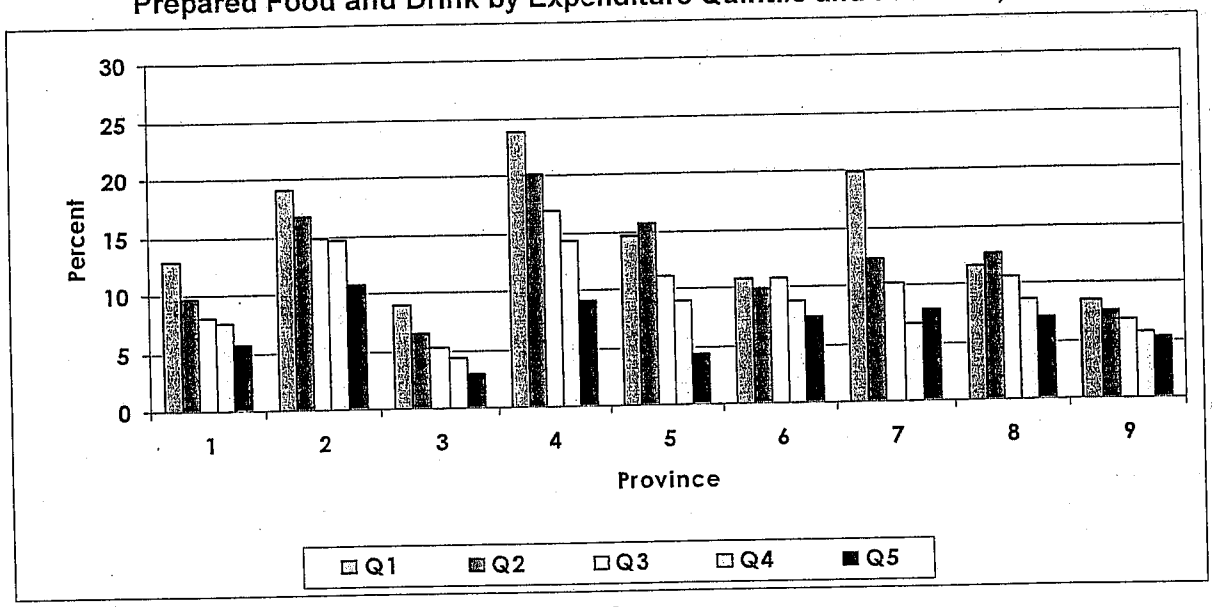
29. Targeting or reaching the poor will involve two interrelated steps; first by targeting or giving priority to areas and groups of population within the project districts where the poor are concentrated and second by fashioning social marketing and service delivery systems that favor participation by the poor.

Figure 8: Percentage of Household Expenditure on Children's Snack Foods of Total Expenditure on Prepared Food and Drink by Expenditure Quintile and Province, 2003



Source: Special tabulations from the 2003 SUSENAS

Figure 9: Percentage of Household Expenditure on Fried Foods of Total Expenditure on Prepared Food and Drink by Expenditure Quintile and Province, 2003



Source: Special tabulations from the 2003 SUSENAS

30. Area or group targeting is an important step as has been shown by various local area-development programs and projects in Indonesia over the past decade that have utilized poverty as a key variable in the targeting process.[15] In fact, the general idea of mapping is already being incorporated in Health Department planning. Here the Department has adopted a general framework for prioritizing health needs that includes not only health indicators (e.g. % of malnourished under-fives, infant mortality rate), but also poverty incidence. This has been carried out down to district level and, for example, has led to the identification of 120 districts where malnutrition is a particular issue (% of malnourished under-fives > 30%).

31. District health officials are generally aware of poverty issues, but analytical capabilities also tend to be weak and there is often limited or negligible effort to actively integrate poverty (as well as other key social issues) into planning and budgeting processes. Although these staffs should not be expected to become 'poverty or social experts,' strengthening capabilities to deal in amore systematic fashion with poverty and related social concerns should increase the ability to respond more effectively to needs of the poor and other vulnerable groups.

32. In this regard, proposals that will be developed at province and district level as a basis for funding should carry the poverty targeting idea one step further, and include summary descriptions or "mapping" of poverty and vulnerability as well as of evidence of malnutrition for relevant sub-regions within districts (e.g. Kecamatan and/or *puskesmas* service areas) that can be used to prioritize areas for attention. One criterion for project success will be that all areas and vulnerable groups targeted or given high priority as a result of this exercise are reached during the course of the Project. In general, local plans prepared to date include some poverty information, but not a specific strategy linking spatial aspects of poverty and malnutrition with the areas of their concern.

[15] Perhaps the most well-known example is the Kecamatan Development Program (KDP), but there are many others, starting with the Presidential Funds for Lagging Villages (*Inpres Desa Tertinggal* or *IDT*) in the mid 1990s.

33. It is thus recommended that the Project support a series of mapping and policy workshops in each of the participating districts during the first 6-9 months of implementation. These should be implemented by a qualified NGO knowledgeable in the health and nutrition sector, poverty mapping and participatory planning techniques. The objective would be identify and prioritize sub-areas within the participating districts (at a minimum, as indicated above down to *kecamatan* or *pukesmas* service area level) where poverty, poor diets or related health conditions, or other factors are associated with increased risk of malnutrition.

34. At the community level, it should be clear from the social analysis that improved nutrition through such avenues as fortified food, 6 months of exclusive breastfeeding, iron and Vitamin A supplementation are not exclusively for the poor and vulnerable. However, because these poor and vulnerable are often bypassed or underserved by mainstream programs special attention will need to be paid to maximize their participation and ensure that as few as possible are left out. This will be accomplished primarily by focusing attention on institutions and delivery channels that are most utilized by the poor.

35. Interestingly, here the most important factor differentiating the poor and non-poor lies less in differences in use of public versus private facilities or providers, but rather in the level of services used.[16] The poor, not surprisingly are much more likely to rely on lower level (less expensive) sources, including *puskemas*, *pustu*, *posyandu*, as well as nurses or paramedical personnel operating in a private capacity, while the richer are much more likely to utilize doctors, or facilities such as clinics or hospitals in the case of illness. In addition, of course, the poor are more likely to seek self-treatment or not to undertake any treatment at all.

36. This suggests that reaching the poor should involve both an emphasis on lower level facilities and personnel (from the *puskesmas* on down) as well as an active program of outreach, possibly along with other incentives, to ensure that the poor are effectively included in program activities. Revitalization (or increased support) of *posyandu* as the front-line institution at community level is an important step. But it also requires investment in effective outreach, and a concerted effort to ensure inclusiveness at the local level so that people, often the poorest, are not left out simply because they are relatively more difficult to contact or involve. There is a general view that operational funding for *puskesmas* and *bidan di desa* provided during the crisis under SDSDP and HNSDP did have a positive impact on the ability to maintain, or even expand, outreach to the poor. This is at least supported by the evidence of broadly continuing declines in some key health outcomes, such as the infant mortality rate, during the crisis period. Finally, it requires a mentality among health personnel as well as local non-health leadership, that the poor should be regarded as principal targets and that efforts to identify and focus on the poorer and more vulnerable population within their areas are important in any overall effort to improve community welfare.

37. Local targeting of the poor will always be problematic. There is no such thing as perfect targeting. However, local knowledge remains a powerful tool, and, while imperfect, statistically-based systems such as that put forward by BKKBN or even the recent methodology utilized by BPS to target recipients for the oil subsidy savings can provide useful information. An important step in this latter effort, and that builds on systems introduced in other community development projects, is the introduction of a complaints system so that those people who feel that they have

[16] This is based on SUSENAS data related to the type of treatment sought in case of illness. Thus it refers to curative rather than preventative behavior. But it does provide a view of the nature and levels of contact with the modern medical establishment that is also relevant to dealing with preventative health issues, including those related to nutrition.

been unfairly treated have an avenue for seeking redress. This should be built into the nutrition program, particularly if the program is to include any form of targeted subsidies (e.g. in provision of fortified food) aimed at the poor.

38. More specifically, the Project should encourage, and if possible reward local efforts to improve identification and inclusion of the poor by whatever means are available. Results of the recent 'poverty census' for distribution of oil subsidy savings should be evaluated as a potential means of establishing baseline conditions for measuring performance in terms of project poverty targets/indicators. Levels of community participation in *posyandu* and outreach of nutrition or other health workers either through participation in *posyandu* or through direct contact with target poor households[17] should also be monitored to the extent possible.

39. Finally, at least in some areas, positive, financial, incentives may need to be considered to encourage participation by the poor. These could include such things as small attendance payments (to help cover transport costs, etc.), or, perhaps more likely, tying attendance to access to subsidized food, either in the form of direct feeding for participating women and children or linking *posyandu* or other forms of local 'nutrition' gatherings to sales of affordable nutritious foods to the participants. Other types of incentives such as 'healthy food preparation competitions' with prizes should also be encouraged as long as they work to bring the community together as a basis for implementing more integrated and comprehensive nutrition programs.

40. Urban areas present a particular challenge, largely for the simple reason, that residence patterns and the spatial distribution of poverty is much more complex. Here, the kind of targeting at sub-district (or *Puskesmas* service area) level and strategies that are designed to reach populations in more socially and culturally homogeneous rural areas) may be less effective, where the poor are spread in smaller pockets throughout the urban landscape and are frequently less well-connected to the broader communities in which they reside. While many of the urban poor are migrants and retain ties to family or relatives still residing in areas of origin, many are also urban-born with few or no remaining ties elsewhere. In addition, even among migrants, ideas that they represent a transient population with few ties to the urban economy are often misplaced. Push and pull factors explaining why they came to the city also explain why their preference is often to stay in the city as long as conditions permit. Thus the greater issue for the urban poor often lies in their greater 'invisibility,' both because they are often more difficult to pinpoint within the more complex patterns of urban residence and because of their own fears of authority where they are living under unorganized and often "illegal" conditions.

41. Mobilizing the urban poor under these conditions may well prove to be more difficult than in most rural areas. However, the increased attention being paid to urban poverty and the roles played by a number of NGOs, particularly since the crisis and including in the health sector, suggests that these can be a powerful resource for partnership with health service structures and personnel in mobilizing poor communities and delivering key nutrition services. It is important however, that NGOs not be seen as a substitute, but rather as a complement and support to augment weaknesses in existing knowledge and capacity within the health service itself. The role of NGOs remains somewhat problematic. In practice, they have primarily been involved as implementers of projects (and hence tied to project funding) or as independent activists that value, as much as anything, their independence from government. If NGOs are to be involved as a means of enhancing local empowerment, particularly among the poor, then the Project should also pay attention to nature of possible public-private partnerships and how they

[17] E.g. those with preganant/lactating women and/or under-fives.

could be constructed and regulated in order to provide a sustainable and productive relationship over the longer term and beyond the scope of the Project itself.

42. As a result, no specific targeting models are recommended as local conditions are likely to vary widely. The ultimate goal is to have functioning, community-based systems that are inclusive of the poor, that are empowered to undertake nutrition and related community health initiatives, and that are adequately facilitated and supported by the health establishment and/or by private sector partners such as NGOs.

D. Poverty Strategy

43. The implication of the above analysis is that there are two types of 'poverty' that need to be addressed. First is a 'poverty' of information, service and political will necessary to change nutrition behavior among a relatively large proportion of the population, including, presumably, many who can afford to purchase adequate nutrition on their own. Second is a 'poverty' of access and affordability affecting a smaller proportion of the more absolute poor who need some form of direct assistance in order to meet nutritional needs.

44. The Project will need to address both of these concerns. It should emphasize development of national and regional institutions, policy frameworks, financing mechanisms and activities to raise the level of focus on nutrition within the overall health services nexus at national, regional and local levels. It should also include specific interventions and, where necessary, subsidies to ensure that the poorest households are not left out due to lack of purchasing power.

45. As suggested earlier, the key to this process thus lies in effective outreach combined with incentives that make participation attractive to the target groups. This includes revitalization of *posyandu* (or the establishment of alternative community-based structures where *posyandu* are not feasible), as well as a strategy to revitalize outreach through staff at *puskesmas* as well as through other professional and semi-professional health providers working at community level. These are both elements of the proposed project approach under Component 2.

46. Field evidence (based on visits and data provided by participating districts) suggest that large numbers of local institutions, organizations and personnel (including *posyandu* and *bidan di desa*) are still present. However, the extent of activity and, as has been stressed elsewhere, the priority given to nutrition concerns vary more widely. Training and information remain of critical importance, but careful attention also needs to be paid to levels of financial support necessary to help meet operational costs, particularly where these cannot realistically be expected to be able to be effectively met internally by the institutions or individuals involved. Block grant systems to, among others help support outreach activities, were introduced during the crisis, but their continuation has been problematic in many areas since decentralization when they have reverted to the responsibility of local government. This is also an area of practical concern to the Project.

47. The implication is that while appropriate policies for reaching the poor are reasonably well established in the project design, there are significant risks in implementation unless adequate resources (human and financial) are placed on the effective support of those policies at the grass-roots level. This is the essence of an effective poverty strategy. If the resources and incentives are there, past evidence suggests that improvements can be made.

APPENDIX 12

GENDER ANALYSIS AND ACTION PLAN

A. Background

1. Women are a primary focus of the Project for the simple reason that it is their nutrition (during periods of pregnancy and breastfeeding) and their generally greater responsibilities (as opposed to men) for dietary choice and food preparation as well as decisions on other nutrition-related outcomes for their children that will have greatest impact on project success. More than anything else, this will be determined by the ability of the Project to address conditions surrounding women's ability to provide an adequate diet to themselves and their children as well as to address deficiencies in women's nutrition and nutrition-related knowledge, attitudes and behaviors that lead to negative nutritional outcomes.

2. Lack of knowledge and attention to nutrition can be blamed as a primary cause of nutrition problems in Indonesia, particularly among the poor and vulnerable groups of the population. At the individual level, poor hand washing may cause disease to spread from hands to mouths. As dietary decisions and food preparation in the home is mostly done by women, their lack of knowledge on nutrition matters and the link between nutritious food and good health will impact on the well-being of themselves, their children and other members in the household; for example, placing priority on iron-rich foods from animal sources (egg yolks, chicken and fish) or from leafy vegetables and legumes; or beta-carotene that is found in orange, yellow, red and green fruits and vegetables.

3. At the household level, environmental sanitation and the lack of availability of clean water lead to high morbidity rates that are themselves a cause of nutrition problems. The poor nutrition – poor health linkage goes in both directions. At the community level, at least in some areas, there are dietary restrictions for pregnant women imposed by cultural practices or by the belief that too much eating will result in the delivery of an oversized baby, thus causing women to restrict their food intake.

4. Concepts on what constitutes a good diet are available. Following on the recommendations of the 1992 International Nutritional Congress in Rome encouraging countries to prepare dietary guidelines, the Department of Health released at set of Dietary Guidelines (*Pedoman Umum Gizi Seimbang* or PUGS). These included 13 basic tips on balanced nutrition: (1) consume a variety of foods, (2) consume amounts of food needed to meet energy needs, (3) consume carbohydrates as a source to meet half of energy requirements, (4) limit consumption of fats and oils to a quarter of energy requirements, (5) use iodized salt, (6) consumption of iron-rich foods, (7) breastfeed infants exclusively to 4 months[18] of age and continue this with the addition of complementary foods, (8) eating breakfast every day, (9) drinking clean and safe water in sufficient quantity, (10) doing regular physical activity, (11) avoiding alcoholic beverages, (12) consuming safe and healthy meals, and (13) reading labels when purchasing foods.

5. While there have been developments in strategies to improve nutrition since then, the evidence to date also suggests that even these guidelines have had little impact on effective policies and programs for promoting better long-term nutrition, or nutritional surveillance or national response systems, either at national or at more local levels. For example, delivery of

[18] More recently this was changed to 6 months of exclusive breastfeeding.

nutrition services at the local level through *posyandu* has generally been limited to growth monitoring (weighing) of infants and under-fives and the provision of supplementary feeding.[19] As has been noted in other consultant reports, *posyandu*, which are voluntary operated by members of village women's groups (PKK) widely lack knowledge or training in broader aspects of nutrition.

6. Because of the high involvement of women in nutrition for household members, such as in food preparation and feeding of infants and young children, the Project needs to take special care to ensure that women actively participate and are empowered to take a real ownership of their own and their families' nutritional requirements. Among others, this means actively addressing the difficult challenge of promoting social change where this involves dietary selection, feeding practices or other nutrition-related patterns of behavior that are detrimental to the health of women and their young children.

7. Among others this includes provision of appropriate information, delivered through channels that reach women, and the motivation of key facilitators or opinion leaders to initiate these changes. It also includes paying special attention to those women who are poor and have limited capability to purchase or otherwise provide appropriate food for themselves or their children. Access to appropriate complimentary fortified foods, particularly for under-fives (*makan tambahan anak*) will be particularly important.

8. Policies will also have to take account of different needs at different stages of the life-cycle (something that is already incorporated in the life-cycle approach being taken by the Project). However, they may also need to be sensitive to different living and working conditions faced by women in various environments that impinge on their nutritional needs (e.g. those engaged in manual labor versus office workers or housewives) as well on their ability to manage food provision (e.g. difficulties faced by women in preparing meals at home in urban slums due to crowded living conditions or high cost of fuel). These latter concerns may constitute useful areas for research to see if and/or how they should be accommodated in nutrition policy.

9. Ideally, all levels of government should be committed to eliminate malnutrition. Nutrition policy and program formulation, as well as implementation, needs to be supported by appropriate institutional arrangements at all levels, national and local that directly incorporate women's concerns. Communities, and particularly women within these communities, need to be effectively informed about nutritional risks and empowered to address them, and the private sector needs to understand these concerns and be dealt with as active partners in improving women and child nutritional status.

10. Although women should be the focus of Project activity due to their central role as caregivers, men should not be neglected. In some societies and under certain family conditions, such as widowhood or divorce, men may take on a principal care-giving role within the household. Men, to the degree they influence household budgets and food-buying patterns, also need to be aware of mother and child nutritional needs and to be involved as active partners in ensuring that that these needs are met within the overall constraints of any household budget limitations. Finally, the role of men in various service cadres (e.g. as nutrition workers, nurses or in other outreach activities) as well as the critical role of men in formal leadership and as local opinion leaders needs to be taken into account. In this regard, socialization will need to be carried out that targets men as well as women and, in particular

[19] Supplementary feeding was a major component of crisis health support programs under SSDP and HNSDP. However, since the completion of these loans, it has apparently been terminated in many areas.

seeks to influence male behavior in ways that add benefit to the overall nutritional status in the family and in the broader communities in which they live.

a. Gender Strategy and Action Plan

11. The strategy includes the following general recommendations:

(vi) At the national and regional levels, nutrition policies and strategies should acknowledge and actively incorporate the roles and functions of women in nutrition provision. Policies at present deal with technical and administrative aspects but are largely gender-neutral and thus run the risk of overlooking the significance of women in health and nutrition behavior.

(vii) Specifically this means a pro-active effort to involve and empower women in nutrition decision-making and in the implementation of nutrition programs. Among others this should include:

a. Representation of women (with knowledge and concern for women's issues) on food and nutrition policy bodies at the national and regional levels.

b. Pro-active efforts to recruit and empower (through training, improved access to information and, where necessary financial support) women who can serve as facilitators or opinion leaders in promoting good nutrition and nutrition-related behavior. This includes not only personnel within the official health hierarchy (e.g. nutritionists at district and *puskesmas* level) but also medical and non-medical personnel (*bidan di desa*, traditional birth attendants, PKK and leadership of *posyandu* cadres, etc.) who are in contact with women at the grass-roots level.

(viii) Actively targeting women as both objects and subjects of nutrition programs. As objects this means development of campaign and information materials that are targeted specifically at women and that utilize channels that reach women, particularly those from poor households. As subjects, this means increased understanding of conditions faced by women in, particularly poor women, in different social and economic environments in applying sound nutritional behavior within their families, and tailoring responses to meet their real needs. It also means a focus on approaches that emphasize accessibility and, where necessary, affordability, of key nutrition and nutrition-related services, including, where necessary, appropriate medical intervention.

(ix) Utilize an integrated and life-cycle approach to empower women and communities to deal with nutrition and nutrition-related issues.[20]

[20] The Project, in line with Government nutrition policy has adopted a life-cycle approach to sound nutritional behavior. Under this approach, one starts with education of young (teen age) girls – mothers to be – in appropriate nutritional choices and behavior for themselves, their families and especially their infants and young children. This is followed by interventions targeted at pregnant women, including antenatal check-ups, promotion of weight gain during pregnancy and intake of necessary micro-nutrients. The last stage is then targeted at women as care-givers of infants and young children, including appropriate nutrition and hygiene behavior for the mothers, 6-months exclusive breastfeeding, growth

(x) Involve men, to increase their understanding of nutritional issues and needs affecting key 'at risk' groups within their households and communities and to bring them into more active partnership with women in solving household nutritional problems.

12. The gender action plan will seek to address these concerns by focusing on the effective participation of women, both in their capacity as facilitators and opinion leaders as well as the principal target group in their decision-making role in terms of nutritional behavior within their families. This will be carried out at several levels:

i. Through increased representation of women (including relevant women's organizations) on food and nutrition-related policy-making bodies at national and regional levels.

ii. Through research specifically aimed at women to gain a better understanding of existing practices regarding their own and children's feeding and other nutrition-related behavior.

iii. Through training and empowerment of local service providers and cadres who are mainly women (e.g. *puskesmas* and *Pustu* nutrition personnel, *bidan di desa*, *posyuandu* leadership, etc.); to identify high-risk cases and to more effectively facilitate access to and use of appropriate foods and improved nutrition behavior where it is needed.

iv. Through educational and action programs aimed directly at women (particularly poor women), and, where relevant, at men, in the project areas designed to maximize their participation and to enhance their roles as principal agents of change within their families and in their communities.

b. Gender Strategy and Action Plan – Indicative Priorities and Actions

13. The following table summarizes key priorities and indicative actions that could be implemented under the framework of the Project and that would hopefully maximize relevance and participation of women, particularly poor women, in program activities.

monitoring and provision of appropriate foods and nutritional supplements (including fortified foods) at weaning and through the first 5 years of life and so on to a new generation of women who are now both better educated and, because of their better childhood nutrition at less risk during their own childbearing years.

Gender Action Plan – Indicative Priorities and Proposed Actions

Priorities	Proposed Action
Building a gender sensitive approach to nutrition out-reach and em-powering service providers to deliver effective nutrition services	• Ensure that local health personnel (*puskesmas, pustu,* etc.) are adequately trained in healthy food and nutrition, including balanced nutrition, healthy food preparation, handling and storage. • Train members of the health case service and birth attendants (*bidan di desa*) in communication skills with people at the grass-roots level, gender awareness training including the role of women in food preparation and under-five feeding at the household level. • Promote increased numbers of females in the trained health care service (*puskesmas*) and below to enable better relations with pregnant women and mothers of young children. • Focus on increasing capabilities of grass-roots outreach personnel (nurses at *Pustu, Bidan di desa*) in identification of high-risk cases, nutrition promotion in pregnancy, promotion of exclusive breast feeding and appropriate feeding and nutritional behavior among young children. • Train *posyandu* cadre in appropriate nutritional behavior, including preparation of locally available healthy foods. • Ensure relevance and timely availability of training and promotional materials, including use of local languages, relation to conditions faced by women in access to, affordability, storage and preparation of food, and incorporation of locally available and acceptable nutritious foods wherever possible. • Ensure that materials are developed that address nutritional issues at all life-cycle stages (infants, *balita*, teenagers, reproductive age women, pregnant and lactating women, etc.).
Developing gender-sensitive Interventions at the community level – through information campaigns, community-based organizations and direct contact.	• Improve the knowledge of nutrition especially among women who are managing the supply, preparation and distribution of food for children at the household level through the implementation of nutrition training (balanced and healthy foods) for women, teenagers as potential mothers, and mothers with under 5 year old children. • Improve knowledge of appropriate hygiene through education and provision of public faucets and family latrines. • Undertake nutrition promotion through mass media, particularly TV, with messages developed in entertaining fashion and targeted specifically at women. • Ensure that promotion is sustained over a sufficiently long period to influence behavior. This is particularly important for addressing issues such as extended breastfeeding, appropriate diets, or practices related to hygiene and sanitation.

- Strengthen *posyandu* by ensuring that they are actively attended or facilitated by relevant members of the health service structure or by partner NGOs, including the ability to provide professional advice where conditions (e.g. lack of appropriate weight gain) occur.
- Empower *posyandu* by ensuring that they have suitable equipment (e.g. weighing scales) is available and are effectively utilized.
- Ensure the availability of appropriate fortified complimentary foods (MP-ASI) for under-fives or pregnant/lactating women during operating *posyandu* as well as through local private-sector outlets, and ensure affordability to the poor.
- Support incentives to ensure overall participation such as healthy food competitions, income generation activities, etc., and consider appropriate subsidies in the form of food, small financial incentives for active participation, etc. for poor women in the community.
- Ensure easier access to health services (including those related to nutrition) for poor families by providing health cards and ensuring access to curative services through a functional and affordable referral system.
- Support innovations and incentives to promote active participation by communities and the poor through such things as healthy local food preparation competitions at village level.

APPENDIX 13

INDICATIVE STAFF DEVELOPMENT (TRAINING) PLAN

Positions to be Trained	Training Program	Duration	Location	Numbers Trained
Staff members of the Directorate of Community Health in MOH and the Centre for Nutrition Research, MOA, MONE	Doctorate in Public Health or Nutrition, (from S2 to S3)	3 years	Overseas University	6 6
	Masters degrees in Nutrition, (from S1 to S2).	2 years	University	12 (6 in Dir. and 6 in Res. Centre
	Short Courses	3 months	Overseas	30
	Training of Trainers course for short course provider in nutrition	2 weeks	Pusdiklat	10
Heads of Sub–Dinas, Maternal & Child Health Province & District/City	Short management training program	1 week	Dinas	30
	Leadership training	1 week	Pusdiklat	10
Head of Nutrition Sections, Province and District/City	University degree in Nutrition, D3 to S1/S2	2 years	University	5
	Short management training programme	1 week	Dinas	30
	Training of Trainers course for short course providers in nutrition	2 weeks	Pusdiklat or Bappelkes	20
Nutrition Officers in Provincial and District Health Offices	University degree in Nutrition, D3 to S1	2 years	University	30
	Degree at Academy of Nutrition, D1-D3	2 weeks	Nutrition Academy/University	20

	Training of Trainers course for short course providers in nutrition Training of Trainers course for short course providers in BCC	1 week	Pusdiklat or Bappelkes Dinas or Bappelkes	30 10
Nutrition, nutrition, education, agriculture Officers (Health Centres, PSG)	Degree at Academy of Nutrition, D1 to D3 Degree at Academy of Nutrition, SLTA to D3 Short in-service training course in nutrition (by officers with TOT credit)	2 years 3 years 30 days	Nutrition Academy University Nutrition Academy University Bappelkes or Dinas	85 10 100
Midwives and Nursing Staff at Health centres	Short in-service training course in nutrition (by officers with TOT credit) Short in-service training course in BCC (by officers with TOT) together with NGOs	30 days 1 week	Dinas or *Puskesmas* Dinas or *Puskesmas*	150 150 Excl.NGOs
ommunity Volunteers	Attendance at short training event in nutrition education, agriculture, with possible NGO participation.	1 day	*Puskesmas* or in community	1000

Note: Training program for the 24 districts and 10 cities covered, excluding workshops and seminars

APPENDIX 14

FINANCIAL ANALYSIS

A. Macroeconomic Context

1. After embarking on a radical and rapid decentralization in 2001, Indonesia has been transformed from one of the most centralized countries to a decentralized one. Over the last five years, the country has made remarkable progress in achieving macroeconomic stability, in reducing the economy's vulnerability, and restoring external viability. Growth, however, remains modest at 3.5-4 percent, but the economy is performing better than expected. Real GDP grew 5.1 % in 2004, the fastest since 2001. Overall investments increased 11.3% year-on-year for the first three quarters of 2004, compared to 1.9% in 2003. Over 80% of growth in recent years came from private consumption, which was boosted by declining interest rate and expanding credit; investment has remained at 20% of GDP. Exports have contributed less to growth than in other Asian countries. Inflation slowed to 6.4% at the end of 2004, the exchange rate remains stable, and the central bank reference interest rate has fallen to 7.4%. Market participants have accepted the Government's commitment to encourage higher growth, while pursuing macroeconomic stability, which has aided monetary policy. The budget deficit at the end of 2004 was 1.2% of GDP - only slightly above the target. Subsidies on fuel oil rose to Rp60 trillion in 2004, compared with the budgetary target of Rp14 trillion, effectively equaling development expenditures. To contain the fiscal deficit, the Government raised fuel prices and reduced subsidy payments. The increase in fuel prices, effective 1 March 2005, represents one of the first significant tests of the Government's political will. .

2. Persistent underspending of development expenditures remains a concern. Higher development expenditures is needed to stimulate the economy and improve infrastructure which has deteriorated during the crisis. Despite increased budgeted development expenditures, actual spending has remained well below budget due to delays in budgetary releases. Poverty is still at 16 percent of the population, and a majority of Indonesians earn less than two dollars a day. Increasing Indonesia's investment to GDP ratio is key to the medium term growth prospects of the country. Financing needs would increase in 2005, despite further fiscal consolidation, as debt service increased to about 37 percent of revenue in 2005. The increase in external debt pressures in the coming years means less financial resources for investment. Indonesia thus needs to maintain macroeconomic stability, continue tackling the remaining structural reforms, improving the investment climate, and addressing poor governance.

B. Public Expenditure on Nutrition

3. The Indonesian nutrition sub-sector has three major financing sources: government budgetary allocations, external sources and private expenditures, consisting primarily of out-of-pocket expenditures by household contributions and non-governmental organizations. Independent analyses of budgetary data and surveys indicate that households account for about 68% of total health expenditure while government expenditure and external source comprise about 32% and 3%, respectively. Due to lack of a well-established system of National Health Accounts, the analysis presented is on public sector outlays, donor sources and user fees paid at public facilities. Government funding for nutrition is primarily through budgetary allocations to the Ministry of Health (MOH), fuel compensation fund (BBM) and central government transfers to regional governments. Foreign aid is largely channeled through the government budget. Government resources for nutrition has been constrained to

the other higher priority items, e.g. interest payments as a consequence from both domestic and external debts. During the last decade, public spending on health and nutrition as a share of GDP remains very low by regional and international standards. Indonesia spends less than 1% of GDP, which is less than that spent by the Philippines, Thailand and Cambodia in the region.

4. Public expenditure data on nutrition is mainly allocated to the social welfare, health, & women empowerment sub-sector. Indonesia's increased commitment to public health expenditure was not followed by an increase of development budget allocated to nutrition. In 2003, the proportion of health development expenditure allocated to the nutrition program was around Rp. 78.7 billion, representing 1.6% of health development budget. Nutrition program spending decreased significantly to Rp50.2 billion, or 0.9% of health expenditures.

Table 1: Central Health Development Expenditures Allocated to Nutrition, 1997-2004

	1997	1998	1999	2000	2001	2002	2003	2004
Health								
- Rp. Billion	1,821.8	1,739.7	3,545.7	2,112.9	3,025.3	3,589.9	4,800.3	5,292.1
Nutrition*)								
- Rp. Billion	30.7	66.2	62.8	51.9	55.0	60.8	78.7	50.2
- %	1.7	3.8	1.8	2.5	1.8	1.7	1.6	0.9

Table 2: Central Government Nutrition Expenditure Allocated to Nutrition, 2000-2006 (Rp. Million)

Year	Central	Supplementary Food (MP-ASI)	Deconcentration Funds	Total	Total (w/o MP/ASI)	% Inc/(Dec)
2000	23,295	0	31,705	55,000	55,000	-
2001	18,105	0	36,895	55,000	55,000	-
2002	10,087	0	32,777	42,864	42,864	(22.1)
2003	6,695	120,104	73,058	199,857	79,753	86.1
2004	7,984	120,000	42,000	169,984	49,984	(37.3)
2005	15,000	105,000	55,000	175,000	70,000	40.0
2006	39,000	339,242	204,137	582,379	243,137	247.3
Average						**52.3**

5. The majority of the central government's nutrition budget is allocated to provincial government through deconcentration funding. In 2005, only around Rp. 15.0 billion (9% of Rp. 175 billion of the total central government's nutrition budget) was allocated to central nutrition improvement program, with the remaining funds channeled to provincial governments through de-concentration fund. In general, budget of nutrition improvement program at central level is allocated to: 1) Project administration; 2) technical plan arrangement; 3) transport and delivery; 4) non-medical equipment; 5) IEC material; 6) drug and vaccine; 7) mother and child nutrition improvement program; 8) functional education and technical training; 9) nutrition information dissemination; and 10) monitoring and evaluation. As shown in Table 2, central government allocation for supplementary food (MP-ASI) represented around 60% to 70% of total budgetary expenditure on nutrition. In 2006, government allocation is projected to increase almost threefold to help avert the malnutrition crisis.

6. During the 1998 crisis, the government budget allocated to Social Safety Net (SSN) Program was the subject of the most dramatic Indonesian government budgetary revision. Major reallocations were made to substantially increase the SSN budget. About 55.5% of the development budget or about Rp17.3 trillion was allocated for SSN through four broad categories (food security, public health, social aid, education, employment, and community empowerment) in 17 sectors.

Table 3: Central Government Budget for Social Safety Net (SSN) Program, 1998-2003 (Rp. Billion)

Program	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
1. Food Security	2,300.0	6,000.0	2,200.0	4,800.0	4,600.0	4,800.0
2. Health	2.178.0	1.562.0	1,145.4	469.2	100.9	450.0
3. Social	9.4	12.4	55.0	50.0	0	0
4. Education	1,137.0	2,193.0	1,084.0	876.0	640.0	
5. Employment	2,045.9	411.0	0	0	0	0
6. Community empowerment	1,700.0	450.1	471.7	0	0	0
TOTAL	9,370.3	10,628.5	4,956.1	6,195.2	5,340,9	5,250.0

7. In 2001, the government allocated BBM Compensation Funds for additional SSN fund allocations. From 11.5% of the SSN allocated to health, only Rp9.3 trillion was for SSN schemes; the remaining Rp8.6 trillion was used for supplementary programs. Of the Rp9.3 trillion, around Rp2.18 trillion (23.2%) was allocated to health.

Table 4: BBM Compensation Fund for Social Safety Net (SSN) 2001-2003 (Rp. Billion)

Program	FY 2001	FY 2002	FY 2003
1. Rice for Poor	279.9	500.0	500.0
2. Health	534.1	534.1	500.0
3. Social	0	70.0	135.0
4. Education	814.4	1,298.0	1,828.0
5. Transportation	216.2	190.0	190.0
6. Clean water supply	174.0	130.0	250
7. Economic of community empowerment	162.1	165.0	210.0
TOTAL	2,180.7	1,589.1	1,785.0

8. Social Safety Net (SSN) programs targeted those adversely affected by the economic crisis. In order to reduce the potential of malnutrition, there were three main nutrition activities being implemented as part of SSN Program that are: a) provision of supplementary feeding to children 0 – 24 month of age and anemic mothers; b) revitalizing the integrated community service posts (*posyandu*), and c) revitalizing Nutrition Surveillance System (SKPG). The specific objectives of these activities are to prevent any increase in the prevalence of malnutrition due to the crisis; to reduce the prevalence of low birth weight, malnourished children, and micronutrient deficiencies in children and mothers, particularly iron, vitamin A and zinc; and to educate mothers on good infant feeding practices.

Table 5: Non-Health Department Development Budget Allocated to Nutrition Through Social Safety Net (SSN) Program, 1999-2003 (Rp Bllion)

Program/Department	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
1. Rice for poor - Internal Affair Department and BULOG	2,300.0	6,000.0	2,200.0	4,800.0	4,600.0	4,800.0
2. School supplementary feeding program (PMT-AS) – Inter Department:	414.0	532.0	399.0	0	0	0
3. Supplementary feeding of child at almshouse – Social Department	9.4	12.4	55.0	50.0	0	0

9. In 1998, approximately Rp. 2.3 trillion or 24.35 percent of SSN fund was allocated to the food security program through provision of rice for poor. In the subsequent year, the rice program increased threefold. In 2002, the amount of budget of the rice for poor program decreased becomes Rp 2.2 trillion from SSN fund and Rp. 0.5 trillion BBM Compensation fund. However, both the amount and proportion of the rice for poor program there was an increase in the following years and relatively stable time to time.

Table 6: Non-Health Department Development Budget Allocated to Nutrition BBM Compensation Fund - 2000-2003 (Rp Billion)

Program	FY 2001	FY 2002	FY 2003
1. Rice for poor - Internal Affair Department and BULOG	279.9	500.0	500.0
2. Supplementary feeding of child at almshouse - Social Department	0	70.0	135.0

C. Issues and Constraints

10. *Low Public Spending on Nutrition* – for the period 1995-2005[1], public expenditure on health and nutrition has been less than 1% of GDP and about 3% of government expenditures (comparatively the lowest in the region). In constant terms, per capita health and nutrition expenditure increased slightly from $5.5 in 1995 to %5.9 in 2002. During the same period, the realization rate of government budget (APBN) ranged from 38% to 89%, while external sources averaged at about 75%. Under Law 32, regional governments have the final responsibility and authority to determine the allocation of resources across sectors. Hence, there is substantial variation in the level of nutrition spending among the regional governments. Nutrition is estimated to be about 25% of total public health expenditure at central level. The chronically low funding of public health services has affected service quality and effectiveness, which in turn have had an impact on the use of public nutrition services and the nutrition status of the population.

11. *Information and Budgetary Systems* – Actual trends in central and regional government health accounts are difficult to obtain. The current health information system is fragmented and aggregated. There is multiplicity of data, oftentimes there are disparities between information from the line ministries. Decentralization effectively devolved the budgeting and management of most public expenditures, without the necessary mechanisms to monitor how districts spent their funds. Hence, District Health Accounts report allocations and not realizations. Systematic

[1] Source: Public Health Expenditure Review, 2004, Institute of Policy Studies.

and consistent measurement of the level, composition and distribution of health spending is hampered by weak, fragmented expenditure tracking and reporting procedures, which have been further weakened by decentralization. Comprehensiveness and transparency of budgetary data is poor. A critical feature is the lack of program budgeting. Available data do not permit a systematic analysis between allocations and realizations at the local level, owing partly to the lack of a centralized financial accounting system to monitor actual spending. There is a lack of clarity over central regulations governing the use of decentralized funds. Accountability is weak, as financial expenditures are not linked to expected outcomes nor analyzed to assess whether funds are efficiently expended, and complicated by the limited jurisdiction of each auditing agency. There is little review of overall program management and efficiency in the delivery of health services. A unified system of accounting has taken effect in 2005, whereby routine and development budgets are integrated and program-based budgeting is in place.

12. *Deconcentration Funds* – At present, funds flow to the local governments through the deconcentration funds (province) and tugas perbantuan (districts). After decentralization, Project loan funds could flow through to local governments through the deconcentration funds, tugas perbantuan, and block grant mechanisms. However, the transparency and effectiveness of the deconcentration funds have been questioned. Data has been very difficult to track and uncertainties of definitions of expenditure assignments and limited articulation of programs and activities within central budgets have made it possible for some central ministries to retain a continued involvement in what should be decentralized functions. The Government has prepared a draft National Action Plan for Fiscal Decentralization (NAPFD) 2005-2009. The plan provides a framework that will improve the efficiency and equity of central financial flows to the regions and to support the regions manage their finances more effectively. The new government regulation on deconcentration and assistance funds is expected to phase out non legitimate deconcentration funds to be replaced by targeted DAK Grants to improve currently weak coordination arrangements.

D. Fiscal Impact

13. The Project comprises investment and institutional development components. Financial rate of return is not calculated since investment is on promotive and preventive services. This is considered as core poverty reduction[2] and user charges will not be applied in the investment Project. Hence, cost recovery is not essential factor in the Project design. The financial analysis focuses on the fiscal impact of the Project on central and local government budgets. Sustainability analysis of funding for Project activities beyond the closing date is also presented.

1. Financial Sustainability

14. Government nutrition expenditure is low by international standards. Chronically low funding of public nutrition services has affected service quality and effectiveness, which in turn have had an impact on the use of public nutrition services and the nutrition status of the population. At central and local levels, health allocations are only about two to eight percent of local health budgets[3] with only 25% of the health budgets allocated to nutrition. Although there have been substantial increases in government allocations in recent years to help avert the impact of the

[2] 9 provinces have been primarily selected based on poverty and nutrition indicators, and low fiscal capacity based on 2003 data.
[3] World Bank, Project Appraisal Document, Health Workforce and Services Project, April 2, 2003.

economic crisis, these have been largely for supplementary and complementary feeding. It is expected that significant efficiency gains can be realized through the systemic reforms proposed under the Project. Better public-private partnership also will get the private sector more involved in health care financing, managed care and other reforms.

2. Fiscal Impact

15. About 30% of the Project will be financed by the Government proposed as on-granting to local governments. The total financial cost of the Project, inclusive of taxes, duties, contingencies and interest charges, is $71.4 million. From the total Project cost, the Government will finance about $21.4 million of the total Project cost. The Government's annual share in Project costs will average around $3.6 million during the six-year Project period. The recurrent costs to be borne by the Government during the Project are estimated to be about $0.4 million per year and include: (i) the operating expenses related to infrastructure development, and (ii) Project running costs. Fiscal impact analysis was done to evaluate the impact of the Project on the local government budget. Based on Project disbursements, Projections were made to assess the annual nutrition expenditure as a result of the incremental Project investment so that the Government is presented with clear funding commitment. Currently, in the nine provinces supported by the Project, there is a wide variation both within and across provinces in nutrition spending.

16. The Project will provide funds to districts and provinces to help achieve improved nutrition status particularly among at risk groups. The Project will have minimal impact on central budgetary resources (health and non-health) as these represent an average of about 21,6% of government allocations during the Project years. (Table 7) In order to make substantial impact on key nutrition indicators, it is essential that local spending for nutrition be increased during Project implementation in order to sustain and deepen Project benefits.and sustained particularly after the Project implementation. Although the costs of the reforms are one time costs, local government commitment will have to be obtained to ensure sustainability of the reforms and maintain the improved nutrition services. Resource mobilization mechanisms should be explored through community mobilization/empowerment and public-private partnerships.

17. The Project is designed to minimize recurrent cost implications for the Government and the community. The improvement of the quality and management support systems in the Project is intended to improve the internal efficiency of nutrition service delivery system. With increased fiscal autonomy of local governments, sustainability is being ensured by commitment of the local community to operate and maintain the proposed reforms and revitalization efforts.

Table 1: Fiscal Impact
Actual and Projected, 2005 - 2015

Basic Data	Planned					Project Years							After Project				
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2006-2011	2009	2010	2011	2012	2013-15
GDP (Rp Trillion)	1,491	1,685	2,025	1,999	2,561	2,674	2,792	2,916	3,044	3,179	3,319	17,924	3,466	18,716	3,619	19,543	45,344
GDP Growth Rate (% constant)	3.8	4.3	4.5	4.7	4.8	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Total Government Budget (Rp Trillion)	353	344	371	374	398	415	434	453	473	494	516	2,784	538	2,907	562	3,036	7,044
Annual Health and Nutrition Budget from :																	
- Health Sector (Rp Trillion)	4.672	4.494	6.075	5.665	6.232	6.855	7.540	8.294	9.124	10.036	11.039	52.888	12.143	13.358	14.694	16.163	56.358
- Non-Health Sector / SSN / BBM Compenzation (Rp Trillion)	5.080	5.100	5.300	5.830	6.413	7.054	7.760	8.536	9.389	10.328	11.361	54.428	12.497	13.747	15.122	16.634	57.999
- Health and Non-Health Sector (Rp Trillion)	9.752	9.594	11.375	11.495	12.645	13.909	15.300	16.830	18.513	20.364	22.401	107.316	24.641	27.105	29.815	32.797	114.357
Annual Nutrition Budget from:																	
- Health Sector (Rp Trillion)	0.600	0.678	0.922	1.014	1.116	1.227	1.350	1.485	1.633	1.797	1.976	9.468	2.174	2.391	2.631	2.894	10.090
- Non-Health Sector / SSN / BBM Compenzation (Rp Trillion)	5.080	5.100	5.300	5.830	6.413	7.054	7.760	8.536	9.389	10.328	11.361	54.428	12.497	13.747	15.122	16.634	57.999
- Health and Non-Health Sector (Rp Trillion)	5.680	5.778	6.222	6.844	7.529	8.281	9.110	10.021	11.023	12.125	13.337	63.897	14.671	16.138	17.752	19.527	68.089
UNP Finance Plan :																	
In Million US$																	
- ADB	-	-	-	-	-	3.1	10.1	14.4	13.1	7.2	2.2	50.0	-	-	-	-	-
- GOI	-	-	-	-	-	1.3	4.3	6.1	5.6	3.1	0.9	21.4	1.8	1.8	1.8	1.8	7.1
- Total	-	-	-	-	-	4.4	14.4	20.5	18.7	10.3	3.1	71.4	1.8	1.8	1.8	1.8	7.1
In Billion Rupiah:																	
- ADB	-	-	-	-	-	29.6	96.8	137.8	125.7	69.2	20.8	480.0	-	-	-	-	-
- GOI	-	-	-	-	-	12.7	41.4	59.0	53.8	29.6	8.9	205.4	17.0	17.0	17.0	17.0	68.2
- Total	-	-	-	-	-	42.2	138.2	196.8	179.5	98.9	29.8	685.4	17.0	17.0	17.0	17.0	68.2
Government Share in UNP on:																	
- Investment Costs (Rp Billion)	-	-	-	-	-	7.2	23.4	33.4	30.4	16.8	5.0	116.2	-	-	-	-	-
- Recurrent Costs (Rp Billion)	-	-	-	-	-	1.4	4.5	6.3	5.8	3.2	1.0	22.1	17.0	17.0	17.0	17.0	68.2
- Investment + Recurrent Costs (Rp Billion)	-	-	-	-	-	8.5	27.9	39.7	36.2	19.9	6.0	138.2	17.0	17.0	17.0	17.0	68.2
UNP Impact on Health and Nutrition Budget from:																	
Total Annual Budget (%)	-	-	-	-	-	0.003	0.010	0.013	0.011	0.006	0.002	0.007	0.003	0.001	0.003	0.001	0.001
Annual Health and Nutrition Budget from:	-	-	-	-	-												
- Health Sector (%)	-	-	-	-	-	0.124	0.370	0.479	0.397	0.199	0.054	0.261	0.140	0.128	0.116	0.105	0.121
- Non-Health Sector / SSN / BBM Compenzation (%)	-	-	-	-	-	0.121	0.359	0.465	0.386	0.193	0.053	0.254	0.136	0.124	0.113	0.103	0.118
- Health and Non-Health Sector (%)	-	-	-	-	-	0.061	0.182	0.236	0.196	0.098	0.027	0.129	0.069	0.063	0.057	0.052	0.060
Annual Nutrition Budget from:	-	-	-	-	-												
- Health Sector (%)	-	-	-	-	-	0.694	2.065	2.673	2.217	1.110	0.304	1.460	0.784	0.713	0.648	0.589	0.676
- Non-Health Sector / SSN / BBM Compenzation (%)	-	-	-	-	-	0.121	0.359	0.465	0.386	0.193	0.053	0.254	0.136	0.124	0.113	0.103	0.118
- Health and Non-Health Sector	-	-	-	-	-	0.103	0.306	0.396	0.328	0.164	0.045	0.216	0.116	0.106	0.096	0.087	0.100

1. Ministry of Finance , Minstry of Health, and Bapenas data.

2. 2006-2015 PPTA estimates with key assumptions

APPENDIX 15

ECONOMIC ANALYSIS

1. The purpose of the Project is to raise awareness across all levels of society about the critical role that good nutrition plays in a healthy and productive life. It aims to challenge apparent recent stagnation or even decline in nutrition progress in Indonesia, to address new emerging challenges related to changing lifestyles, particularly in urban areas, and, ultimately, to help in moving Indonesia toward achievement of established national and international nutrition goals (MDG). To accomplish this, the Project seeks to address nutritional opportunities across a range of sectors and at a variety of levels – through strengthening institutional structures at national, regional and local levels to more effectively deal with food and nutritional issues in an integrated and comprehensive manner and through supporting developments in both hardware (e.g. food fortification, safe water and sanitation) and software (e.g. knowledge of appropriate nutrition and hygiene behavior) that will both provide the means and increase underlying demand (including willingness to pay) for improved nutrition at both household and community levels.

2. Although good nutrition is recognized as an issue for all members of the population, the Project will focus on sub-groups that are known to be at greatest risk and where poor nutrition is known to carry the most severe implications for future generations. These include under-five children, pregnant and lactating women and, more generally women of reproductive age. Malnourished under-fives are both at greater risk of contracting life-threatening infectious disease and of suffering cognitive deficiencies that will affect their ability to become productive members of society in later life. Malnourishment and poor nutritional behavior among mothers also directly impacts on nutritional performance of their children. In addition, the Project will target school children as a means of sustaining child nutrition and of instilling sound patterns of nutritional behavior in the next generation. Within these groups the Project will place special emphasis on persons and households in lower income groups (here roughly defined as those in the bottom two per-capita household expenditure quintiles)1 as these are known to be at particular risk.

3. The analysis was aimed to assess the costs and impacts of an optimal design of food and nutrition services through integrated food and nutrition package as main component of the project. While optimal implementation of the intervention package is a priority, actual implementation and coverage of programs may differ greatly from framework stated in the project planning documents. Because of the paucity of information on program effectiveness, the effectiveness estimates based on judgments and opinions of health professionals, using supporting information from pilot studies. Some of the figures refer to efficacy rates under ideal conditions, whereas, others take into account community effectiveness[2].

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[1] This is a broader target than simply using population below the official poverty line (ca. 17% in 2004). However it is designed to take account of the large numbers who exist above, but very close to, the poverty line (near-poor) and for whom behavior and nutritional outcomes are often little different from their 'officially' poor cousins.

2 Community effectiveness represents how well an intervention improves nutritional status within the beneficiaries, which is a function of participation rate of the project beneficiaries. For this analysis, effectiveness of this food nutrition intervention will be derived in the following manner: percent impact targeted = efficacy rate x participation rate.

b. Key Assumptions

4. Although the project will be implemented only for six years, in the economic analysis assumed that the project will maintains health benefits up to 20 years in the future[3]. Consequently, it will require extensive infrastructure development which is not available or cost-ineffective compared to other strategies requiring fewer inputs at the present time.

5. The approach to an economic analysis for a food and nutrition Project does not differ greatly from an economic analysis of Projects in other sectors. The approach, the data requirements, and the complexities of the analysis are similar. An economic analysis should therefore be a standard requirement in the documentation and justification of the Project proposal. Some of the important assumptions and justifications used in this Project economic analysis presented in Table 1.

Table 1: The Main Assumptions Used in the Economic Analysis of the Project

Parameters	Values and Notes
Tradable Good Cost (%)	27 %
Shadow Exchange Rate Factor (SERF)	1.11
Maintenance Cost	0.5 % of Civil Work and 2% of Equipment
Mortaility PAR Due To Malnutrition (%)	PAR = 0.87 + 1.42*Prevalence–0.0075*Prevalence^2 (Pelletier et al, 1994 at Horton Susan ,1999)
Morbidity PAR Due To Malnutrition (%)	PAR = [(Prevalence*(RR–1))/(1+(Prevalence*(RR–1))] where Realtive Risk (RR) = 1.16 (Blössner, et al, 2005).
Pro Poor Project Covered	15–30 %, based at the poperty rate at the respective province with minimum coverage 15% if poverty rate below 15%
Average Clinic Attendance	1.90 times/person/year (A. Gani, 2005).
Cost of A Clinic Attendance	$1.56 per Attendance (A. Gani, 2005).
Average Hospital Admission	0.03 Times/Person/Year (A. Gani, 2005).
Average Duration of Hospitalization	4.7– 6.5 days per times, assumed as Average Duration of Illness (Human Development Report of Indonesia,2004)
Cost of Hospitalization	$15.63 per One–Day (A. Gani, 2005).
Project Efficacy	Year 1 (0%), Year 2 (10-30%), Year 3 (20-40%), Year 4 (40-70%), Year 5 (60-90%), Year 6 (55-80%, Year 7-20 (50-75%)
Project Participation Rate	Year 1 (0%), Year 2 (10-30%), Year 3 (20-50%), Year 4 (40-70%), Year 5 (70-90%), Year 6 (60-80%), Year 7-20 (40-70%)

[3] The literature provides some guidance on the size and duration of investments required. Since the investments have greatest effect on infants and young children, the main payoffs in productivity benefits will take 15-20 years to appear, although the benefits in decreased mortality should be seen within the first few years (Susan Horton, 1999).

6. The Project is designed to direct a disproportionate amount of the benefits to the poorer segments of the population. By strengthening nutrition services, the Project is expected to improve access to quality nutrition services for undernourished children under five belonging to poor families in the Project areas. For purposes of this analysis and based on existing evidence, it is assumed that during the first year of Project implementation, the total number of poor under-nourished under five children belong to poor that will be covered by the Project will involve around 161.7 thousand beneficiaries as presented in Table 2 bellow.

Table 2: Estimation Number of Undernourished Children Under Five Targeted as Main Project Beneficiaries.

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Popula-tion	314,585	296,343	583,250	667,184	189,866	200,629	315,323	166,204	2,733,386
Under-nourished	98,874	91,244	158,002	160,258	74,314	62,095	107,620	64,487	816,894
Benefi-ciaries	16,366	20,347	26,152	26,526	12,300	10,278	29,918	19,798	161,685

7. The Project supports the Indonesian health system's efforts to improve the nutrition status of the population. Some of the economic benefits of the Project are quantifiable in economic terms and these may be broadly divided into two categories - namely: productivity gains and resource cost savings. Productivity gains are the result of the future lives lost that would have otherwise been utilized in some economic activity. Future productivity losses occur due to the death of a potential worker. The analysis was carried out in constant 2005 prices, with a domestic price numeraire. Economic value of the project costs were calculated based on the estimated project costs. Incremental recurrent costs were estimated at about 0.5% of civil works costs and 3% of component costs. Tradable goods of capital were adjusted by a shadow exchange rate factor (SERF) of 1.11 with a proportion of tradable goods at about 35% of Project costs. Based on these assumptions, total economic value of the project costs was estimated around 71.8 million dollars.

c. Cost-Effectiveness Analysis

8. Cost Effectiveness Analysis (CEA) is one of the economic methods that can be used to evaluate health and nutrition services. This analysis was calculated using a measure of cost effectiveness based on cost per death averted. The total present values of both costs and benefits have been calculated and discounted to the future at 3%, which is the usual rate for investments in the social sector.

9. As shown in Table 3 above, the Project cost effectiveness based on a cost per death averted is estimated to range from around $713 to $1.409 per death averted at Project province level and to be around $1.010 per death averted at all Project provinces combined. Based on the data above, the Project in West Nusa Tenggara Province was estimated to provide for the most cost effective intervention in term of cost per death averted with a cost of $713.

Table 3: Total Cost, Deaths Averted and Cost Effectiveness (CE) of the Project.

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Cost ('000 U$)	7,621	6,956	13,367	15,828	4,470	4,836	7,527	3,988	64,594
Death Averted	4,892	5,903	13,612	11,424	3,955	3,975	9,168	3,923	57,571
CE ($)	1,558	1,178	982	1,386	1,130	1,217	821	1,017	1,122

d. Benefit-Cost Analysis

10. The economic benefits of the project as a health and nutrition project can be identified and valued, so it is possible to subject the Project to a full cost–benefit analysis in which the values of health benefits are compared with project costs. Three criteria are commonly used to aggregate and compare benefits and costs: (i) economic Net Present Value (NPV), (ii) economic Benefit–Cost ratio (BCR), and (iii) Economic Internal Rate of Return (EIRR). However, it has been the standard practice for ADB to use the EIRR criterion because not all investment opportunities are evaluated together and compared in terms of economic net present value. Thus, the EIRR ensures that the Project creates net benefits that are at a minimum in excess of a discount rate representing the next best alternative project in the economy.[4]

11. The general framework for calculating the EIRR of the Project are as follows: (i) determination of the appropriate price numeraire, where the domestic price is used as numeraire as most benefits and costs are non-tradable; (ii) identification and valuation of economic benefits of the Project in terms of productivity gains and health care costs savings that are expected to be realized as well as economic costs to be invested and spent over the life of the project benefits; (iii) calculation of net annual economic benefits and benefit cost ratio; and (iv) calculation of the economic internal rate of return (EIRR) from the net economic benefit stream5. Based on the analyses, which is summarized in Table 5, the Project is deemed economically viable.

12. The economic benefits of the Project have been estimated based on productivity gains and resource cost savings. In calculating the economic internal rate of return (EIRR) for the Project, the present values of both the costs and the benefits have been calculated using a discount rate of 12 percent. As presented in Table 3, the Net Benefit-Cost Ratio (BCR) of the Project ranges from 2.6 to 4.2 among the Project provinces, and averages about 3.0 for the entire Project. The resulting EIRR for the Project areas ranges from 22 percent to 38.8 percent, with an average of 26.0 percent for the entire Project. The data presented in the Table 4 provides the estimated economic value of the Project costs.

[4] ADB's hurdle rate is 12 percent.

[5] Economic analysis of the project was carried out in constant 2005 prices, with domestic prices used as numeraire. The economic value of the project benefits and costs was calculated based on the annual project cost disbursement. Incremental recurrent cost was estimated at about 0.8% of civil work costs and 3% of component costs. Tradable goods of capital were adjusted by a shadow exchange rate factor (SERF) of 1.11 with tradable goods assumed at about 27% of project costs.

Table 4: The Project Benefit Cost Ratio (BCR) and Economic Internal of Return (EIRR)

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Benefit ('000 $)	14,954	15,185	24,437	31,500	9,505	8,968	21,877	9,056	135,482
Cost ('000 $)	5,777	5,273	10,134	11,999	3,389	3,666	5,706	3,024	48,968
NPV	9,176	9,911	14,304	19,502	6,116	5,302	16,171	6,032	86,514
BCR	2.6	2.9	2.4	2.6	2.8	2.4	3.8	3.0	2.8
EIRR	24.5	27.3	21.1	25.8	26.4	22.2	39.3	29.0	26.6

13. Based on the sensitivity analysis of the Project EIRR to changes in Project coverage, efficacy, and participation rates, even with the most pessimistic scenario assumption (under a scenario assuming that the efficacy of the Project is lower than expected), the Project still has a positive total EIRR of about 15.3% as presented in Table 5. The economic benefits that health Projects are expected to generate will be realized only if the Project is sustainable over its lifetime. The key issues regarding sustainability are the institutional and financial capacity of the government to ensure that staff has the skills and training to operate, maintain, and administer the Project, and that financial resources are available to fund the recurrent costs that will be incurred in the future.

APPENDIX 16

ENVIRONMENTAL ANALYSIS

A. Introduction

1. The Urban Nutrition Project has been classified as a Category B Project under the ADB's Environmental Assessment Requirements (March 2003). As is noted by the ADB:

> *Category B Projects are those that are "judged to have some adverse environmental impacts but of lesser degree and/or significant than those for Category A Projects. An initial environmental examination (IEE) is required to determine whether or not significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment reports."*

2. The Initial Environmental Examination (IEE) that is required for Category B Projects aims to: (i) assess the environmental impacts caused by the Project in accordance with ADB's requirements for Technical Assistance (TA) Projects; (ii) where appropriate, to propose options to mitigate impacts, or improve environmental management in relation to the objectives of the Project; (iii) recommend design measures to manage or mitigate these impacts, and institutional measures to support them, and (iv) identify steps required for ADB and the Indonesian environmental approval process to implement such measures

B. General Environmental Conditions

3. The Project has been designed to address the high prevalence of malnutrition in children and the current nutrition crisis. It seeks to support activities leading to significant reductions in the prevalence of underweight children under 5 years of age, in iron deficiency anemia among children and pregnant and lactating women, and chronic energy deficiency among poor women of reproductive age between 2005 and 2009. The Project is planned to cover 8 provinces, including 8 urban locations (cities) and 24 more rural districts in East Nusa Tenggara, West Nusa Tenggara, West Kalimantan, South Sulawesi, North Sumatra, South Sumatera, Jakarta, West Java and Banten.

4. The provinces and districts to be covered under the Project all have a tropical climate, with distinct dry and wet seasons. The temperature varies between 28°C– 32°C. The wind direction changes every 6 months. During the wet season from September to February on the south side of the equator the wind direction is from the west to east and during the dry season (March to August) it is from east to west.

5. There are however, significant differences in the social and economic conditions as well as in the availability of basic social and economic infrastructure between these areas. The Project will cover 9 cities, including densely populated slum areas, as well as 24 more rural districts (regencies or *kabupaten*) that range from fairly intense development (including non-agricultural activity) as in parts of the Project areas in West Java and Banten, to more isolated regions characterized by low overall population densities and scattered agrarian settlements. Environmental risks can thus also be expected to vary, although the question for the IEE is not necessarily to explore the variation in great detail, but rather if this variation is sufficient to produce significant impacts warranting a full EIA in any of the Project locations.

C. Potential Project Impacts

6. Even with the variations noted above, overall the Project is expected to have only limited potential for adverse environmental impact. Two of the components dealing with institutional development and food fortification will have no significant environmental implications. The Integrated Family Nutrition component will support a range of nutrition and nutrition related activities through a system of locally-developed and targeted grants, most of which are also expected to carry no significant environmental risk.

7. The Family Nutrition component will support some civil works, most notably repair or renovation of *puskesmas* where this is required to support more effective out-reach and facilitation of nutrition interventions at community level. In addition there is a sub-component, where demanded, for water and sanitation improvement in local food markets and in schools, although funding in the latter case for the actual capital expenditures required will be expected to come from non-Project sources.

8. An IEE of the Project, and particularly of the water and sanitation sub-component has been carried out based on the proposed designs and coverage of Project activities, information obtained from the earlier Urban Nutrition AOTA and results of field visits to the proposed Project locations. The work of the AOTA, in particular has included surveys, group discussions and studies on POKMAIR (water users groups). Public consultation has been an inherent part of the overall planning process and is basic to the Project framework. Implementation of these sub-components under the Project will be based on a bottom-up process and on the principle that the participating districts and communities will play the major role in developing their own water and sanitation solutions within the structure of the overall Project design.

D. Conclusions and Recommendations

9. Based on results of the above work, it has been concluded that environmental risks are likely to be minimal and that the IEE will be sufficient and that further specific studies or UKL (Environmental Management Plans) and/or UPL (Environmental Monitoring Plans) should not be necessary as a basis for Project approval. First of all, activities under the Project, including those involving water and sanitation are expected to lead to an increase in awareness related to environmental risks posed by poor nutritional, sanitation and hygiene behavior and hence to an increased demand for facilities and services that are environmental sound and sustainable. Second, individual installations (e.g. market or school water systems) will be generally very small and simple in terms of scale and technology and easily manageable by relevant local agencies and personnel. Finally, there is a wide range of experience that can be drawn on from past and ongoing community-based water and sanitation programs that can be used to ensure sound environmental practice.

10. Well designed and well operated facilities should lead to net environmental gains so that mitigation measures should be developed that keeps this aspect in mind. Mitigation of potential adverse environmental consequences should include the following:

(i) Providing for qualified technical review of designs proposed by participating communities, particularly regarding appropriate drainage for sanitary wastewater removal;

(ii) Ensuring that activity choices and locations of water Projects are relevant to the poor in both urban and rural areas.

(iii) Providing for follow-up studies, as needed, during detailed planning to provide more concrete, locally-specific information regarding numbers, types, locations, etc. for such water and sanitation facilities under specific environmental conditions.

(iv) Making sure that there is adequate provision for monitoring and evaluation to ensure sustainability through the established facilities of district health officers, BTLK/BLK and BAPPELDA. The AOTA recommended the District/City Health Officer as the responsible institution for drinking water quality and waste water drainage system surveillance, as well as being responsible for community involvement and participation through the POKMAIR. On the other and, it recommended that the nearest BTLK/BLK be the responsible institution of water quality analysis – including physical, chemical and micro-biological aspects.

(v) Providing for adequate outreach and BCC activities to reinforce appropriate sanitation and hygiene behavior, particularly among the poor and in crowed urban slum environments. Studies elsewhere have conclusively proved the degree to which education, socialization and increased demand at the household and community level are critical to whether or not facilities are appropriately utilized and maintained.

(vi) Keeping provision for more in-depth environmental analysis and planning (e.g. implementation fo UKL and UPL) in specific cases – likely to be very few – where larger-scale or more technologically sophisticated solutions are required.

Ensuring that these provisions noted in this environmental statement and monitoring plan are followed and incorporated into the Project in terms of policies and technical assistance and, in particular, that relevant training and capacity building can be made available to those who need it, at all levels.

APPENDIX 17

LAND ACQUISITION AND RESETTLEMENT

Introduction

1. ADB resettlement policy is designed to ensure that acquisition of land or other assets as a result of Project activities are adequately compensated and that there is no long-term loss of livelihood as a result of such acquisition. More specifically, ADB policy states:

> *Resettlement will be significant where 200 or more people experience major impacts. Major impacts are defined as involving affected people being physically displaced from housing and/or having 10% or more of their productive, income generating assets lost.*
>
> *"Involuntary resettlement" addresses social and economic impacts that are permanent or temporary and are (i) caused by acquisition of land and other fixed assets, (ii) by change in the use of land, or (iii) restrictions imposed on land as a result of ADB operations.*

2. Where resettlement is significant, ADB requires the preparation of a full Land Acquisition and Resettlement Plan (LARP) that must be approved by the ADB before land clearance and construction can commence. Smaller numbers of Affected Persons (APs) can be dealt with by an abbreviated plan that demonstrates that social and economic impacts according to ADB standards have been adequately addressed.

3. GOI has its own policy on land acquisition that was recently revised as a new Presidential Regulation No. 36, 2005. This policy supercedes the previous policy under Presidential Regulation No. 55, 1993. The new policy has accepted that replacement value of land and crops be interpreted as market value as well as taking into account the NJOP or tax value of the land and replacement prices of crops as established by relevant local government departments. The main point of departure from the ADB policy is a new provision where there may be an extended period of negotiation for concerning land required for a public purpose. The provision allows a Project for "public need" to proceed to implementation even if private landowners in the dispute have not reached agreement as to land value. The provision cannot be enacted until various statutory time limits have been exceeded for coming to agreement. This provision has been enacted in order to overcome excessive Project delays that have occurred in public Projects due to extended land acquisition negotiations and subsequent legal proceedings.

B. Scope of Land Acquisition under the Project

4. Delineation of any land acquisition and resettlement impacts will not be known until at least the first year of loan implementation when activities related to local implementation of the Integrated Family Nutrition Improvement component of the Project are more clearly defined. Although detailed surveys have not been carried out, it is expected that virtually all of capital expenditure under the Project will relate to procurement of equipment and, in some cases, rehabilitation or renovation of existing facilities to support Project activities. In particular this will include funding for necessary rehabilitation/renovation of *puskesmas* under Component 1 of proposed Project activities.[1] However, it is anticipated that all, or nearly all, of this will relate to land that is already owned by government and is not subject to any conflicting claims and that

[1] The current design allocates less than 10% of total expenditure to this activity.

needs to acquire any new land (public or private) will be minimal. Facilities at community level will be contributed by the community and ownership will remain in community hands. Thus, it is anticipated that any new land acquisition under the Project will be minimal and that in no cases will involuntary resettlement be required.

5. Based on this, a separate Summary Land Acquisition and Resettlement Framework has not been prepared for this Project. However, should any Project activities require private land or asset acquisition, this will be clearly noted in Project reports and sufficient justification will be provided (in the form of an abbreviated land acquisition and resettlement statement meeting conditions outlined in paragraph 2) that social and economic impacts according to ADB standards have been adequately addressed. In this case, justification will be based on the following principles that are consistent with both GOI and ADB policies:

- Negative impacts will be minimized as much as possible;
- Resettlement and compensation will be carried out to improve or at least restore the pre-Project living standards of affected people.
- Affected Persons will be thoroughly informed and consulted regarding compensation options and resettlement design;
- Compensation and resettlement subsidies will be provided in full prior to land clearance and initiation of any capital works.

6. Procedures for any land acquisition and resettlement will follow those outlined in the most recent GOI regulations (PR 36/2005) with the provision that the policies noted in the preceding paragraph will be met to the satisfaction of both Government and the ADB.

APPENDIX 18

INDIGENOUS PEOPLES DEVELOPMENT FRAMEWORK

C. Background

1. Given the broad geographic extent and wide variation in the existence and nature of indigenous peoples in the Project (9 provinces and 34 districts) a detailed assessment of the impact of the proposed Project on Indigenous Peoples (IPs) has not been carried out. Under this Project, Indigenous Peoples issues will be dealt with on a sub-Project basis as part of the proposals or plans to be developed and submitted by local governments (province/district level) for assistance. However, the following general points can be made that provide the background for the Indigenous Peoples Policy Framework (IPPF) for the Project contained in this appendix.

(i) There are significant concentrations of populations meeting accepted (ADB) criteria for identification of IPs in a number of the proposed Project locations. Thus an IPPF for the Project is required.

(ii) None of the proposed Project interventions (related to the delivery of improved nutrition services) carry negative implications or imply impact on IPs. If they can be effectively reached and served, benefits reflected in improved nutrition and health conditions should accrue to IPs in the same way as to the rest of the population. Thus it is not anticipated that full stand-alone Indigenous Peoples Development Plans (IPDP) will be required related to any of the Project activities, even in areas with significant concentrations of IPs.

(iii) Principal risks for IPs are seen to lie in specific socio-cultural or other conditions (e.g. isolation) that may make them more difficult to reach or that may require specific culturally-sensitive approaches to implementation, especially at community level. To address this concern, all sub-Projects (e.g. proposals or plans prepared by local governments) will include an Indigenous Peoples Identification Assessment (IPIA) as part of an overall Summary Poverty Reduction and Social Strategy (SPRSS) that will be prepared for each sub-Project. This will include an overall assessment of the existence of and potential risks faced by any groups of IPs. Where it is assessed that there is a risk that more standard interventions may not bring intended benefits to affected IPs within a specific plan, then an Indigenous Peoples Action Plan (IPA) will be prepared outlining steps to be taken to ensure adequate levels of involvement as part of the sub-Project development.

D. Overall Policy on Indigenous Peoples

2. ADB's policy on indigenous peoples (IPs) defines approaches that recognize the circumstances of IPs and that identify measures towards satisfying their needs and development aspirations. The policy focuses on the effective participation of IPs in development and the mitigation of any undesired effects of development, particularly those resulting from vulnerabilities faced by IPs relative to the mainstream population.

3. Based on this policy, if IPs are significantly and adversely affected by an ADB supported intervention, a specific Indigenous Peoples Development Plan (IPDP) acceptable to the ADB

must be prepared. Beyond addressing relevant social issues, the plan must include specific measures and approaches to be taken to address issues affecting these peoples and to ensure that they are able to benefit at least equally from Project interventions. The IPDP must be time-bound and have appropriate budget provisions. If only limited impacts are expected, or where there is a risk that affected IPs may not fully benefit from interventions within a specific overall strategy or plan, then an Indigenous Peoples-specific Action (IPA) will be prepared to (i) ensure integration of IPs (who might otherwise be excluded) into the overall design and (ii) to ensure that interventions are appropriate to the IPs culture and tradition and incorporate IPs specific needs.

4. This IPPF establishes that any IPDP or IPA interventions for affected IPs will have to:

- Reflect the local culture, beliefs, needs, and preferred options of affected communities;
- Reflect the outcome of participatory planning methodologies;
- Consider traditional procedures and functions of local institutions;
- Fit local production systems;
- Promote self-reliance among the affected communities; and
- Ensure that adequate lead time and arrangements are provided for the implementation of such interventions.

C. Criteria for Indigenous Peoples Identification

5. Based on the ADB policy this IPPF establishes that Indigenous Peoples are peoples who, in varying degrees:

- Descend from groups present in specific areas prior to the establishment of modern states and relative borders;
- Maintain distinct self/non-self-ascribed identities.

6. In addition, a number of reinforcing identification criteria are also used to establish degree of vulnerability:

- Use of distinct languages;
- Active maintenance of socio-cultural systems/institutions that differ from the socio-cultural system/institutional-political tradition of dominant societies;
- Pursuit of livelihoods at the margin of the market system;
- Unique ties and attachments to natural resources and ancestral territories.

7. The working definition employed in ADB's operations as they affect Indigenous Peoples combines these features; in short:

> *Indigenous Peoples should be regarded as those with a social and cultural identity distinct from the dominant or mainstream society, which makes them vulnerable to being disadvantaged in the process of development (ADB Policy on Indigenous Peoples, 1994, p. 6).*

D. Preparation of Indigenous Peoples Assessments, IPA and IPDP

8. It is known that many of the areas (provinces and districts) covered by the Project are ethnically diverse and the wide geographic scope of the Project means that dominant ethnic groups vary among different locations. A few of the areas, for example in West Kalimantan, NTB and NTT, contain groups that, while often dominant in their local areas, maintain specific cultural traditions or are expected to be otherwise vulnerable from the point of view of effective integration with mainstream development activities.

9. In general, however, it is anticipated that IPs will not present special risks and that simple identification of such groups and provisions to ensure that their needs are equitably addressed along with other vulnerable segments of the population will be sufficient. This will be enhanced by the focus on the community-level institutions (via strengthened *posyandu*) that serve largely homogeneous populations in terms of culture and overall social conditions. However, it is recognized that special attention may be required in some cases and that specific expertise to assist Local Governments in dealing with IP issues may be required.

10. The IPPF establishes that IPIAs, IPA and, if necessary, IPDP will be prepared by specialists familiar with IP issues and who have relevant anthropological and sociological expertise. Although needs are likely to be limited, it is recommended that the Project provide for one person-month of a suitably qualified domestic specialist who would undertake a review of local funding requests and implementation strategies and determine the level of risk faced by any relevant indigenous population. This work would be carried out as appropriate during the first several months of implementation and would be followed up by preparation of acceptable strategies to ensure maximal Project impact on indigenous peoples where these are deemed to be required. Provision of such a strategy (but only for cases where IPs are seen to be at particular risk) would be required for receipt of funding beyond the first year of implementation.

PERFORMANCE INDICATORS

The following performance indicators or targets have been prepared to set general objectives for Project impact. Many of these are based on national levels and are geared to an overall achievement of relevant MDG and nutritional service standards as set forth by the Indonesian government. Situations in local areas participating in the Project will vary considerably in many cases from these averages and, as a result, it is recognized that it may not be feasible to enforce identical targets or goals in all areas covered under the Project. Some areas may be able to (and should be expected) to exceed these performance targets, while others will have to set more realistic objectives. The Project will provide for assistance and capacity building at province and district level to strengthen local capacity to develop locally-relevant strategies and targets that are both consistent with local reality as well as, to the extent possible, with overall national objectives to achieve nutritional goals over the next decade.

A. Nutrition Indicators:

1. Reduce the prevalence of malnutrition in children less than five years of age from 34% in 1995 to 17% by 2015.

2. Reduce the prevalence of underweight among poor children from 24% in 2003 to less than 15% in 2011 in urban areas and from 29.4% in 2003 to less than 20% in 2011 in rural areas.

3. Reduce the prevalence of iron deficiency anemia in children less than five years of age from 48% in 2001 to 36% by 2011.

4. Reduce the prevalence of iron deficiency anemia in poor pregnant women from 40% in 2001 to 30% in 2011.

5. Reduce the prevalence chronic energy deficiency in poor women of reproductive age 15–24 years from 20.5% in urban areas and 19.7% in rural areas in 2003 to 10% in 2011.

6. Increase the access of poor children, pregnant and lactating women, and adolescent girls to quality integrated nutrition programs and services to a level of 90% of total children by 2011, or at least 40% higher than local benchmark data.

7. Increase the number of poor families consuming appropriately fortified food to at least 40% higher than local benchmark data by 2011; ensure that at least 90% of households are consuming adequately iodinated salt.

8. Ensure that at least 80% of poor households have adopted improved food hygiene and nutrition practices by 2011, or reach a figure at least 40% higher than local benchmark data.

9. Ensure that at least 90% of public market places and public and Islamic schools in participating districts have access to improved and safe drinking water supply by 2011, or reach a figure at least 40% higher than local benchmark data.

10. Reduce Incidence of diarrhea in children less than five years of age by 50% in 2011.

11. Minimum service standards (SPM) for nutrition are revised to reflect international standards and are implemented in at least 50% of target districts by 2011.

12. A national Food Security and Nutrition Institution is enhanced or established by 2007.

13. A sufficient number of nutrition professionals have been trained in technical and managerial aspects of nutrition (i.e. case management, monitoring, planning and budgeting, surveillance, etc.) at central level and in Project provinces and districts to meet at least 80% of the overall need by 2011.

14. A food and nutrition surveillance system has been enhanced and implemented in all the selected provinces and at least in 50% of districts by 2011.

15. The R & D budget for nutrition has been increased to 10% of the total central MOH budget by 2011.

16. At least 80% of target beneficiaries have adopted improved food hygiene and nutrition behavior practices in the selected provinces and districts by 2011.

17. The level of public expenditure on nutrition has increased from 0.6% of total government expenditure in 2004 to 2% of expenditure in 2011.

18. The level of local government expenditure on nutrition has increased from less than 0.1% of total local government expenditure in 2004 to 3% of expenditure in 2011.

19. Effective nutrition outreach programs have been implemented at least in 80% of *posyandus* in all *puskesmas* in the areas covered by the Project by 2011.

20. The percentage of poor children being regularly weighed in *posyandu* has increased from 40% in 2003 to 80% by 2011 and at least 90% of these children are exhibiting regular weight gain.

21. The percentage of poor pregnant women receiving 120 iron pills during pregnancy has increased from 40% in 2003 to 90% by 2011.

22. The number of *posyandu* with at least 5 motivated cadres and sustainable operations (ability to meet operating & maintenance cost) in selected provinces and districts reach at least 90% of total *posyandu* by 2011.

23. All designated food laboratories have been equipped with appropriate technicians who have been trained on quality assurance, standards, etc.

24. The percentage of fortified food at retail level meeting mandated standards has increased from 60% in 2003 to 80% in 2011.

25. At least 10% of the total cost of Quality and Assurance (Q&A) and promotion of awareness of fortified food is being financed by the private sector by 2011.

B. Nutrition Management Indicators:

1. Accessibility to monthly growth monitoring services has increased to cover at least 90% of the poor children by 2011 in all of the Project districts and cities.

2. An appropriate food and nutrition surveillance system as been established by 2007 and has been adequately implemented in all Project districts and cities and is being utilized for local nutrition decision making and action.

3. At least 50% of training and fellowship activities under the Project go to women.

4. NGOs, private sector and professional bodies are involved in operational research, implementation, training, monitoring and evaluation of Project activities (i.e. at least 5% of Project activities).

C. Project Indicators:

1. Project indicators:

   a. Annual nutrition plans are completed by 15th November of previous year.
   b. Activities are able to absorb at least 80% of the allocated budgets.
   c. 100% of implementation targets are completed according to the proposed plans.

APPENDIX 20

Indicative Procurement Package

Activities	Location	No of Packages	Procurement	Aggregate Amount ($ 000,000)
Civil Works	Districts	Multiple	LCB*	1.584
Equipment and Supplies				
1. Training	Province,District	8	LCB	0.221
2. Computer	Province,District	1	LCB	0.279
3. Puskesmas	District	32	LCB	0.475
4. Posyandu	District	32	LCB	3.200
5. BCC	Central	1	ICB	3.055
6. Food Laboratory	Central	1	IS**	0.308
7. Fortification equipent	Central	1	LCB	0.070
8. PMU	Central	1	LCB	0.311
9. Material and Supplies	Central, Province and District	40	IS, LCB	3.708

* Local Competitive Bidding
** International Shopping
*** International Competitive Bidding

ASIAN DEVELOPMENT BANK

FINAL REPORT
PPTA 4387-INO
URBAN NUTRITION PROJECT

REPORT AND RECOMMENDATION

OF THE

PRESIDENT

TO THE

BOARD OF DIRECTORS

ON A

PROPOSED LOAN

TO THE REPUBLIC OF INDONESIA

FOR THE

NUTRITION IMPROVEMENT

THROUGH COMMUNITY EMPOWERMENT PROJECT

Volume 2: Supplementary Appendices

18th February 2006

PROFILE AND NUTRITION DATA OF PROJECT AREAS

A. Demographic Data

1. Demographic and nutrition data for the eight selected provinces are presented in Table 1. Population density was highest in West Java at 1,100 persons/sq.km, and the lowest density in West Kalimantan at 27 persons/sq.km. The percentage of poor is in the range of 8.5% in Banten and 27.72% in East Nusa Tenggara. The absolute number of poor people ranged from 558 thousands (West Kalimantan) to 4,654 thousands in West Java. The prevalence of malnutrition is found to varied from 24.0% in West Java up to 41.9% in West Kalimantan. There are two provinces where the prevalence of malnutrition are higher than 40%, namely West Kalimantan and West Nusa Tenggara.

Table 1: Demographic and Nutrition Data of Selected Provinces

Province	Population (000)	Population Density	No. of Districts	No. of Cities	No. of Poor (000)	Percentage of Poor[b]	Malnutrition Prevalence (2003)
North Sumatra	12,123	173	16	7	1,800	14.85	36.9
South Sumatra	6,628	68	7	4	1,379	20.81	36.4
Banten	9,129	1,007	4	2	779	8.54	29.7
West Java	38,611	1,100	16	9	4,654	12.05	24.0
West Kalimantan	4,033	27	8	2	558	13.84	41.9
South Sulawesi	8,369	134	25	3	1,242	14.83	34.6
West Nusa Tenggara	4,084	202	6	2	1,032	25.26	41.3
East Nusa Tenggara	4,156	88	15	1	1,152	27.72	33.8
Total 8 Selected Provinces	**87,133**		**98**	**35**	**12,596**	**13.43**	**34.9**
Indonesia	**217,854**		**300**	**76**	**36,062**	**16.55**	**27.5**

Source: Central Bureau of Statistics (Biro Pusat Statistiks), 2004

2. Indonesia has made good progress in improving health status and nutrition over the past three decades. Infant and child mortality rates have decreased significantly, the life expectancy improved, malnutrition among children under five decreased. In 2003, 27.5 percent of under-five children were moderately and severely underweight. Nationally, the prevalence of wasting is very high (15.8%) as well as prevalence of stunting (>40%), and both of these indicators of childhood growth and development vary over the age. Infants in Indonesia are born close to the international reference population, but with the introduction of weaning food start to loose growth velocity. While wasting risk decreases as children age, the risk of stunting continues to increase, and while 35% of school children are stunted at age 6 years, almost 60% of school children are stunted by age 9. With a diverse population of over 200 million, malnutrition varies greatly across the country.

3. The eastern region of Indonesia is the poorest, and tends to have a greater proportion of children affected by underweight, high risk of infant mortality, higher prevalence of infectious disease, and more reduced access to public health services. Maternal and child nutrition systems, a key determinant of child nutrition, are underdeveloped in terms of numbers, human resource development and access to effective outreach material. Indonesia now is facing "double burden" in health and nutrition where overweight and obesity is now a common issue among school children, as well as mothers in urban slums. Obesity is more of a problem in urban areas than in rural areas.

4. Most of the poor families are living in Java Island, and it about 66.25% of the poorest expenditure quintiles. About 26.4% of poor families are living in East Java Province and 25.9% in Central Java Province, while 11.5% of them are in West Java Province. The most affected provinces for malnutrition like East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) have 4.8% for NTT and 3.6% for NTB. Mostly the poorest families are living in the Provinces of North Sumatra (2.2%), South Sumatra (4.1%), Lampung (5.1%) and South Sulawesi (5.0%). Table 2 shows detailed list of poor family living area distribution.

Table 2. Population distribution by Q1 (poorest) – Q5 (richest) at Selected Districts/Cities Susenas 2004

Province		Q1	Q2	Q3	Q4	Q5
North Sumatra	02 Mandailing Natal	2.90%	13.40%	32.10%	41.80%	9.70%
	04 Tapanuli Tengah	26.50%	24.20%	27.10%	17.10%	5.10%
	10 Dairi	32.10%	33.90%	17.80%	11.90%	4.30%
	75 Kota Medan	1.10%	5.60%	11.20%	32.70%	49.40%
South Sumatra	02 Ogan Komering Ilir	32.30%	32.60%	23.40%	10.10%	1.60%
	04 Lahat	30.50%	31.70%	22.80%	11.90%	3.10%
	05 Musi Rawas	25.00%	33.30%	25.30%	12.30%	4.10%
	71 Palembang	3.20%	10.90%	25.20%	37.10%	23.60%
West Java	05 Garut	31.90%	28.70%	22.90%	13.00%	3.40%
	10 Majalengka	21.30%	29.20%	29.50%	15.80%	4.20%
	13 Subang	8.60%	22.10%	31.70%	29.20%	8.30%
	73 Kota Bandung		0.20%	2.20%	19.40%	78.20%
Banten	01 Pandeglang	5.30%	19.60%	30.60%	34.60%	9.90%
	02 Lebak	11.70%	34.50%	33.30%	17.20%	3.30%
	04 Serang	10.90%	28.00%	30.90%	20.80%	9.40%
	71 Kota Tangerang		0.20%	2.50%	18.40%	78.90%
West Nusa Tenggara	01 Lombok Barat	29.00%	29.20%	22.40%	16.90%	2.50%
	02 Lombok Tengah	29.40%	31.50%	23.90%	11.70%	3.50%

	03 Lombok Timur	33.00%	33.70%	20.00%	10.20%	3.20%
	71 Kota Mataram	9.40%	14.50%	19.10%	28.30%	28.70%
Province		**Q1**	**Q2**	**Q3**	**Q4**	**Q5**
East Nusa Tenggara	01 Sumba Barat	76.60%	13.10%	4.70%	5.20%	0.50%
	03 Kupang	48.40%	24.10%	14.90%	8.60%	4.00%
	05 Timor Tengah Utara	47.50%	29.20%	13.30%	7.20%	2.70%
	71 Kota Kupang	0.40%	6.00%	20.70%	42.90%	30.00%
West Kalimantan	03 Landak	37.50%	23.10%	19.70%	13.60%	6.20%
	06 Ketapang	3.50%	12.10%	28.50%	38.00%	17.90%
	07 Sintang	2.10%	14.60%	34.70%	36.30%	12.30%
	71 Kota Pontianak		2.20%	7.40%	27.90%	62.60%
South Sulawesi	04 Jeneponto	64.30%	23.30%	9.00%	2.90%	0.60%
	08 Maros	21.00%	37.20%	24.60%	12.00%	5.20%
	09 Pangkajene Kepulau	18.00%	28.20%	27.00%	22.20%	4.60%
	71 Kota Ujung Pandang	3.60%	10.00%	16.30%	32.70%	37.30%

B. Nutrition Status

5. Nutrition status information in Indonesia is based on SUSENAS (BPS) and Food and Nutrition Surveillance System (Sistem Kewaspadaan Pangan dan Gizi – SKPG). Helen Keller International (HKI) provided some information on nutrition status through nutrition status survey (NSS) activity. SKPG was not regularly implemented since decentralization of governance system, except some province or districts/cities had done by their own. The issue of malnutrition needs to be further discussed in the light of the aftermath of 1997 economic crisis and the start of the decentralization process in 2001 with its transition period had upset distribution programs. Groups at highest risk are children 5 – 12 months, maternal malnutrition and anemia (for children 5 – 14 and women of reproductive age, over 50 percent). SUSENAS 2001 showed that prevalence of stunting under-five is 34.3%, wasting under-five is 16.6%, under-five children with anemia is 47.8%. These programs will need to be strengthened at the local levels. SUSENAS 2003 showed the prevalence of under-five malnourished children are distributed in narrow range for expenditure quintiles (4.35% to 6.20%). The prevalence tremendously increased above age 1 year. Table 3 shows detailed information on malnourished children prevalence by age groups and expenditure quintiles – explanation needed to revised based on new table 3 – data analyzed based on 8 cities and 24 districts from 8 provinces project area

Table 3. Malnourished Children under 5 by Quintile at selected Provinces from selected Districts/cities – Susenas 2003

Province	Q1	Q2	Q3	Q4	Q5
North Sumatera	44.00%	48.00%	28.50%	41.20%	40.70%
South Sumatera	42.00%	41.40%	41.40%	30.50%	26.60%
West Java	32.10%	31.20%	20.30%	19.40%	18.80%
Banten	38.40%	36.80%	31.10%	25.40%	22.00%
West Nusa Tenggara	35.10%	35.90%	37.40%	35.10%	24.50%
East Nusa Tenggara	43.80%	42.00%	45.60%	43.60%	39.10%
West Kalimantan	29.30%	50.70%	52.20%	49.30%	36.10%
South Sulawesi	33.70%	39.80%	39.80%	37.70%	29.80%
Total	37.30%	38.10%	33.30%	32.30%	25.80%

6. There is difference distribution of malnourished children under five among expenditure quintile groups between urban and rural area. The poor quintiles have higher prevalence of malnourished children under five, while in the urban areas the richer groups has higher prevalence rate of malnourished children under five. Table 4a and 4b show detailed information for that distribution. The explanation in here based on selected provinces, and the assessment below based on selected districts/cities in provinces.

Table 4a. Distribution of Under-Five Malnourished Children in Urban Area

Province	Q1	Q2	Q3	Q4	Q5
North Sumatera	67.00%	56.70%	29.30%	43.80%	41.40%
South Sumatera	33.90%	32.50%	46.30%	30.70%	26.90%
West Java	23.80%	35.10%	20.70%	22.20%	19.40%
Banten	40.00%	40.60%	46.40%	22.40%	20.90%
West Nusa Tenggara	44.50%	39.80%	40.60%	41.80%	22.40%
East Nusa Tenggara	45.70%	51.40%	39.50%	39.70%	34.20%
West Kalimantan	52.60%	29.20%	48.20%	49.40%	37.80%
South Sulawesi	38.40%	48.80%	46.80%	36.20%	29.30%
Total	37.30%	40.70%	37.40%	33.00%	25.70%

Table 4b. Distribution of Under-Five Malnourished Children in Rural Area

Province	Q1	Q2	Q3	Q4	Q5
North Sumatera	41.80%	41.60%	26.90%	28.90%	23.60%
South Sumatera	44.60%	45.10%	34.50%	29.90%	19.70%
West Java	33.60%	29.70%	20.00%	9.70%	
Banten	38.30%	36.40%	27.20%	27.90%	33.60%
West Nusa Tenggara	30.70%	34.00%	35.30%	22.10%	33.00%
East Nusa Tenggara	43.80%	40.90%	51.10%	53.90%	66.60%
West Kalimantan	29.30%	54.70%	53.10%	49.20%	28.50%
South Sulawesi	28.30%	31.90%	27.90%	45.40%	39.10%
Total	37.00%	37.20%	30.40%	30.70%	26.90%

7. Detailed figures of estimated number of target beneficiaries for each selected province is in the following pages. – additional information for population distribution by age group and quintiles at from selected districts/cities from 8 provinces

Klasifikasi		Age (year)	Quintile					Total
			1	2	3	4	5	
Urban		0-4	83,752	141,199	212,583	312,069	434,510	1,184,113
		5-9	92,055	158,317	231,583	341,452	422,157	1,245,564
		10-14	104,372	157,978	212,654	324,228	443,811	1,243,043
		15-19	77,234	149,651	206,639	364,076	519,630	1,317,230
		20-24	54,746	112,663	186,286	359,855	709,608	1,423,158
		25-29	42,048	87,737	156,110	324,391	557,198	1,167,484
		30-34	42,299	87,201	158,325	268,472	500,217	1,056,514
		35-39	46,778	85,350	133,232	227,666	446,246	939,272
		40-44	42,976	76,544	126,198	216,687	386,036	848,441
		45-49	27,985	56,680	85,978	171,226	330,312	672,181
		50-54	20,455	42,547	71,498	124,704	269,557	528,761
		55-59	12,253	25,771	44,909	86,635	163,191	332,759
		60-64	14,479	31,870	33,615	83,646	136,531	300,141
		65-69	6,662	18,448	28,157	47,038	94,805	195,110
		70-74	6,615	14,923	16,294	38,626	63,535	139,993
		75+	7,381	10,210	15,556	34,034	39,887	107,068
	Total		682,090	1,257,089	1,919,617	3,324,805	5,517,231	12,700,832
Rural		0-4	444,901	412,164	320,511	163,328	31,612	1,372,516
		5-9	547,238	533,596	394,954	224,916	35,314	1,736,018
		10-14	495,974	498,566	404,414	212,006	35,195	1,646,155
		15-19	372,655	419,772	347,609	216,946	38,740	1,395,722
		20-24	243,424	299,274	291,746	203,873	50,125	1,088,442
		25-29	240,622	286,537	308,786	237,017	56,228	1,129,190
		30-34	225,351	293,556	267,726	201,085	40,601	1,028,319
		35-39	258,410	299,876	264,203	186,174	41,199	1,049,862
		40-44	201,745	246,927	226,636	161,191	36,685	873,184
		45-49	166,987	198,826	196,871	154,787	39,967	757,438
		50-54	119,458	141,073	162,859	127,016	36,737	587,143
		55-59	76,632	93,076	122,764	96,322	25,006	413,800
		60-64	60,822	102,344	118,199	93,515	31,660	406,540
		65-69	46,758	53,115	54,202	43,226	15,927	213,228
		70-74	33,543	46,994	41,007	36,632	6,764	164,940
		75+	32,509	32,026	22,517	21,353	3,298	111,703
	Total		3,567,029	3,957,722	3,545,004	2,379,387	525,058	13,974,200

Source of Data: National Socio-Economic Survey 2003.

C. Selected Project Areas

8. The provinces were selected as the project site based on agreed selection criteria that are: (i) number of population, (ii) population density, (iii) nutrition status (Weight for Age), (iv) number and proportion of poor population, (v) poverty gap, (vi) fiscal capacity, and (vii) potential partners. There are eight provinces selected as project site, and within

the province one city and three districts are selected as project areas. Table 5 shows detailed provinces and districts/cities.

Table 5: Selected Provinces and Districts/Cities as Project Site

PROVINCE	DISTRICT/CITY
North Sumatra	1. City of Medan 2. District of Mandailing Natal 3. District of Tapanuli Tengah 4. District of Dairi
South Sumatra	1. City of Palembang 2. District of Musi Rawas 3. District of Lahat 4. District of Ogan Komering Ilir
Banten	1. City of Tangerang 2. District of Pandeglang 3. District of Lebak 4. District of Serang
West Java	1. City of Bandung 2. District of Garut 3. District of Majalengka 4. District of Subang
South Sulawesi	1. City of Makassar 2. District of Jeneponto 3. District of Pangkep 4. District of Maros
West Kalimantan	1. City of Pontianak 2. District of Landak 3. District of Ketapang 4. District of Sintang
West Nusa Tenggara (NTB)	1. City of Mataram 2. District of Lombok Barat 3. District of Lombok Tengah 4. District of Lombok Timur
East Nusa Tenggara	1. City of Kupang 2. District of Kupang 3. District of Sumba Barat 4. District of Timor Tengah Utara

SUPPLEMENTARY APPENDIX B

INTEGRATED COMMUNITY NUTRITION PROGRAM

A. TRENDS OF MALNUTRITION

- **Undernutrition among Preschool Children**

1. Overall efforts over the last decade have reduced the proportion of underweight of pre-school children by about only 10 percentage points: 37.5% (1989) to 27.5% (2003) or with average rate of reduction less than 1% per year. Unfortunately, the prevalence of severely underweight tends to increase. (Soekirman, et.al, 2004). In addition, with a diverse population of 210 million, underweight rates vary across provinces. Among 29 provinces, it is found that there are 9 provinces with high prevalence of underweight children (prevalence above 30%). As of 2004 it was reported by Ministry of Health that there were about 5 million children suffered from mild and severe malnutrition, while infant mortality rate increased from 45/1 000 per birth during 2002 to 46/ 1 000 per birth during years 2003 (Ministry of Health 2005).

2. The trend on stunted among pre-school children even has been increased during 1995-2001, both in urban and rural areas. The prevalence of stunted among preschool children was remained high, but no significant differences between urban (16.2%) and rural areas (15.2%) was found (SKIA 1995, JPS 1999, SKRT 2001). In terms of wasted, there was a great difference on the prevalence among urban and rural, with the higher rate was found in rural areas. These indicate that under-nutrition among the preschool children, both in urban and rural areas is remained a serious public health problem.

Low Birth Weight (LBW), Infant Morbidity and Mortality Rate

3. LBW babies (less than 2.5 kg) are at greater risk of dying than babies of 2.5 kg and above. There is a significant correlation between LBW and underweight of young children. Data from China, Philippines, Pakistan, India and other countries in Asia shows that the higher the prevalence of LBW the higher the prevalence of underweight in young children. (J.Mason, J.Hunt, et.al, 2001). In addition cognitive function across the life cycle is associated to birth weight. There is a linkage between low birth weight incidence and underweight prevalence in pre-school children. Unfortunately, Indonesia has limited information for LBW, and only depends on the estimation from the Demographic and Health Survey (DHS). Nationally, this survey tends to give underestimated figures due to technical problem of recalling the weight of newborn infants in the interview. The Demographic and Health Survey (DHS 1991, 1994, 1997) gave a national figure for the proportion of LBW babies was about 7-8%, with provincial range between 4 to 16%. The small-scale studies (Jakarta, South Sulawesi, Makassar, West Java, Ciawi, Indramayu) documented the Rates of LBW babies range from 9 to 16%.

4. Indonesia is the second most highest in term of infant mortality rate among Asia countries. Data reported by Marks (2003) stated that a cross-country comparisons on infant mortality rate showed that the Indonesia's IMR was 48 per 1 000 birth, while India was 56 per 1000 birth, and Vietnam was 30. The high IMR of Indonesia is related to perinatal conditions and maternal conditions which also have significant correlation with poverty and low maternal education. Other research mentioned that low income and maternal education cause lack of access to nutrition and health services (Engel, Menon &

Haddad 1997). Causes of infant and child mortality are varied across area in the country but a national survey conducted by Ministry of Health (2001) mentioned diarrhea diseases was on the top one rank (26.5%), followed by acute respiratory infections (25.8%), and low birth weight, asphyxia and trauma (16.3%).

5. Exclusive Breast Feeding

6. WHO recommended breastfeeding exclusively for the first 6 months of life and to continue partial breastfeeding until at least the age of 2 years. The current recommendation in Indonesia is to introduce complementary foods from the age of 4 months. An earlier introduction is regarded as unnecessary and would put the child at risk of infection without providing any nutritional benefits in comparison to breast milk. Helen Keller's International study (2002) found that the practice of exclusive breast feeding was different from both the international and national recommendation. Of children less than 2 months of age, only 27 – 40% was exclusively breastfed, while 37 – 41 % already received solids in addition to breast milk and/or other liquids. The proportion of infants less than 2 months of age that was not breastfed at all was small (<5%).

B. Prevalence of Under-nutrition among Women at Reproductive Age

Prevalence of Anemia and Chronic Energy Deficiency

7. The available information for IDA is based on the National Health and Household Survey (NHHS) 1995 and 2001. IDA is assumed to be the highest proportion of anemia in the country. It showed that the prevalence of IDA reduced for pregnant women from 50.9% (1995) to 40% in 2001 as well as women aged 15-44 years from 39.5% (1995) to 27.9% (2001). This is assumed due to iron supplementation program for pregnant women and women at reproductive age. However, for children under-fives the IDA rate increased from 40% (1995) to 48.1% (2001), particularly it is very high (>55%) in the younger children (<24 months). This trend seems to correlate with the declining quality of household food consumption, including low quality of complementary food for young children.

8. Conversely, the NHHS survey indicates that among pre-school children under five years of age, the prevalence of anemia increased from 40% (1995) to 48.1% (2001), with a peak (>55%) for children under twenty-four months of age (Atmarita 2005). The HKI/GOI surveillance data survey shows the prevalence of anemia amongst children 12-23 months of age rising from 63% (1999) to 67% (2003) in rural areas and from 57% (1999) to a disturbing 76% (2003) in urban slums (NSS 2004). The level of anemia seen in Indonesia is higher than that observed in many other countries in the region (UNICEF and MI 2004) and may be due to decreasing diversity of household food consumption and the poor quality of complementary food and feeding practices for young children.

9. Aside of anemia, women at reproductive age also suffering from chronic energy deficiency. The prevalence of underweight among women at reproductive age during 2001 is highest among the adolescence (about 22 percent) and those at early adult age (17%), and decreasing up to older adult (9%).

B. PROGRAMS TO IMPROVE FAMILY NUTRITION

10. There are various factors contribute to the poor nutrition situation in the country. Among them are poverty, lack of access and low quality of basic health services, limited access to clean and safe water supply, poor hygiene and environmental sanitation. Indeed, the dysfunction of rural infrastructure, particularly Posyandu, PKK, and Dasawisma

is also identified as the main causes. In the following section, previous programs and efforts to improve nutrition and health in Indonesia, and lessons learned from other countries is discussed.

Applied Nutrition Program (ANP)

11. A high incidence on food scarcity and under nutrition among adults and children was found since early 20's centuries to 60s and 70s. To cope with the problem, with the assistant of FAO and UNICEF, the GOI establish Applied Nutrition Program (ANP). The main activity was a community nutrition education involving village cadres and was initiated in 8 provinces in Java and Sumatera. Despite that the ANP was too simplistic in looking malnutrition problem, the ANP in Indonesia was considered successful in creating awareness toward importance of nutrition, particularly among government officials. In the 1970's the effectiveness of ANP was evaluated. It was discovered that ANP had to be re-conceptualized and reorganized. There were no significant improvements either in food consumption or in the nutritional status of people in ANP areas. A food consumption survey in those areas conducted in 1974 indicated that 74% out of 1053 sample households were calorie deficient, and 51% were deficient in both calories and protein. Nor were any signs of significant reductions in the prevalence of malnutrition in adults and children reported. One serious weakness of ANP in general (including Indonesia) was the lack of complementary with other related programs, such as primary health care (immunization, mother-child care, water supply and sanitation), family planning, and agricultural programs that could generate income and improve food consumption.

Upaya Perbaikan Gizi Keluarga (UPGK)/Family Nutrition Improvement

12. UPGK was the Indonesian first national program during 1970s to 1980s. The concept was based on paradigm that malnutrition was primarily lack of protein and energy due to insufficient food production and supply coupled with low nutrition education. Therefore its main activities were nutrition education and home gardening. During 1974 the UPGK concept was revised with more emphasis on nutrition education, child weighing and supplementary feeding, as well as home garden.

13. The MOH (1994) reported that the UPGK programme had been implemented in 36,500 villages in the end of the third five-year development plan (Pelita III). In 1983 Under government's agreement the UPGK was evaluated by a team including the UNICEF, the Director of Food and Nutrition Research Institute of the Philippines, and a consultant for health population and nutrition, and it was concluded that the UPGK program have succeeded changed from a pilot project to a national program.

14. The main components of UPGK consist of 5 basic activities which are: 1) monthly weighing of children under five, 2) nutrition education; 3) complementary feeding for malnourished children, 4) nutrition rescue package which include distribution of Vitamin A, iron tablets and oral dehydration for diarrhoea, and 5) home gardening. Meanwhile a complete UPGK activities have another which include : 6) immunization; 7) clean water supplies; 8) sanitation; 9) health services; 10) health extension education; 11) family planning and 12) malnutrition rehabilitation package which include and daily food supplements for four months to those 10 percent of children in the community with the lowest weight for age.

15. **Monthly Weighing.** Monthly weighing is a major services for UPGK. It is also a part of Nutrition services for Mother and under five children. With UPGK implementation thousand of villagers, mostly women from all over the country, were trained as UPGK cadres in nutrition education to operate the weighing post. In the weighing posts mothers

weighed their children and obtained nutrition advises from the UPGK cadres. In the 1980s the weighing posts activities were integrated with other primary health services and family planning and the whole programmes becoming known as Posyandu. The reporting activities on monthly weighing will be reported by cadres as SKDN reports which could be utilized as well for nutrition surveillance data for certain target groups, such as those children coming from poor families, or pregnant and lactating women.

16. **Community Nutrition Education.** Since there was a political support the UPGK could increase level awareness of nutrition and health issues and could give impact on the nutritional conditions in Indonesia. The MOH supporting UPGK through developing a comprehensive package of training and education materials for nation wide used which include a pictorial manual for cadres as well as flip-charts, board games, posters, charts, leaflets and other support materials required to train cadres and improve retention of skills and knowledge.

17. Households constitute the primary food consumption units. The health and nutritional benefits obtainable from the variety and quantity of food available will not be realized unless these units utilize them. For subsistence families, a properly planned production calendar, nutrition education and knowledge of food processing, preservation, preparation and storage are vital for ensuring variety and nutritional quality of their diets. For households that depend on income for all or part of their food requirements, other factors have to be considered: household income and amount budgeted for food; market supply at acceptable foods; food retail price; amount and variety of food purchased; food subsidies; food shared by community

18. Promoting variety in food consumption helps to achieve nutritional well being. One aim of nutrition education is to ensure consumers making the best use of available resources. The role of nutrition education in promoting diversification in food production and food consumption and both the producers and consumers need to be enlightened on the importance of variety in food supply and consumption in human health and welfare. Effective education programs should focus on the need to increase variety and quantity of food supply. It should be addressed to all sectors concerned; agriculturalists, health workers, teachers, farmers, homemakers and community leaders, among others.

19. Therefore in the future nutrition education program should: explain the merits of including variety of food in production, preparation and consumption; promote the acceptability of food introduced in the diversification program; train home makers in appropriate methods of food preparation, processing and preservation; promote home gardening as an effective way to diversify home food supply and realize additional income; teach food planning and budgeting.

20. **Complementary Feeding.** Until 2002 exclusive breast feeding rate at urban and rural area was still below 40 percent, while complementary feeding rate was around 80 percent. There was a slight difference at urban area which were higher than rural area (Mark 2003) but the difference was not significant. Research showed that there has been no significant improvement over the last decade in rates of exclusive breastfeeding, continued breastfeeding or appropriate complementary feeding (Marks 2003). The UNICEF and Unhas study cited by Latief et.al (2000) showed that a significance proportion of the Posyandu volunteers in their samples had incorrect beliefs regarding recommended infant feeding practices, and that only 11 percent to 27 percent of mothers received any orientation from the volunteers. Promotion of breastfeeding and complementary feeding practices are also not routinely undertaken by village midwives. Latief et.all 2000 concluded that existing IEC/behaviour change strategies are largely ineffective, usually design without adequate formative research and seldom evaluated for effectiveness.

Complementary feeding program at UPGK/Posyandu run by providing mungbean porridge (bubur kacang ijo), boiled egg, rice flour porridge with palm sugar (bubur sumsum), biscuit, crackers and so on. For some Posyandu participants they get the food for free or pay voluntarily some small amount of money for complementary feeding provision. This program is quite attracting to children and their mothers.

21. **Nutrition Rescue Package.** This programs was a part of emergency package for children under five years old and mothers which include oral dehydration therapy, ANC and PNC. However many cadres were not qualified enough to run this program unless it was supervised by midwives and puskesmas staff. However referral system was established whenever emergency situation occurs to mothers or under five years old children. The weakness of this program through posyandu were that the nutrition rescue package only conducted when the midwives and PPG had strong commitment to visit regularly the post. Hence, a good relationship between cadres, midwives and other medical staff and nutritionist (PPG) staff at puskesmas should be established in order to attract more people coming to the post.

22. **Home and Community Gardens**. Much recent emphasis in agricultural development has been given to the production of staple crops and crops for export – while the importance and benefits of home gardens have been relatively ignored. Yet there is every indication that local food production will be increasingly important in providing adequate food and nutrition, especially for a large proportion of the world's neediest people. Home gardens program not without their constraints: shortage of available land, inadequate water supply, lack of seeds or a seedling supply system, and the threat of theft, etc. On the other hand, they can do provide food to those who need it, and they can provide income (sometimes more income for less investment than is needed for the family's field food crop). The following are socio-cultural problems to develop home gardens in rural area: are increasing need to derive income from land traditionally used for domestic food requirements; decreasing diversity of crops in food gardens; role adjustments from traditional food systems to income oriented agricultural system; environmental hazards associated with modern agricultural practices; social issues and nutritional deterioration resulting from changing land use patterns, belief that traditional system is unproductive. Socio cultural problem in urban areas, are lack of food production skills/confidence for an urban environment; limited time, limited space, poor land, lack of land ownership/rights; attitude that urban residence is temporary; lack of respects by neighbors; lack of access to home island plant materials.

23. Immunization. Volunteers women known as cadres play a major role to promote immunization among mothers, while immunization have been long as another UPGK attractiveness for peoples to come to the post particularly for urban families. However immunization coverage was higher for children up to one year, while for those children older than one year the coverage was lower. A national data showed that immunization coverage for measles was still lower (70%), while the highest was in DIY Province (100%) and the lowest was in Banten Province (43%). Meanwhile an immunization coverage for polio considered to be higher than measles which is more than 90 percent since there is national campaign toward polio immunization.

24. **Clean Water Supply and Environmental Sanitation.** Access to safe water and good environmental sanitation are key influences on child illness and protein energy malnutrition (Latief et.al 2000). But access to clean water only improved slightly over the last decade, with about 90 percent of urban households and 70 percent of rural households having access in 2002. In contrast, access to latrines with water disposal to septic tanks and holes more than doubled over this period. However nationally a third of households still do not have access to this type of latrine (Marks 2000).

Posyandu

25. *Posyandu,* which is an integrated health-nutrition services at village level, is a community health-nutrition based program which was established under President Soeharto. It was actually designed to serve as "home-base" for UPGK activities. *Posyandu* has become a community based center for nutrition activities and had been admitted as the primary health care strategy for the decade 1986 to 1996. It was sponsored by the Ministry of Health, Agriculture and Religion, and the BKKBN and were operated and managed by the village community and supported periodically by the health centre. Meanwhile the mobilizing force for Posyandu was the family welfare movement (PKK) along with the village community resilience body (LKMD) for each village in Indonesia. The PKK prominent contribution in supporting posyandu activities had been acknowledge when the idea of family welfare education or Pendidikan Kesejahteraan Keluarga (PKK) was initially introduced by the MOH during the home economic seminar held in Bogor. The PKK is sponsored by the Ministry of Home Affairs. Since 1990s Posyandu has become to be a medical post consist of five tables activities which are : table 1 for registration; table 2 for weighing; table 3 for recording weights and plotting cards; table 4 for interpreting and counseling, nutrition education for individual health and table 5 for immunization.

26. As of 1994 there were around 1.5 million of women volunteers associated with PKK were actively involved in the Posyandu. On the other hand there were around 7 000 family planning field workers or PLKB as the major communicators of the family planning messages (MOH 1994). Cadres were trained at the village level using a highly standardized series of five lessons on how to weigh children and fill out growth card or KMS (road to health card); how to interpret the resulting growth line; how to give nutritional advice base upon pattern of growth; how to handle diarrhea; and how to advice pregnant women. The training for cadres used strategies as active participation, demonstration and role playing that employed liberally and more time allowed for practice sessions. Appropriate technology and simplified intervention also applied in order to enhance the community's ability to participate in service delivery, for example the use of dacin scale rather than weighing scale that enabled mothers to participate in weighing sessions.

27. Aside that number of posyandus which categorized as Mandiri was very low (3.6%) from a total of 250 000 posyandu in early 1990's there are problems and constraints related to Posyandu. Posyandu programs seemed to be forced off, repressive and gender bias, and Posyandu attained to PKK which was established according to husband's occupational status at national level, province, district, sub-district and village government. From the human resources indicators, the qualified cadres are very low, while cadres was recruited by wife of head of village leader, and often to be biased in order to reduce infant mortality rate. Related to unskilled cadres, in general, weighing was done hastily without making sure of a stable point. There were almost always errors of several hundred grams. There was also not enough care taken in balancing the weight of the children; this resulted in an overestimate of children's weights by 200 to 600 grams. The most difficult tasks for cadres were interpreting growth lines and nutrition counseling. These tasks were almost always done by the most senior cadres, or this task was taken over by Puskesmas personnel (health workers).

28. On the systems development of Posyandu, it seems that the process to plan and implement program was top-down on a basis of government intention, while community was treated only as an object of the program. Therefore the programs was categorized as non-participated community program and left behind by the community when it was no longer monitored and evaluated by the government.

29. In term of community participation in many areas children above one year of age did not visit the Posyandu every month because they had completed their vaccinations. Mothers only brought their children to Posyandu for vaccination, not for growth monitoring. Problems related to KMS also occurred since growth cards were taken by the mothers and retained in their homes. In some areas cadres frequently complained of lost cards, and several looked very dusty. The mothers had little incentive to pay attention to the cards except as a record of immunization. It was reported that the lost cards were used as a reason for not coming to the Posyandu[1].

30. It also found that there was lack of cadres due to limited and decrease number of cadres, while number of under five years old children were quite high. According to skill of cadres it was reported that only 30 percent of cadres was qualified as skill cadres. They also have limited knowledge and skill to serve target groups.

31. The economic crisis in 1997 and government neglect have been blamed for the decrease of quantity and quality of Posyandu activities. Currently, it is estimated that 60 percent of the some 200,000 Posyandu nationwide are not functioning. The fact that these Posyandu are not working has weakened the monitoring of community nutrition levels, which in turn has led to widespread malnutrition in the country.

32. The 2001 Indonesia Human Development Report (UNDP, 2001) states that "The decline in usage of the *Posyandu*, is because of a reduction in public support for the Family Welfare Movement (PKK), and ineffective recruiting and training for new volunteers to run posyandu." Other data sources also show limited standardization and quality assurance of training, competencies and the performance of tasks by the volunteers (Jahari and Satoto, 2000).

Other Related Activities toward Health and Nutrition Improvement

33. Aside of Posyandu, at present there are many effort to enhance community health care participation through several activities namely UKBM or Upaya Kesehatan Bersumberdaya Masyarakat (Community Based Health Program) which include POD (Pos Obat Desa or Village Medicine Post), Pos UKK (Usaha Kesehatan Keluarga) or Family Welfare Post, Remaja Husada (Teenage Health Post), KP-KIA (Kelompok Peminat Kesejahteraan Ibu dan Anak or Mothers-Children Welfare Club), Poskestren (Pos Kesehatan Pesantren or Pesantrren Health Post), Upaya Kesehatan Masjid (Mosque Health Effort), Pusinkes (Pusat Informasi Kesehatan or Health Information Post), BKB (Bina Keluarga Balita or Under five Years Old and Family Welfare Program), PSPB (Pemantauan dan Stimulasi Perkembangan Balita or Monitoring and Stimulation of Child Development, TOGA (Tanaman Obat Keluarga or Family Medicine Plantation Post), Dana sehat (Health Financing) with several pattern, such as Dana sehat pola UKS (School Health Effort), Dana sehat pola PKK (Family Welfare Program), Pokdes (Pos Kesehatan Desa or Village Health Post), PSI (Pos Sayang Ibu or Mothers Care Post), Pondok Bidan (Midwife Post), Polindes (Pondok Bersalin Desa or Village Midwife Post), and UKS (Ministry of Health and Social Welfare 2001).

34. At certain level nutrition education through elementary school age children may be effective particularly for those who can not attain school at higher level because of poverty. For school age children health and nutrition practices could be improved through nutrition education integrated in curriculum which could be implemented by practicing hand

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[1] **Differences among villages;**
http://www.unu.edu/unupress/food2/UIN08E/uin08e0c.htm).

washing at schools, teeth brushing, growth monitoring, or feeding program whenever possible. An extra curricular activities through Usaha Kesehatan Sekolah (UKS) might be implemented in order to increase a health and nutrition practices. This UKS are supervised by puskesmas and teaches, with "a child doctor" (dokter kecil) served as agent to serve simple health practices. As of now the "child doctor" mainly focus on health practices, while nutrition practices are not. For some schools at urban area UKS have been a prestige program that could implemented a growth monitoring program among school age children.

Community Outreach and Empowerment

35. During the late 1980s, there was a community health program which is simple, inexpensive, comprehensible to the community and appropriate to its needs. Their initial program was the community health insurance fund called Dana Sehat. This health insurance scheme entitled members to a doctor's examination and two days medication in exchange for monthly contributions of Rp 500,00 (equivalent to 0,5 percent of average household income) at that time. The health fund is used by the village in various ways such as for buying essential drugs and supplies for replenishment of kits used by the health volunteers, for supplementary feeding of the under five children, and referral cost to health centre and hospitals. The Dana Sehat activities were initially administered by the sub-hamlet committee, which have a predominantly male membership and are burdened with many local government duties. In recent years, even though the program still retained original name of Dana Sehat, it also wide range of preventive, promote, and curative health care activities, including small-scale economic development schemes.

36. Another community empowerment implemented for helping the poor were through a credit assistance for livelihoods. This provides for income generating projects such as meat processing, fruit processing and preservation, and aquaculture and livestock production. Likewise a life skill training for cadres according to potential resources of the community could be implemented as another strategy to educate a skilled and well trained worker. As their life skill increased hopefully there will be opportunity to find a job or to raise more income.

Early Childhood Education

37. In order to achieve a holistic figure of child development it is admitted that education give a significant contribution. Myers (1990) and Evans (1989) stated that together with health and nutrition aspects, education particularly socio psychological stimulation have played to affect child development. Through such stimulation it is possible for schools to encourage child achieving certain attitude and practices as expected by the society. For example it is easier for family to send children to school in order to have an intelligent, smart, healthy and good children rather than educating their children themselves. Basic premises regarding education is that children mostly obey and respect their teacher.

38. A formal early childhood education is conducted at kindergarten level, while a non formal early childhood education is established through activities called PADU which was coordinated under ministry of culture and education. Basically the PADU program was for those children coming from lower income level. Another program for early childhood education was formerly initiated by BKKBN namely BKB or Education and Training Program of Family with Infant.

39. The BKB program educates and trains mothers in villages to improve their knowledge, attitudes and skills on how to raise their infants and older children. This program is mainly for families who attend a family planning program and have infants and small children. To

support this program, BKB has already trained volunteers as cadres of BKB to help parents who are unable to educate and raise their children. At the end of the training, parents are expected to educate their infants and children and to supervise the development of children from the early age of infants until they are three years old.

40. The data collected from 1991 to 1997 showed that there was a continuous increase on the groups of BKB or BKB participants. The sharp increase could be seen in 1993, there was 7,431 groups with 119,800 participants in 1991 and this became 67,148 groups with 1,237,488 participants in 1993. In 1996 the number of participants increased to 3,929,669. This condition was one of the impacts of active family planning program at the time. Then, in 1997 however, there was a decrease of participants around 4 percent. This might be as an impact of economic crisis in Indonesia.

Community Participation trough 10 Household Units (Dasa Wisma)

41. Dasa Wisma, a community welfare program composed of ten households or families as a unit of self-reliant welfare (including health) system within hamlet of a village has been officially launched in the Fifth Five-Year Development Plan (1989-1994). Dasa Wisma self-reliant health care is implemented in cooperation with PKK (Village Women Movement for Family Welfare Improvement). A Dasa Wisma volunteer is assigned to oversee the implementation a health program among ten lay women at the household level. At the household level, a leader is elected among the ten household heads who serves as the facilitator and the license. Each Dasa Wisma worker is provided with a book where she records visits by the ten women under her supervision to the Posyandu health centre. One of the main duties of a Dasa Wisma volunteer is to remind women under her supervision to visit the Posyandu to have their health and their babies' health checked.

C. LESSONS LEARNED

How Multisectoral Approach Works

42. A lesson learned from Indonesia has shown that UPGK has been successful to reduce malnutrition problems in Indonesia. And yet a multi sector approach instead of a single sector performed by MOH had been effectively achieved a multi targeted group. Issues and constraints toward UPGK/Posyandu and its existing activities could be identified as : limited funds and delays in fund release caused frustration and disappointment among cadres; lack of focus of skills development in the training conducted; and inadequate supply of programme inputs; limited participation of puskesmas personnel at Posyandu activities; limited support of local leader to *Posyandu* activities; lack of social mobilization; lack of programme orientation which resulted in some confusion among programme implementers at puskesmas and posyandu and its target groups; the lack of a good monitoring and evaluation system is an obstacle to the effective operation and implementation of community-based programs; the lack of appreciation for the importance of good nutrition among many local leaders or sectoral workers clearly justifies such efforts; reduced operational budgets provided by the DPRD for the puskesmas have lead to a decline in prevention and promotion activities. The impact on the surveillance system has been fewer puskesmas outreach activities in support of the posyandu or follow up by nutrition officers to visit children suffering malnutrition; evidence from team visits to the field also suggests that significant numbers of posyandu no longer have stocks of road to health (KMS) cards and are sharing equipment such as weighing scales due to lack of funding.

The need to incorporate water and sanitation and food security approach on Family Nutrition Program

43. As of now clean water provision at national level is only about 60 percent, which means that there is still 40 percent or equivalent to 90 millions people have no adequate or clean water for their daily living. Safe water and environmental sanitation have been known to have significant correlations with child illness and morbidity. In the remote area women usually seek clean and safe water from wells, lake, or even from the river. River have been used as source of water by people particularly to wash clothes, kitchen utensils, even some of families also used river as place to take a bath, rinse and tooth brushing. At rural area which has no water pollution a river seems to be an alternative for safe water sources for the people. Meanwhile for those people living in urban area especially for those urban poor families who has no access to safe water a river could no longer been used as source of water. Therefore for urban families access to save and clean water are important since they have low ability to pay safe water.

44. Program to safe water provision have been a task of Ministry of Civil Works Affair (Departemen Pekerjaan Umum). It is their responsibility to provide safe water for public necessities particularly for those very poor in urban areas. However UPGK and Posyandu could contributed to behavior change toward clean and safe water utilization. Therefore a coordination with Ministry of Civil Works and Ministry of Health on clean and safe water provision should be undertaken. Another alternatives could also built with industries surrounding the community since these industries make water pollution and negative impact to ground water quality. A necessary coordination between head of Puskesmas at district level and local government (Camat, Sekda) should also rebuilt in order to seek funding alternatives and to promote behavior change in utilizing water. A media campaign and socialization to families living along the river should also conducted in order to change behavior of urban people especially to not use river as their waste disposal. It is widely known that for urban poor families river has been executed as their waste disposal since they could not afford land waste disposal due to limited land and back-yard.

45. For Posyandu and UPGK cadres they could contribute to educate mothers and families on how to utilize water and to give awareness to the families in maintaining water quality by having land waste disposal and by maintaining clean water flow at their surrounding. Beside an extension education for mothers on how to avoid water borne diseases could also benefited for the families since the prevalence of diarrhea is considered to be the highest among others.

46. According to the definition household food security defined as those households which have year-round access to the amount and variety of safe foods their members need to lead active and healthy lives. At the household level, food security refers to the ability of the household to secure, either from its own production or through purchases, adequate food for meeting the dietary needs of all members of the household. For a food security approach the UPGK/Posyandu have conducted activities on how to make diversity of snacks and meals from local indigenous food together with PKK programs. They also trained women and single women to cook various kind of meals and snacks for children and the whole family members, to create handy craft and art making that might be sold out to generate income.

47. Based on the constraints mentioned above the following pointers should be carefully undertaken when revitalize Puskesmas and Posyandu which are : 1) An integrated, multidisciplinary program is able to exploit possible complementarities of various nutrition interventions (short and long-term). For example, health, sanitation, child care and supplementary feeding programs complement each other; 2) Community involvement permits better targeting of beneficiaries; 3) Community consultation can help identify the "best practices", those congruent with local culture, capabilities and the physical

environment; 4) Community participation is an orientation, which must not be taken for granted; it should be an overriding and conscious concern; 5) Community mobilization of resources lessens the burden on Government resources. Schools have been very effective in generating funds for nutrition and health programs; 6) Proper training is a critical component of an integrated, community–based program, and must not neglect topics such as proposal preparation, resource generation, evaluation; 7) To ensure proper coordination, there should be a clear assignment of roles and tasks among key programme actors, especially when implementing a mix of interventions; 8) Participatory planning (based on a sound situation analysis), implementation and monitoring and evaluation contribute to successful project implementation at the community level and ensure sustainability; 9) Partnerships (Government – NGOs – private sector – academe) can contribute immensely towards effective integration as well as resource generation, and should be encouraged; 10) Development and mobilization of indigenous development workers (e.g. cadres posyandu or cadres of PKK) should be based on the most effective worker:client ratio; 11) Consistent with devolution, there is a need to emphasize area-based bottom-up planning; 12) Strong political will is a necessary ingredient that can be generated through strong advocacy efforts; 13) Nutrition advocacy and resource generation should be further coordinated. Resource generation for nutrition involves three levels of implementation in a devolved government structure. At the national level, budget allocation to nutrition-related expenditures should be maintained and advocacy should press for funding. At the local level, there should be a better sharing of internal revenues with the national government. At the community level, local organizations and even beneficiaries can help to generate resources, if only to avoid developing or perpetuating a welfare mentality; 14) recognition that malnutrition is a development problem, which calls for an integrated and multidisciplinary approach; 15) intensive and effective advocacy from national to village level; 16) committed and good leadership of municipal (municipal nutrition action officers as well as members of the Municipal Nutrition Committee) and village workers; 17) well-defined roles and responsibilities for program functionaries particularly the full-time personnel staff at puskesmas ; 18) training which developed technical know-how of the program functionaries; 19) strong social preparation component; 20) strong community and agency involvement in program implementation; 21) establishment and training of a cadres which included treasurer, nutrition scholar, child development centre worker, health worker, and counselors; 22) transparency and accountability of puskesmas and posyandu coordinators; 23) promote a supportive policy environment across development sectors to ensure nutritional improvement; 24) integrate nutrition considerations in sectoral development plans and program that pursue the reduction of poverty and address its causes, increased food availability, improved environment, better health, and increased productivity and economic growth; 25) strengthening local government units and community capability to plan, implement, monitor, and evaluate sustainable and integrated nutrition programmes; 26) improve and strengthen existing mechanisms for nutrition planning, policy formulation, implementation, monitoring, evaluation, surveillance and advocacy at all levels; 27) conduct basic, applied, and operations research on nutrition; strengthen research utilization and technology transfer; and regularly assess plan implementation for puskesmas personnel; 28) increase the emphasis on the vital role of information and development communication in promoting good nutrition; 29) involve NGOs including people's organizations and the business sector more systematically in plan implementation.

D. PROPOSED ROGRAM AND ACTIVITIES: REVITALIZATION OF UPGK (FAMILY IMPROVEMENT NUTRITION PROGRAM)

48. The above mentioned facts and findings regarding nutrition problems in Indonesia and the experiences to cope with the problems show that during the implementation of UPGK (1970ies – 90ies) under nutrition tend to decrease. This decrease, aside of due to

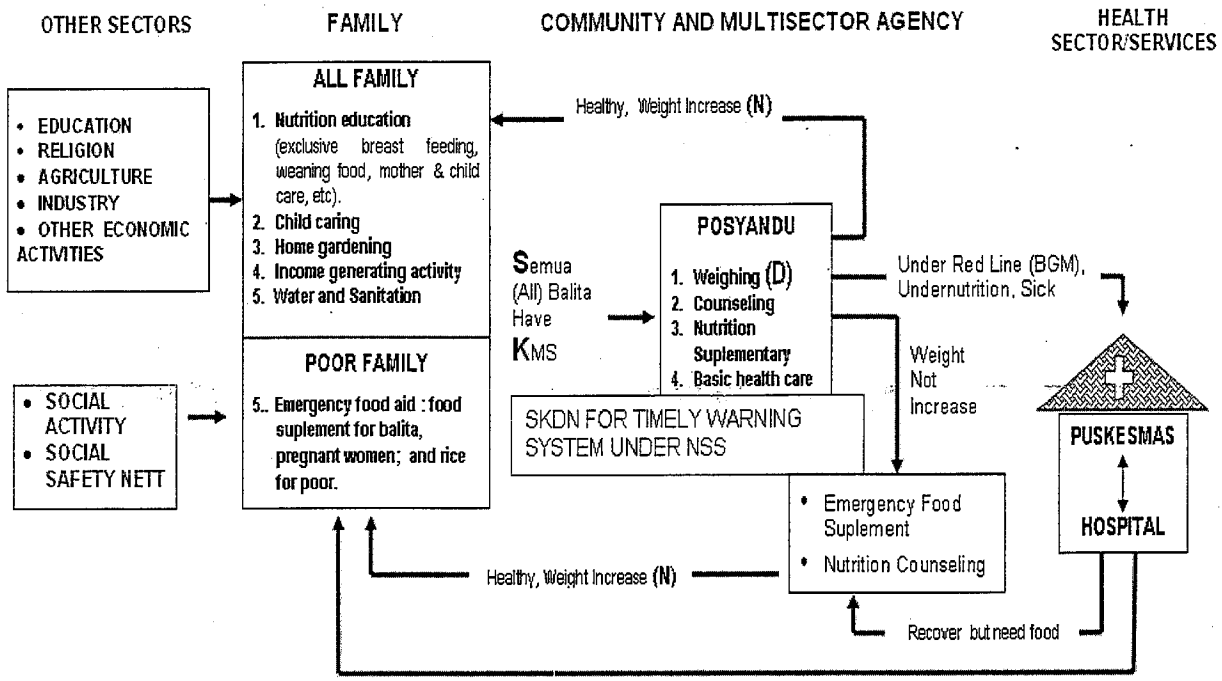
implementation of appropriate food and nutrition programs, including UPGK, also due to rapid growth of economic development and poverty reduction at that time. Economic crisis and higher rate of poverty rate since the end of 90ies and early 2000 brought back the achievement of nutrition improvement in to worse situation. In addition, shifting of government regulation from centralization to decentralization has also affect the current food and nutrition situation. Lack of local government awareness on food, health and nutrition aspects at several areas is among the main cause of the decrease of food and nutrition performance. An integrated food, nutrition and health programs at central and local level, such as what have been practiced during 70ies up to early 90ies, UPGK, is proposed to be revitalized.

49. This component will strengthen and integrate various activities among and between different sectors and agencies[2] by improving family nutrition through the revitalization of UPGK in the decentralized environment. The Framework of family nutrition improvement is presented in Figure 3. The proposed UPGK activities to be revitalized include: (i) ***nutrition education*** to improve knowledge, attitudes that change behavior toward better nutrition and healthy lifestyle, which should be initiated by introducing basic nutrition knowledge through the principles of dietary guidelines ("gizi seimbang") that lead to a "Keluarga Sadar Gizi" (Family Nutrition Awareness); (ii) ***improving nutrition services*** for mothers and young children through revitalizing the main role of *posyandu* and *puskesmas* in growth monitoring and promotion (GMP) to prevent the incidence of mild and severe underweight children; providing skills training and performance-based incentives for PKK/*posyandu* cadre and selected beneficiaries through PKK/*dasawisma* activities; (iii) ***supporting household food security*** through home/school gardening, and community activities which are aimed to improve their income and access to healthy and balanced diet; **and** revitalizing sustainable ***community-based school feeding (PMTAS)*** at the local level and promote local food for improved nutrition status.

50. In designing and implementing the activities, urban-rural differences or characteristics will be considered. Improvement of water sanitation through provision of clean water supply at urban-slum areas, household/community empowerment in terms of income generating activities, and targeted food subsidy through development of food coupon are among the specific activities will be focused in urban areas to support household food security. In rural areas, income generating activities, whether direct or indirectly, through home gardening, agricultural based-home industry, and other relevance activities, both for cadres and target beneficiaries will be created/ strengthened.

[2] Health, agriculture, family planning, BULOG, education, religious affairs, local government, and community based NGOs such as PKK

FIGURE 3: INTEGRATED FAMILY NUTRITION PACKAGE



Source: MOH modified 2005, PPTA 4387

51. The aim of this component is to strengthen and integrate various activities among and between different sectors and agencies in improving family nutrition through the revitalization of UPGK in the decentralized environment. The proposed UPGK activities to be revitalized include: (i) ***nutrition education***, (ii) ***improving nutrition services,*** and (iii) ***supporting household food security***. The details are presented in the following.

a. NUTRITION EDUCATION

Rationale:

52. Empirical studies show that most of the previous nutrition projects fail or had low compliance due to lack of nutrition knowledge and motivation of the target beneficiaries. A more effective strategy is needed in order to be able to improve knowledge and stimulate behavioral changes of the community for better understanding and practice of nutrition and healthy life style. Some areas that should be strengthened in nutrition education including: exclusive breastfeeding; complementary feeding and uses of 'sprinkles'; principles of balanced diet ("gizi seimbang"); and caring (particularly on food and health aspects).

Goal and Objectives

53. The goal of the activities is that at the end of the project, there will be a reduction of the prevalence of underweight among under-five children through nutrition education and other integrated nutrition program under UPGK activities. A significant improvement on nutrition knowledge, attitude, and practices (KAP) of the target groups is expected, which is in turn lead to the achievement of "Keluarga Sadar Gizi" (Kadarsi);

54. The objective of this sub component are to: (i) develop effective nutrition education materials suitable for direct nutrition education at Posyandu, PKK/Dasawisma,

Puskesmas, primary schools, and mass communication through electronic/mass media campaign (television, newspaper, billboard, etc); (ii) facilitate the improvement of nutrition knowledge and nutrition education techniques among program providers/nutrition educators (medical doctors at *puskesmas*, midwives, *posyandu*/PKK cadres, teachers at public & private schools and madrasah/ pesantren); (iii) assure that the target groups (women at reproductive age, particularly lactating, pregnant women and mother with under five yars old children, and school children) received adequate nutrition education during *posyandu/puskesmas* services and school health unit (UKS) activities; (iv) demonstrate the impact of nutrition education on nutrition knowledge, attitude and practices, particularly on food caring practices (exclusive breast feeding; nutritionally adequate, balance and safe feeding for children), balanced diet, and nutritional status of the target beneficiaries.

Output:

55. There will be several outputs derived from these sub component/activities. Among them are: (i) availability of materials (guidance and manuals) to conduct training and proven (field tested) effective nutrition education kits; (ii) upgraded nutrition knowledge of nutrition educators (program providers) as well as policy makers at province, kabupaten/kota, kecamatan an villages; (iii) implemented nutrition education services at *posyandu, puskesmas* and PKK/*dasawisma* activities at regular basis, and d) Improved knowledge, attitude/awareness and practices of various target groups on the implementation of balanced diet ("gizi seimbang")

Proposed Activities and Mechanisms:

56. The sub-component is aimed to support the achievement of *keluarga sadar gizi* (family nutrition awareness) through the following activities: (i) developing, field testing, multiplying and circulating guidance, manuals, training kits for nutrition education for TOT and that will be delivered at *posyandu*/PKK and *dasawisma* activities and schools; (ii) training the manpower (medical doctors of *puskesmas*, midwives, cadres of PKK, Dasawisma, Posyandu, and UKS teacher) for nutrition education and its delivery techniques; (iii) running nutrition education at *posyandu, puskesmas,* PKK/*dasawisma* activities, and school (UKS activities); (iv) developing and implementing nutrition education through mass media campaign (television, radio spot and printed materials); (v) conducting impact evaluation of nutrition education to the nutrition knowledge and behavioral changes (towards habits balanced) diets and nutritional status of the target groups.

57. The specific target groups of this sub-component are divided into two categories. First are those who will responsible in running the nutrition education, such as all nutrition educators (program providers), medical doctors at *puskesmas*, nutritionists at *puskesmas* (TPG), midwives, and school/UKS teachers, *posyandu* and PKK cadres. The second are target beneficiaries, which particularly are at risk population such as women at reproductive age (*puskesmas, posyandu, dasawisma*/PKK attendees) and school children.

58. In developing nutrition education materials, the above specific target groups will be invited to provide inputs to develop massages and nutrition education delivery mechanism. The inputs are expected to cover variation of educational level and socio-cultural settings of the providers and target groups. Through the mechanism International and local consultants for nutrition education/social marketing will be hired to formulate nutrition education materials, determine the appropriate channels, and its delivery to assure effective nutrition education. To evaluate the effectiveness of the developed materials in improving the nutrition knowledge, attitude and practices of the target group, a field testing will be held. Independent evaluators from university/research centers/consultant firms will

be hired on a competitive based. The field tested nutrition education materials than printed and distributed to the target groups.

59. Aside of printed materials, electronic media campaign (TV and radio spot) and billboards will be developed as well. Social marketing and mass media consultants/experts will be invited to assist the MOH, MORA, and MONE in developing the materials.

60. Trainings and workshops at central up to province, kabupaten/kota, kecamatan, and village level will be arranged to improve the capacity of the providers prior the implementation of nutrition education. In addition, advocacy to the leader at province, kabupaten/kota, kecamatan, and village will be held to improve their awareness on the important of nutrition in economic development of their respective regions, which in turn may increase their support to the implementation of all components of these urban and rural nutrition projects.

61. Direct nutrition education services at the community will be primarily conducted at *posyandu, puskesmas* and at PKK/*Dasawisma* (10-household units). A short training to upgrade nutrition knowledge among training providers (TPG, kader PKK and *posyandu*, midwives and even the medical doctors assigned at *puskesmas*) will be developed in each sub-districts. IEC material will have to reviewed, materials and guidelines, and nutrition education kits will be developed and distributed to the trainers. Nutrition campaign through mass-media such as television, radio, local newspapers, and distribution of leaflet, posters, booklets for the target groups, will be made available.

62. The project will also strengthen nutrition education among school children both for public and private (including *madrasah/pesantren*) schools trough school health program (UKS) activities. Aside of nutrition and health, the scope will also include food safety (food hygiene and sanitation, food additives, etc), and school gardening (see food security chapter). To support this activity, training for trainers (TOT) programs for teacher will be conducted. Besides, integration of nutrition on national curriculum, including for medical doctors ("pendidikan kedokteran") and midwife education ("pendidikan kebidanan") will be done (See Component 1). Coordination between parties involved, particularly MOH, Ministry of Education (MONE), MOA, Ministry of Religion Affair (MORA), Ministry of Communication and Information (Kominfo), and Family Planning Board (BKKBN) will be strengthened.

Evaluation

63. There are two main areas of evaluation, consisted of the effectiveness of nutrition education and its sustainability. The effectiveness of nutrition education will be evaluated through studies held by independent evaluators. The evaluation will be covering the following: (i) effectiveness of the massages; (ii) effectiveness of the channels, (iii) effectiveness of the techniques in improving the two output indicators, namely: (i) nutrition knowledge and attitude; (ii) nutrition practices towards balance diet and food caring practices.

64. The sustainability of nutrition education will be assessed based on the objective indicators which indicate the political will of the central and local government in continuing the implementation of nutrition education as integrated parts of UPGK. Among the measures are: (i) budget allocation from APBD or APBN to this sub-component; (ii) number of drop-out trained cadres, (iii) other local specific indicators.

b. ENHANCING NUTRITION SERVICES

Rationale

65. *Posyandu* is Indonesia's main national community nutrition program, which focuses on early child and maternal nutrition. Established at local or village level, *posyandu* originally has been acknowledged by national and international people as a community-based program. Initially, the main activities of *posyandu* consist of: growth monitoring and promotion, nutrition education and home gardening. Until end of Repelita VI (1998) *posyandu* had been part of UPGK, and known as an important and effective component of nutrition program for preventing PEM/growth faltering through growth monitoring of young children using Kartu Menuju Sehat or KMS (Road-to-health card). KMS has been proven effective for identifying young children with growth failure. *Posyandu* has been effective also as distribution point for the nation wide Vitamin A supplementation, and recognized as a potential center for educating mothers on infant and child feeding. The popularity of *posyandu* attracted other government's primary health services such as immunization and family planning. Unfortunately in its development, *posyandu* in 1990s becoming known as immunization and family planning center, instead of nutrition. *Posyandu* became more "medicalized", and less nutrition activities. It made *posyandu* dependence on the subdistrict health centers (Puskesmas) and the uniqueness of *posyandu* as a community-based organization (CBO) becoming less obvious.

66. Some limited studies attempted to explain the declining popularity and effectiveness of *posyandu*s in recent years. The 2001 Indonesia Human Development Report (UNDP, 2001) states that "The decline in usage of the *posyandu*, is because of a reduction in public support for the Family Welfare Movement (PKK), and ineffective recruiting and training for new volunteers to run *posyandu*. Limited budget allocation for health and nutrition programs under decentralizations era is one among others factor affecting the decline of Posyandu performance.

67. A formal early childhood education is conducted at kindergarten level, while a non formal early childhood education is established through activities called PADU which was coordinated under ministry of culture and education. Basically the PADU program was for those children coming from lower income level. Another program for early childhood education was formerly initiated by BKKBN namely BKB or Education and Training Program of Family with Infant. The BKB program educates and trains mothers in villages to improve their knowledge, attitudes and skills on how to raise their infants and older children. The program of mothers, infants and children is supported by the government and this has been spread throughout Indonesia. This program is mainly for families who attend a family planning program and have infants and small children. To support this program, BKB has already trained volunteers as cadres of BKB to help parents who are unable to educate and raise their children. At the end of the training, parents are expected to educate their infants and children and to supervise the development of children from the early age of infants until they are three years old.

68. As that of *posyandu*, the *puskesmas* have been long established in Indonesia and these have been accepted by most of the population as the entry point into the system of health care delivery, despite some recent decline in their capacity. It is vital to reverse the erosion of nutritional services and skills at the *puskesmas*. Based on the foregoing, in 1998 MOH launched a *Posyandu* Revitalization project with support from UNICEF and USAID. It included retraining of volunteers, provision of supplies and supplementary foods. Although it has a sound objective, in most places *posyandu* revitalization was limited only for sessions explaining the distribution of supplementary feeding as a component of social safety nets programs called as JPSBK (Soekirman, et al, 2004).

69. With the current emerging malnutrition problems in the country, revitalization or reformation of UPGK, including *posyandu* as its main activities is become importance and relevance issue. *Posyandu*, as well as *puskesmas* should be brought into their original functions, particularly to provide nutrition services and conduct growth monitoring and promotion (GMP), and provide primary health care services, respectively. In response to the current nutrition and health problems, the government has to develop the nutrition action plan (NAP), which includes among its activities *posyandu* and *puskesmas* revitalization. The proposals made by the government to revitalize the Puskesmas and Posyandu are considered as appropriate. It is vital to reverse the degrading of nutritional services and skills at the puskesmas. More training in nutrition should be made available for health center personnel, especially for midwives and even for medical doctors. The functions of the nutrition officer should be reviewed. Nursing and midwife manpower needs to be increased in many areas to improve services and to strengthen outreach to the villages. In addition, some limited short training activity needs to be provided for the community cadres participating in the *posyandu* and PKK/dasawisma, and modest incentives, particularly through economic empowerment (income generating activities) should be made available to prevent cadre's drop-out and improve their income and food security status.

Goal and Objectives

70. The goal of the activities is that at the end of the project, there will be a reduction of the prevalence of underweight among under-five children, as well as improve nutrition of mothers lactating women through better basic health and nutrition services at Posyandu and Puskesmas.

71. The objectives of this sub-component are to : (i) revitalize the main role of *posyandu* and *puskesmas* in growth monitoring and promotion (GMP) to prevent the incidence of mild and severe underweight children; (ii) to provide skills training and performance-based incentives for PKK/*posyandu*.

Proposed Activities and Mechanisms

Posyandu Revitalization

72. The objective of *posyandu* revitalization is to improve the function and its performance in GMP of underfive children. To be able to achieve the objective, the following activities are proposed to be undertaken: (i) training/ orientation for Puskesmas, BKKBN, and agriculture officers, as well as community workers (volunteers), such as Posyandu cadres and community based NGO (PKK member); (ii) refresher training for previously trained puskesmas officers and cadres; (iii) provisions of supplies, such as *posyandu* guidance books, KMS(=Kartu Menuju Sehat/growth monitoring chart), IEC materials, report forms, dacin, and other supporting facilities; (iv) provision of facilities to run early child education for 2 to 6 years old children (*Pendidikan Anak Usia Dini* or PAUD); (v) provision of operational budget to run *posyandu* and PAUD whenever appropriate; and (i) provision of incentive for cadres trough community empowerment approach, such as income generating activities.

73. It is important to consider that in certain areas where the prevalence of growth failure remains high, the activities should be limited and focused only for GMP. It is proposed to use SKDN to classify Posyandu into two categories. Those with D/S (coverage< 80 % and D/N < 60 % should concentrate their activities only for GMP, while those with better achievement might expand their activities.

74. Among the important factor lead to the decline of Posyandu performance is drop out of cadres due to lack of incentives. Under the community development approach of food security sub-component (see the next section of food security), a community empowerment which is aimed to improve income of village community, particularly cadres and poor households as target beneficiaries is provided.

Evaluation

75. There are some indicators to evaluate the performance of Posyandu revitalizations, including: (i) trend of Posyandu who regularly conduct GMP, as indicated by the number of active Posyandu before, during and at the end of the project; (ii) effectiveness of Posyandu activities, as indicated by "SKDN" performance, which are include N/S (Posyandu coverage), D/S (community participation to join the Posyandu activities), and N/D (effectiveness of Posyandu in improving the nutrition status of the children).
76. To evaluate the performance of Posyandu revitalization, a regular monitoring will be held by Puskesmas, District, Provincial, and Central MOH. At overall project coverage (32 kabupaten/kota), independent evaluation will be done by third party(ies), through a competitive research grants.

Puskesmas Revitalisation

77. The objective of *puskesmas* revitalization is to improve the function and its performance in providing nutrition services at these facilities, either for personal (children, women at reproductive age and other risks groups) or general population to achieve better community health.

78. To achieve the objectives, the following activities are proposed: (i) training on the nutrition management program for the head and officers of *puskesmas*; (ii) training on the treatment of severely underweight/malnourished children (="tatalaksana gizi buruk") among the competence hospital and puskesmas officers; (iii) civil works, (iv) provision of nutritional status assessment equipment (including anthropometrically) and nutrition IEC materials at *puskesmas*.

Evaluation

79. There are some indicators to evaluate the performance of Puskesmas revitalizations, including: (i) number of trained and operated Puskesmas officers in GMP; (ii) number of revitalized Posyandu under the supervision of each Puskesmas; (iii) decrease of underweight prevalence (severe and moderate underweight), particularly among preschool children.

80. To evaluate the performance of Puskesmas, a regular monitoring will be held by district MOH. At overall project coverage (32 kabupaten/kota) independent evaluation will be done by third party(ies), through a competitive research grants.

c. SUPPORTING HOUSEHOLD FOOD SECURITY

Rationale

81. According to the Unicef framework of the occurence of child malnutrition,there are two direct factors affecting child nutrition status, namely food intake and infectous diseases. Adequacy of food and nutrition intake is dependence to household food security, that is the

capability of the household to access food at adequate quantity and quality continously to support healthy, active and productive lives.

82. Neglect of household's resources such as backyard (pekarangan) and idle land ("lahan tidur") is very common due to lack of manpower, continued supply of adequate seeds and other inputs, or other reasons. Various studies found that "pekarangan" has a significant contribution in supporting household food security whenever it is seriously cultivated.

83. Although GMP conducted at *posyandu* is among the most important activities to monitor and to prevent undernutrition, it is still not sufficient to assure the achievement of good nutrition status for the children and other at risk groups. Complementary to the improvement of nutrition services at *Posyandu* and *Puskesmas*, it is essential to improve household food security and provide clean water supply as part of the integrated activities under the proposed **"reformed" UPGK**.

84. Sustainability of UPGK, including Posyandu activities, according to various studies depend on the availability and active role of cadres. High rate of drop-out of cadres is among the important factor that lead to the decline of UPGK performance in the past time. Opportunity cost is among the main reason that lead to such drop out. Most of cadres are came from lower soci-economi classes. Aside of become a cadre, they usually also have to seek jobs to earn money to support household income. Compensation should be given to them to provide incentive that may attract them to continously joint the UPGK activities. It is therefore, economic empowerment for the cadres, is as important as that should be given to the target beneficiaries (poor households).

Goals and Objectives

85. The goal of the activities is that at the end of the project, there will be a reduction of the prevalence of underweight among under-five, pre-school and school children, and income improvement among cadres and poor households through the development of home gardening, school gardening, and promotion of "subsidized" school feeding activities.

86. The objective of this subcomponent are to: (i) improve poor household food access through the implementation of home gardening and other income generating activities; (ii) improve school children access to food by uses of school garden yields and subsidized nutritious and safe food; (iii) provide income generating activities of poor household and cadres through provision of revolving funds for economically productive activities;

Output

87. Outputs that will be derived are: (i) wider implementation of home and school gardening practices; (ii) better access of food among poor households and school children; (iii) better availability of nutritious and safe food for school children;

Proposed Activities and Mechanisms

88. The various schemes to support household food security include: (i) home gardening; (ii) school gardening; (iii) development of healthy "warung sekolah" (school canteen); and (iv) family empowerment, including cadre empowerment,

89. **School gardening**. In this subcomponent, home and school gardening activities will be developed through the following measures: (i) training on the home gardening and school gardening cultivation for farmers group, PKK/posyandu cadres, and UKS teachers; (ii) training on the uses of pekarangan yields for nutrition improvement (such as

complementary/supplementary food, nutritious snacks, etc) for mother/*dasawisma* member. Together with the implementation of food fortification program (component 3), particularly distribution of sprinkles and fortified Raskin, it will generate higher impact on the improvement of both macro and micronutrient intake for the poor; (iii) provision of guidance/manuals to cultivate home garden; and (iv) provision of supplies (particularly seeds and home gardening equipment for training at *posyandu/dasawisma).*

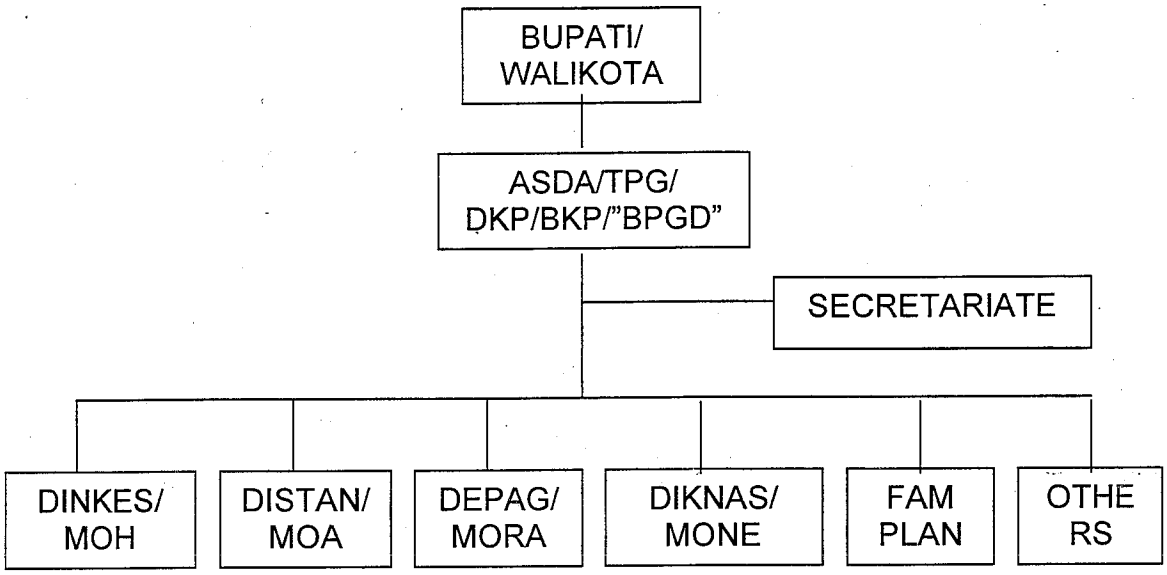
90. **Household empowerment**. The purpose of this activity is to improve the ability of household to recognize the economic potential of the household and how to develop this potency to provide adequate food and nutrition to all household members. The target group of this activity is poor household with undernourished children and cadres of PKK/Posyandu/Dasawisma. The inclusion of cadre as target group is to provide incentive to prevent cadres drop out. The main activities will include: (i) entrepreunership training and management of small scale economic activities (home industry, warung, food vendors, etc), (ii) provision of seeds money to start up the income generating activities; and (iii) family resource management/resource allocation, particularly that are related to nutrition improvement.

91. **Healthy School Canteen**. The purposed if this activity is to improve access of poor students to better quality (in terms of nutrient content and safety) of street food sold in school areas, including at school canteen. The program will be integrated with other efforts, particularly economic empowerment of cadres and poor households, as well as current actual program of "Badan Ketahanan Pangan" (Food Security Board) to improve quality of food sold in the school areas. The project will provide a certain amount of fund for those individual or group of cadres and/or poor households who are eligible on a competitive based. A revolving fund mechanism will be implemented, in cooperation with local bank, whenever possible. The activities will include the following: a) training on good food processing practices; b) nutrition, food hygiene and sanitation; c) snack food development, processing, and handling; d) small scale food business management; e) school feeding/food marketing and management; f) provision of revolving funds in cooperation with local bank or other revolving funds mechanisms.

MANAGEMENT MODEL OF UPGK REVITALIZATION

92. To assure that the UPGK revitalization objective will be attained, a management model, as indicated in the following discussions is planned to be implemented. These will include: (i) coordination mechanisms; (ii) establishment of community facilitator; and (iii) activities/responsibilities at each level.

93. **Coordination Mechanisms**. Whichever proven effective local multi-sectoral body/institution for nutrition improvement, such as "Badan Perbaikan Pangan dan Gizi (BPGD)" (Food and Nutrition Improvement Board); 'Tim Pangan dan Gizi' (Food and Nutrition Tim), "Badan Ketahanan Pangan (BKP)" (Food Security Body); "Dewan Ketahanan Pangan (DKP)" (Food Security Council), and others are available, the coordinating body for the implementation of UPGK could embody in this institution. If such coordinating body is not available, the coordination mechanism should be taken over by Bupati/Walikota and by ASDA (second assistant/development assistant) for daily activities. It should be supported by an effective and efficient secretariat. This secretariat will support Bupati/Walikota or Asda with sufficient information/data analysis for decision making process. The secretariat team will include all of representative from related sectors, and supported by competent supporting staffs for data entry and analysis, and other locally specific needed supporting staffs.



94. To achieve more efficient and effective budgeting, during the project implementation, a block grant will be transferred directly from central project to Kabupaten/Kota. During the first year of Project Preparation, a Community Facilitator Team will be established. It is a Team which is consisted of approximately 20 members per Kabupaten/Kota with the following characteristics and assignment:

(i) Consisted of following background: community nutrition, public health, agriculture, social welfare specialist, family/community development
(ii) Selected, hired and trained by Central Project, but placed at Kabupaten/ Kota to assist Kabupaten/Kota Secretariat.
(iii) Divided into smaller group (5 members each), work in 5-8 Kecamatan for each groups

95. Assignment: 1) Assist local staffs (health, agriculture, and other sectors, as well as community) in developing and maintaining UPGK programs at kecamatan and village level through implementation of appropriate methods and approaches; 2) Assist and empowering local community, particularly poor households and/or cadres in developing proposals to attained competitive grants and loans (revolving funds) for productive activities; 3) Conduct necessary trainings and activities which are directly or indirectly have impact to nutrition improvement and/or UPGK achievement; 4) Provide relevant information and reports to the project and kabupaten/kota's secretariat, particularly in terms of project achievement, identified problems, and other relevant information. Model management/project implementation from the community level up to Central project level is figured at Attachment 1.

ATTACHMENT 1. MANAGEMENT MODEL OF UPGK REVITALIZATION

LEVEL	COMPONENT OF MODEL			
	Improvement of Nutrition Education	**Basic Health and Nutrition Services**	**Food Security and Safety**	**Improvement of Household and Cadres Income**
COMMUNITY	• Technical training on good practices of nutrition and health caring among mothers at reproductive age • Implementation of balance diet at household level	• Establishment of cadres group (PKK/Posyandu/ Dasawisma) • Establishment of ten households group/ dasawisma activities • Uses of Posyandu, early chil education (PADU), Puskesmas and other public health and nutrition services by the target groups • Community mobilization to improve participation on community based health/ nutrition services	• Development of village home garden demonstra-tion plot/nursery to supply • Intensive uses of home garden to produce food to support household food security • Implementation of food and sanitation hygiene among student and household member	• Establishment and running of productive group for income generating (healthy warung sekolah/school food vendors, warung kader/ village food vendors managed by cadres, warung benih dan sarpotan/village agricultural input distributors, etc)
VILLAGE	• Health and nutrition education at Posyandu, PKK and Dasawisma activities • Nutrition counseling at Posyandu • Nutrition education at school • Community mobilization, particularly at urban areas	• Recruitment of PKK, Posyandu Cadres • Establishment of dasawisma • Implementation of regular Posyandu activities: including food supplemen-tation, immunization • Implementation of PADU	• Technical assistant on implementation of home and school gardening • Education/campaign on food hygiene and safety at village school and households	• Training on the develop-ment of small business plan and management for cadres and selected/ eligible poor household • Technical training: home gardening, food processing, etc
KECAMATAN	• Determine the target group • Refreshment training for Puskesmas officers (TPG, Bidan Desa), cadres Posyandu/PKK • Facilitate nutrition campaign through various activities • [illegible]/oni[illegible] anc[illegible]	• Refreshment training of Puskesmas of PKK, Posyandu Cadres on nutrition services in Posyandu and Puskesmas • Implementation of nutrition services at Puskesmas • Provision of technical assis[illegible]for c[illegible]	• Training for UKS teachers, cadres, religion leaders on food sanitation and hygiene at "warung sekolah", "warung desa" and household, and on home and school gardening	• Technical assistant for village cadres/poor household-dasawisma in developing "proposal" for competitive based income generating activities

MANAGEMENT MODEL OF UPGK REVITALIZATION

LEVEL	COMPONENT OF MODEL			
	Improvement of Nutrition Education	**Basic Health and Nutrition Services**	**Food Security**	**Improvement of Household and Cadres Income**
KABUPATEN/ KOTA	• Refreshment training for health, agriculture, BKKBN, MORA, MOE staffs at kabupaten level; • Running nutrition campaign toward balance diet at kabupaten level • Facilitate kecamatan level to conduct nutrition education at kecamatan and village level • Conduct supervision, monitoring and evaluation	• Training on nutrition management program for the head and officers of *puskesmas*; • Training on the treatment of severely underweight/ malnourished children (="tatalaksana gizi buruk") among the competence hospital and puskesmas officers; • *Conduct puskesmas*, supervision in improve-ment of referral system development for the severely malnourished children and their treatment; • Distribute nutritional status assessment equipment (anthropometrically) and nutrition IEC materials to *puskesmas* (kecamatan and village)	• TOT on the home gardening and school gardening cultivation for farmers group among kabupaten and kecamatan officers • TOT on the uses of pekarangan yields for nutrition improvement (such as complementary/ supplementary food, nutritious snacks, etc)	• Develop cooperation with local banking to facilitate distribution of budget for revolving fund • Together with Community Facilitator Team (CFT) develop revolving funds delivery plan on a competitive based • Together with CFT conduct monitoring and evaluation of the implementation of community empowerment activities and results • Facilitate training for kecamatan officers on community empowerment and management;
PROVINCE	• Conduct TOT and training for province and kabupaten facilitator;	• Conduct TOT and training for province and kabupa-ten level;	• Conduct TOT and training on food security through implementation of	• Conduct TOT and training on food security through implementation of

	• Running nutrition campaign, advocacy at province level; • Monitoring and evaluati-on nutrition education at province level	• Monitoring and evaluation on the effectiveness of Puskesmas and Posyandu revitalization at province and kabupaten level	home and school gardening, • Conduct monitoring and evaluation on the impact of food security sub component at province and kabupaten level	home and school gardening, • Conduct monitoring and evaluation on the impact of food security sub component at province and kabupaten level
CENTRAL	• Develop, conduct field testing, multiplying and circulating guidance, manuals, training kits for nutrition education f • Conduct TOT for province officers • Develop and implement nutrition advocacy and campaign through social marketing approach education mass media campaign (television, radio spot and printed materials); • Conduct impact evaluation of nutrition education to the nutrition knowledge and behavioral changes (towards habits balanced) diets and nutritional status of the target groups.	• Develop and multiply training/orientation material for Puskesmas, BKKBN, and agriculture officers, as well as community workers • Conduct TOT for province officers • Provisions of supplies, such as *posyandu* guidance books, KMS (=Kartu Menuju Sehat/ growth monitoring chart), IEC materials, report forms, dacin, and other supporting facilities; • Provision of facilities to run early child education for 2 to 6 years old children (*Pendidikan Dini Usia* or PADU); • Provision of supporting operational budget to run *posyandu* and PADU whenever appropriate;	• Provision of guidance/ manuals of cultivation and uses home garden yields; • Conduct TOT for province officers, • Conduct monitoring and evaluation on the impact of food security	• Develop the distribution system of stimulating budget (revolving funds) for community empower-ment • Establish guidance on community empowerment/ income generating activities for cadres and eligible poor households • Conduct TOT fro province level (offficers

	• Establish Community Facilitator Team to be placed at kabupaten/kota • Provide trainings (leadership and management trainings) for Community Facilitator Team • Conduct coordination, monitoring and evaluation

SUPPLEMENTARY APPEN DIX C

FOOD FORTIFICATION

I. BACKGROUND

1. Micronutrient deficiencies still affect the health and nutritional status of significant sections of the population, particularly the poor, in many regions. Iron deficiency anaemia (IDA), Vitamin A deficiency (VAD) and Iodine deficiency disorders (IDD) are still prevalent and contribute to morbidity, mortality, growth retardation, brain damage and reduced cognition and working capacities among children and adults. In turn these deficiencies may result in decreased productivity and pressure on the provision of health and education. The greatest impact is on the poor, particularly in urban slum areas where they may suffer multiple micro-nutrient deficiencies resulting from a change in dietary patterns.

2. Various interventions to deal with the micronutrient deficiencies have been launched since 1970s by GOI although it concentrated on dietary supplementation and nutrition education. Fortification as the most cost effective intervention was strategy to combat micronutrient deficiencies was only recognized in 1994 with mandated salt iodization and has since been extended in 2001 with mandatory wheat flour fortification. To enhance the efficacy and effectiveness of fortification program in Indonesia a national round table meeting on fortification was organized in Jakarta in July 2004 organized by MOH, followed by a national public-private workshop on fortification held in December 2004 in Cisarua Bogor organized the Indonesian Fortification Coalition (KFI), (KFI, 2005)

3. The round table meeting on fortification recommended practical issues such as: 1) improved quality assurance and the need for effectiveness study of wheat flour fortification; 2) find new strategies to make various flour products more accessible and affordable to the poor; 4) conduct food consumption study of the urban poor to find other food vehicles; 5) strengthening public-private partnerships to include producers of flour products such as noodle manufacturers; and 6) strengthening the provincial and local co-ordinating mechanisms such as the Food Security Council, the Food Security Board and the Food and Nutrition Surveillance Teams.

4. The national public-private workshop discussed more on policy issues and strategic plan of actions, recommended that: 1) The priority objective of food fortification should be to prevent and reduce the prevalence IDA, IDD and VAD; 2) Fortification Policy should focus on strengthening the implementation of mandatory wheat flour fortification, and salt iodization; 2) Explore other feasible food vehicles beyond wheat flour and salt; 3) Ensure availability and accessibility of affordable fortified complementary food (MP-ASI) for children of low income families; and 4) To pursue the development of sprinkles as a viable means for home fortification, and the development of double iron-iodine salt fortification.

5. Started in the end 2005, under the grant assistance of the Japan Fund for Poverty Reduction (JFPR), the government of Indonesia in cooperation with Asian Development Bank develop food fortification pilot program for urban poor in Makassar and North Jakarta. Two pilot projects will be implemented, namely: a) development and operationalization of "sprinkles", and b) effectiveness study of unbranded palm oil fortification with vitamin A. With regards to the pilot of sprinkles, the activities will be conducted particularly consentrated on the

feasibility study of locally produced sprinkles, including its efficacy and effectiveness study, which then followed by advocacy to industries and government institutions for its implementation. A study conducted by KFI and MI in 2004 on the feasibility of cooking oil fortification with vitamin A showed that unbranded palm oil ("minyak curah") was technically and economically feasible to be fortified with vitamin A. Based on this results, the JFPR pilot project in Makassar is focused on the industrial implementation and its effectiveness study. A market analysis, palm oil/cooking oil consumption and biochemical impact will be evaluated. In addition, efforts to build capacity to enhance access to quality fortified food for the urban poor in North Jakarta and Makassar will alaso be conducted. It will consisted of two main activities, namely: i) improvement of quality and quality assurance of fortified wheat flour and reinforce fortification regulations; and ii) raise public awareness of the benefit of fortified food (wheat flour within the dietary guidelines). In continuation to the above mentioned efforts, the project means to strengthen the ongoing GOI fortification program by implementing part of the recommendations cited above in 9 provinces, namely: North Sumatra, South Sumatra, Banten, West Java, South Sulawesi, West Kalimantan, West Nusa Tenggara, East Nusa Tenggara, and Jakarta.

B. CURRENT INTERVENTIONS AND STRATEGIES FOR THE ELIMINATION OF MICRO-NUTRIENT MALNUTRITION

Iron Deficiency Anaemia

6. Recent evidence of the strong relationship between even mild iron deficiency and brain development has added impetus to the need for its prevention. Furthermore, observations indicate that functional defects affecting behaviour and learning cannot be reversed by the provision of iron at a later date. Iron deficiency can be fought using one or more of the following strategies: 1) iron supplementation (ie giving iron tablets to target groups such as pregnant women or pre-school children); 2) iron fortification of foods such as flour; 3) food and nutrition education to increase intake of iron and particularly by improving the bio-availability of the iron.

7. Since 1974, the main strategy in dealing with iron deficiency in Indonesia has been the routine iron supplementation of pregnant women since 1974. However, children are notably absent from the programme. The numbers reached were increased during the early 1970's through collaboration with a number of government ministries in order to combat anaemia and introduce Iron Folic Acid (IFA) supplementation to various groups. Ministries involved included the Ministry of Religious Affairs which targeted newly married women and children attending Islamic schools, the Ministry of Education reached schoolchildren and the Ministry of Manpower provided the supplement in the workplace. In 1996 a programme to distribute iron syrup to children in the eastern part of the country was started. No monitoring of the initiatives was carried out and their status is unknown.

8. The positive impact and declines in anaemia prevalence among pregnant women and women of reproductive age achieved during 1985-95 can be attributed to the increased attention to anaemia in antenatal care services. Improvements include increased supply and availability of IFA supplements at each level of the health system, improved packaging, messages about taking supplements and mitigating side-effects, availability of programme guidelines and protocols, and monitoring systems for anaemia and supplement use.

9. The current iron supplementation programme aims to cover all pregnant women who are reached through the village midwife (bidan-di-desa), Community Health Centre (puskesmas) or health post (posyandu). In the past most of the tablets were provided by UNICEF but currently central and local government have taken on the responsibility. Supplementation starts during the first ante-natal carte visit. The most recent coverage figures indicate that 71.6% of pregnant women receive iron tablets during their first trimester while 62.2% are reached during their third trimester. Pregnancy monitoring cards are distributed to every pregnant woman and include a record of iron tablets provided. This has helped improve compliance and the accuracy of monitoring. However problems with the distribution and delivery of iron tablets, monitoring and evaluation of coverage and compliance still exist. Overall only 24.4% of pregnant mothers consumed the full number of iron tablets recommended. The lowest compliance is found among older and higher parity women, those with poor education and those not receiving any ante-natal care.

10. Although attempts to fortify foods with iron have been on-going for 30 years, the only programme to be applied nationally has been that of wheat flour fortification. While Indonesia is predominantly a rice eating country, the consumption of wheat has been growing steadily at the rate of 12% per year. Per capita consumption of wheat flour has been estimated at 15kg/year or just over 40 grams per day. Most wheat is imported and milled at 5 large modern facilities. Recognising this opportunity to supply additional nutrients, the Government of Indonesia supported the fortification of flour in 1998. Regulations mandating the fortification of all wheat flour with a premix containing iron, zinc, folic acid, vitamin B1, and B2 became effective in February 2002. However the programme faces challenges in its ability to determine the effectiveness of the flour fortificants and in weak monitoring and quality control systems.

11. Studies have shown that noodle consumption in Indonesia is fairly widespread (about 45% of the total population consume them at least three times a week), even in rural areas and among the urban poor. The initial cost for the premix (see above) was subsidized by CIDA (Canada) and USAID, but has recently been absorbed by the wheat flour industry. Indonesia is one of the few countries in the world to include zinc because of the recognized risk of zinc deficiency. Today almost 90% of Indonesia's flour is fortified. Fortification adds an insignificant cost of 0.15 cents US$/kg of flour or approximately 0.27% to the price of flour. It provides 16% of the weekly iron requirement and 8% of zinc requirement to those who consume the fortified flour or noodles at least 3 times a week. The total cost of flour fortification to the country is just US$5 million/year. Significantly, the costs to address anaemia and other consequences of not fortifying would be much more substantial.

12. While the milling industry has generally supported fortification and complied with the regulation, sustainability of the intervention is fragile. The price of the fortificant mix set in dollars has soared since the rupiah lost value in 1998 and then again in the middle of 2004. The use of elemental iron as an iron compound for fortification has to be reconsidered due to its low absorption. In addition, weak communication and enforcement has resulted in a 20-30% rise in importation of less expensive un-fortified flour in the past few years. Effective food control and law enforcement are critical program elements that need to be strengthened in order to ensure a successful wheat flour fortification program in Indonesia.

13. Although iron supplementation is widely used to treat adults for iron deficiency, practical options for children aged 6-59 months are scarce. Multi-

micronutrient fortificants (MMF) can be added to the child's complementary or regular food to help reduce both IDA and VAD and may provide an effective method. The formulation as "sprinkles" in a small packet also provides flexibility to add micronutrients other than iron to the food. Helen Keller International (HKI) have held an efficacy trial of "sprinkles" on children 6-30 months old, over a six month period in North Jakarta. The results showed that 75% of the parents used 5-7 sachets per week and anaemia and iron deficiency were reduced in young children. The researchers believe evidence of its efficacy justifies large-scale expansion to other nutrition and deficiency prevention efforts.

14. Homemade complementary foods found in poor communities are often cereal based porridges fed to infants, typically in the age group 6-24 months. For some infants and young children, the small quantities of such porridges consumed do not contain enough energy and micronutrients to meet their daily requirements. Fortified complementary food (FCF) can be an attractive option for young children to increase the quality of their diet. The JPS-BK, social safety net, introduced to mitigate the impact of the economic crisis on the health and nutritional status of the poor had a complementary feeding component for poor children aged 6-24 months. Low-cost FCF was provided by UNICEF (Vitadele, 1998-2000), WFP (Delvita, 1998-2003), MoH/ADB (MPASI, 1999-2002), and MOH (MP-ASI, 2003). The food industry produces the FCF at lower price for an existing social-sector market, i.e. government projects like social safety net (JPS-BK) during the crisis, but these products are not available to the general population or through private markets. The main barriers to widespread commercial use of FCFs are access, price and awareness. Mechanisms to make these products accessible to poor households at affordable cost and to generate interest and demand among mothers are critical issues that need to be further discussed.

15. Venkatesh Mannar, the president of the Micronutrient Initiative (MI) in a visit to Indonesia in 2002, concluded that the production and consumption of commercial FCFs in Indonesia is constrained by several factors and entry barriers, notably:

- Cost to consumer and affordability
- High factory start-up costs
- High turn-over in the customer pool
- Volume per customer is inherently small
- Mothers are conservative about trying new kinds of baby food
- Health policies tend to be unfavorable to the infant food industry
- Risk of the poor hygiene of the socio-economically disadvantaged.

16. Given the above constraints, Mannar suggested that it is unlikely that there will be large and rapid growth in the production and consumption of FCFs without additional resources that can be made available to tip the balance of risks and benefits and make a more favourable investment climate.

17. There are ample foods rich in iron in Indonesia, but with low bio-availability. The main staple food of Indonesia is rice which is replaced in some areas by corn, tubers or sago, all of which are low in iron content of low bio-availability. For older children and adults, there are ways to enhance the iron intake of traditional Indonesian food by diversifying food consumption based on nutrition / dietary guidelines ("Gizi Seimbang"). Iron absorption enhancers containing ascorbic acid, fermented vegetables and fermented soy sauces can be eaten with the

meal while foods containing phytates (bran etc) and iron binding phenolic compounds such as tea, coffee and calcium (milk, cheese) can be avoided.

18. Iodine Deficiency Disorders (IDD)

19. Iodine deficiency can cause miscarriage, stillbirth or neonatal death and neuromuscular speech and hearing abnormalities may be found in children born to iodine deficient mothers. In areas where IDD is endemic it can lower the average intelligence quotient of the population by as much as 13 points. Apart from the extreme cases resulting in cretinism, mild reductions in developmental capacity across an entire population can also limit economic and social development.

20. Until 1980s the main intervention to control IDD in Indonesia was iodine oil injection (Lipiodol). Its administration was replaced in the 1990's by iodine capsule supplementation in areas where IDD was considered to be endemic. Iodine capsules were distributed through rural community health services (puskesmas) to women of reproductive age and young children. The capsules were purchased by the central government until 1999, when the responsibility was shifted to the district and provincial governments. This policy has recently been reviewed and the strategy of supplementation has been eliminated from the national control program in favor of focusing exclusively on iodized salt as the primary intervention to achieve the elimination of iodine deficiency.

21. Efforts to iodize salt started in the 1970's but significant coverage was only achieved following a presidential decree in 1994 mandating that all salt for human consumption to be iodized. The current major strategy for salt iodation is to increase production, distribution and consumption of iodized salt in order to achieve Universal Salt Iodization (USI). In Indonesia achievement of USI is to be implemented through the following strategies:

- improvement of salt quality at the farmer (producer) level,
- increasing the quantity and quality of salt iodization,
- improving distribution of iodized salt, and
- increasing consumption of iodized salt.

22. Over the past twenty years, there has been a dramatic increase in the proportion of the population using adequately iodized salt (salt with iodine > 30 ppm), with almost three quarters of the population now consuming sufficient salt to satisfy their daily requirements for iodine. The state owned PT Garam produces 20% of the country's salt and more than 250000 small farmers producing the rest. Small farmers normally sell to traders who sell on to processing units, which wash dry and iodize the product. However some salt arrives on the market without iodation and accounts for the 20% salt with no iodine.

23. The main problems in controlling the production and distribution of salt include; weak law enforcement to control the quality of iodised salt among large salt producers; uncontrolled supply of raw, non-iodized salt directly from salt farmers to market, and lack of nutrition education to influence the persistent demand among some segments of the population for non-iodized salt. These factors have contributed to the stagnating level of iodized salt consumption at 60-70% of all households over the last 6 years and will make it difficult to achieve the

USI goal of at least 90% of households consuming adequately iodized salt by the end of 2005.

Vitamin A Deficiency (VAD)

24. Indonesia was one of the first developing countries to identify vitamin A deficiency (VAD) to be a problem of public health significance and implement programs to control VAD. Pioneering research conducted in the country clearly established the link between vitamin A status and child mortality/morbidity which led to global priority and action to address the problems.

25. Prior to the economic crisis in the late 1990's, through the provision of high dose vitamin A capsules to preschool children, the country had reduced the level of clinical VAD to levels where it was no longer considered to be a public health problem. The economic crisis pushed a large number of families below the poverty line and increased the price of basic commodities, resulting in a dramatic reduction in their consumption of nutritious foods, including vitamin A rich foods of both animal and plant origin. Information post crisis provided by the GOI/HKI surveillance system shows that although there were improvements in intake of 12-59 month olds from 140 retinol equivalents (RE) to 194 RE in urban slum areas and from 102 RE to 115RE in rural areas between 2000 and 2003, the quantities fell far short of the Indonesian RDA of 350 RE per day for children under 5. Likewise for the same period in both urban slum and rural areas non-pregnant, non-breastfeeding women consumed less than half the Indonesian RDA of 500 RE/day with virtually no changes over time (NSS 2004).

26. Vitamin A supplementation has been recognized as one of the most cost-effective public health measures, not only to reduce the prevalence of vitamin A deficiency, but also as an intervention to improve child survival. Since the early 1980s, the national strategy for the control of vitamin A deficiency has focussed mainly on the provision and delivery of high dose vitamin A capsules to all children under 5 years twice per year and all post-partum women within 4 weeks of delivery. The distribution of capsules was sustained (but not improved) during the economic crisis where the coverage was 60-70%. Indeed, coverage only reached 90% when the distribution was linked to polio National Immunization Day.

27. Data on the penetration and coverage of Vitamin A supplementation are available through routine reports from the Ministry of Health, as well as though national surveys. There has been considerable improvement reported since 1999, particularly among infants 6-11 months (who were only targeted from 1999) and to a lesser extent amongst post-partum women and in round 1. However, the national goal of at least 80% coverage has not been met consistently in any of the target groups. Neither is there any emphasis on completing or recording the full dosing schedule of 2 Vitamin A capsules per year among children 12-59 months of age.

28. In the regular distribution system, coverage figures are much lower than those achieved by many countries in Asia through special campaigns and routine health service delivery infrastructure. Moreover, coverage between provinces varies from 97% in Sulawesi Tengah to 24% in Sulawesi Selatan. There is, therefore, an urgent need to increase coverage in low performance areas such as urban slum areas and outlying islands and increased efforts are needed to ensure central and local GOI allocates sufficient budget for vitamin A capsule procurement.

29. It has frequently been suggested that vitamin A supplementation is a short-term strategy that is appropriate until more sustainable approaches can be implemented. This is not the case. Successful vitamin A supplementation programs have been in place for decades in many developing countries, including Indonesia. Policymakers should be advised that supplementation can be an essential element of a long-term approach to VAD elimination. It is imperative that countries achieve and maintain high supplementation coverage levels until there is solid evidence that other interventions are providing adequate protection.

30. A number of attempts have been made over the past 30 years in Indonesia to develop national vitamin A fortification programs. Major efforts to use MSG as a carrier in 1980s failed owing to factors including colour stability, lack of producers' acceptance and community concerns about the safety of MSG for infants and young children. In recent years a private company has produced a fortified complementary food that includes vitamin A, targeted to infants 6-11 months. In addition there is partial fortification of dry skim milk powder and wheat flour noodles. Data from a recent round of nutritional surveillance (NSS, 2004) indicates that as many as 30% of children aged 10-24 months are receiving at least 1/3 rd of their RDA for VA from fortified foods. This is particularly true in urban areas where such foods are more widely available.

31. Vitamin A fortification of sugar seems difficult to implement in Indonesia at this moment due to the price instability of sugar and trade policy. On the other hand, the introduction of Vitamin A to cooking oil is being explored to identify the types of oil most commonly consumed by the population, particularly the poor (KFI, 2004). In addition, any effort to fortify with vitamin A should be preceded by an assessment of VAD prevalence and the intake of Vitamin A so that appropriate fortification levels can be established. The latest data available on VAD prevalence in Indonesia are from 1992 national vitamin A survey.

32. Several food-based strategies have been implemented to increase the consumption of vitamin A rich foods from animal sources (eggs, meat and milk) and carotene rich plant sources (orange and yellow pigmented fruits and dark green leafy vegetables), although the impact of these activities has never been systematically evaluated. The most recent data from the Susenas health module (BPS, 2004) has revealed that the poorest segment of the population (income in lowest quintile) increased their food expenditure on vegetables, fruits and animal protein, while maintaining their per capita energy intake at only 1,500 kcal/day. This observation conflicts with the common belief that poor people spend any marginal income to purchase those foods that would provide for additional energy. No study has attempted to analyze if the increasing consumption of vegetables and fruits is a result of the penetration and absorption of messages provided through nutrition education activities.

C. LESSONS LEARNED FROM FOOD FORTIFICATION PROGRAMMES

33. Two mandatory food fortification laws operate in Indonesia. The first, issued in 1994, relates to fortification of salt with iodine; and the second issued in 2001 requires the fortification of wheat flour. Prior to independence salt production was a monopoly and salt iodised by mandate. Following the abolition of the monopoly, thousands of salt farmers and small salt producers started production in the northern coastal areas of Java and Madura, South Sulawesi and most small

islands in the eastern part of Indonesia (NTT and NTB). Their production was unregulated and the salt un-iodised.

34. Salt iodisation was revived as an issue by the government with support from UNICEF in the mid 1970's and led to the first national goitre mapping which identified sub-districts with high rates of iodine deficiency based on total goitre rate (TGR). Following the mapping, the government issued a joint ministerial decree in 1985 on mandatory salt iodisation by the Ministries of Industry, Health, Trade and Home Affairs. This was upgraded to Presidential Decree status in 1994 with an instruction that only iodised salt could be traded throughout the country. The policy was in line with global advocacy on achievement of Universal Salt Iodisation (USI) by the year 2000. The first national iodised salt consumption survey was undertaken in 1996 to monitor the progress toward USI. The survey indicated that the provincial decrees, which were issued to follow up the national decree, resulted in increased consumption of iodised salt; consumption approached USI in Sumatra (except North Aceh), Kalimantan, Sulawesi (except South Sulawesi) and West Papua where there was no small-scale production. Success in these areas was largely due to effective law enforcement and only permitting the importation of iodised salt from the salt producing provinces, notably East Java.

35. The successful control of non-iodised salt distribution was not sustained in all provinces. In 1997-2000, due to social unrest and changes in government, there was uncertainty in nutrition policy and implementation of programmes such as that on IDD. At the same time high rainfall hampered domestic salt production, leading to shortages and a relaxation of regulations which had prevented the importation of salt in many provinces. The relaxation of policy continued even when local production subsequently exceeded local demand. The importation now complicates the regulation of trade in small producer's salt especially in Java, Bali, NTT, NTB and South Sulawesi. Poor salt farmers have become poorer trying to compete with imported salt, much of it un-iodised, by selling poor quality un-iodised salt directly to poorly educated consumers at local markets. The proportion of households consuming adequately iodised salt, therefore, remains low in these salt-producing areas. Implementation of the mandatory law on salt fortification tends to be focussed towards the manufacture of good quality salt and not on the control of non-iodised salt into the market.

36. In 2001 and new law mandated the fortification of all wheat flour marketed in Indonesia with Iron, Zinc, Folic Acid, vitamin B1, and vitamin B2. The law was initiated by the Ministries of Health and Industry supported by UNICEF. During the first year the cost of the fortificant was subsidised by the government through a grant form USAID and CIDA. In subsequent years, the cost of the fortificant has been borne by the industries themselves. With mandatory wheat flour fortification in place, all wheat flour produced and marketed in Indonesia must comply with the National Industrial Standard (SNI). All wheat flour not complying with the SNI is considered illegal. In 2003 the law was challenged by the importation of unfortified wheat flour, but the government was consistent in enforcing the law. The illegal flour was either destroyed or re-exported.

37. The government has involved industry at all stages in the preparation of the national fortification plan, both from the initiation of the mandatory fortification of salt in the 1970's and wheat flour in the late 1990's.For salt iodisation, various government co-ordination bodies under the MOI and MOH have been established to draw together farmer's salt co-operatives and small, medium and large scale

producer's, represented by the iodised salt producer's association (APROGAKOB).

38. Wheat flour industries were reluctant to accept the concept of wheat flour fortification when it was first introduced by the government as part of the nutrition component of its five-year development plan in the 1980's. The industry was sceptical of the benefit of fortification for producers and consumers, particularly the poor. With the advancing science of nutrition and food fortification and consistent government commitment to nutrition in the early 1990's, the industry began to understand the importance of fortification and its role in the implementation. Companies became actively involved in developing technology for fortifying wheat flour through production and marketing trials. Their commitment became more significant after the government issued the SNI and the mandatory law on wheat flour fortification. The industry now on longer depends on subsidy for the purchase of fortificants but passes the cost on to consumers. Industries have begun to strengthen their fortification activity by paying more attention to quality control and pricing policy, to ensure that products using fortified wheat flour, particularly noodles, are accessible to the poorest consumers who are most in need of the fortificants.

39. A public-private partnership to strengthen the food fortification programme was set up in 2001 through the establishment of the Indonesian Coalition for Fortification (KFI), an independent, NGO promoting food fortification in partnership with government, food industries, NGOs and civil society.
40. The national household salt consumption survey which is conducted yearly by the Central Bureau of Statistics (BPS) provides evidence of the effectiveness of salt iodisation in Indonesia. The recent special project evaluation by the Ministry of Health (MOH, 2003) showed a significant correlation between iodised salt consumption and the sample urinary iodine excretion (UIE).

41. The national coverage of iodised salt has slowly increased from 50% in 1995 to 73% of households in 2003. Many provinces in Sumatra, Kalimantan, Sulawesi and West Papua have successfully reached coverage levels close to the USI target of 90%. Meanwhile stagnant coverage is observed in Java (approximately 60%), Bali (<40%), NTB (<20%), NTT (around 30%), and south Sulawesi (40-50%), which together comprise more than 70% of the total Indonesian population. Analysis from the IDD national survey 2003 demonstrates positive association between household coverage of iodised salt and urinary iodine secretion, a relationship not shown between iodised salt consumption and total goitre rates (Gorstein, 2005).

42. The effectiveness of wheat fortification has not been evaluated in the current phase. In the past 2-3 years, the programme has been focussed on quality assurance (QA) and quality control (QC) during production and distribution, as well as advocacy to the government authorities to effectively enforce regulations against the illegal import of unfortified wheat flour. An independent effectiveness study is planned in the near future in partnership with various government and non-governmental agencies.

D. NATIONAL STRATEGIC PLAN OF ACTIONS FOR FORTIFICATION AND PROPOSED PROJECT UNDER PPTA NO.....

Based on the lessons learned of the fortification program in Indonesia, the public and private workshop on fortification in December 2004 formulated the strategic and plan of actions for fortification in Indonesia from 2006 – 2020, as follows:

1. Objectives

To accelerate the availability and consumption of fortified foods, especially those fortified with iodine, iron, and vitamin A ; 2).To ensure the fulfillment of daily micronutrient requirements in order to reduce the prevalence of micronutrient deficiency by 50% by 2020, particularly VAD, IDD and IDA.

2. Targets and Goals

2.1. Iron Fortification

More than 90% of the Indonesian's households, consume iron-fortified wheat flour in accordance with established standard by 2015 :

a. Fortification of rice for the poor ("RASKIN") with iron is initiated by 2008.
b. New food vehicle (s) for effective iron fortification is (are) identified by 2007.

2.2. Vitamin A Fotification

a. Implement the recommendations of national VAD assessment in 2006/2007.
b. Vitamin A fortification in cooking oil to be started in 2008/2009
c. New effective vehicle for vitamin A fortification is identified and developed by 2008.

2.3. Fortification of Complementary Foods and development of sprinkle

a. Emergency funds are allocated beginning in 2007 at the Provincial and District Development Annual Budgets for procurement of Fortified Complementary Foods ("MP-ASI), as a component of emergency food-basket aid ("SEMBAKO") for infants and young children.
b. Commercial and low cost MP-ASI is available and affordable to low-income families (by government price subsidy) through market mechanism by 2008.
c. Eighty percent of young children of 6-24 months of age consume adequate MP-ASI by 2015.
d. Fifty percent of young children (6-24 months) from low-income families consume adequate MP-ASI by 2015.
e. Micronutrient sprinkles are available in the market and culturally acceptable, efficacious for fortifying home-made MP-ASI, and affordable to low-income families by 2010.

3.1. Objective:

a. To accelerate and strengthen the implementation of the mandated fortification on wheat with iron, zink, folate acid, vitamin B1 and B2, to combat iron deficiency, and salt iodization to combat IDD.
b. To find new vehicles for iron and vitamin A fortification, tested in pilot areas and scaling up in project areas.
c. To accelerate the availability and accessibility, and consumption of mandated fortified foods, and fortified foods with vitamin A to the target groups, especially young children and pregnant women of poor households in project areas.
d. To review and if necessary revise existing regulation, and propose new regulation as the legal basis for accelerating the fortification program
e. To improve advocacy effectiveness to policy makers for food nutrition program especially on food fortification, and to actively create demand for fortified foods

mentioned above through improving knowledge, attitude and behaviour in nutrition.

f. Strengthening government institutions involved in fortification in policy and regulation, quality control monitoring, manpower training and public-private partnership

g. Conducting research and development in fortification, on: 1) efficacy and effectiveness studies of wheat fortification, sprinkles, cooking oil fortification, and Raskin; 2). Feasibility studies of rice fortification with iron; double iron and iodine salt fortification, and 3) base-line data assessment of micronutrient problems and formative and summative evaluation of the projects.

3.2. Project Components

3.2.1. Iron Fortification

a. Strengthening the national wheat flour fortification

Wheat flour fortification started in 1999, however, the program for quality control of food manufacturing, monitoring at the consumer level, impact studies and marketing studies, as well as monitoring imported foods, advocacy, promotion, and law enforcement is still weak. As a result unfortified wheat flour can still be found in parts of Indonesia, despite national legislation passed in 2001 mandated all wheat flour to be fortified.

Goals:

10% reduction the prevalence of anaemia and improved nutritional status among at-risk groups through strengthening the wheat flour fortification program by the end of the project

Objectives:

a. to assure universal wheat flour fortification in project areas within 5 years;
b. to improve coverage of fortified wheat flour consumption as significant part in the diet of all households, from 37% to 50% within five years;
c. to improve law enforcement of existing regulations for wheat flour within three years;
d. to assure 50% of poor population consumes fortified wheat flour within five years;
e to improve the bio-availability of fortified wheat flour by finding the most appropriate food fortificant (by cost, technology) to supplement iron intake within five years;
f to demonstrate the impact of wheat flour fortification on the anemic status of the poor population within three years.

Evaluate Goals and Objectives

Collect baseline data on quality of wheat flour in the market and on IDA prevalence of target group (at risk) in the first three-month of the project and conduct effectiveness study during the first year of project. Ensure the QC monitoring for fortified wheat flour is properly and regularly implemented as planned in the project. Ensure that IDA prevalence survey is conducted in third year of the project and in the following years as part of the national household health survey conducted by the Ministry of health.

Monitoring household consumption of fortified wheat flour through the existing national socioeconomic survey (SUSENAS) conducted by CBS.

Activities

Training the manpower and institution for quality assurance, quality control, law enforcement, and communications.

a. Strengthening lab facilities at wheat flour mills, and at government food monitoring agencies;
b. Running fortification communication and advocacy program for legislative, executive, judiciary, food industry, and the general public.
c. Standardizing wheat flour quality.
d. Review effectiveness of existing regulations and explore new regulations for ensuring the quality of iron enriched wheat flour.
e. Monitoring iron fortification level of imported wheat flour.
f. Monitoring wheat flour consumption by the "at-risk" population.
g. Monitoring the prevalence of IDA.
h. Conducting bio-availability tests on fortified flour.

Target groups:

1. At risk population: all infants 6-11 months; all children under five years, all school aged children, all pregnant and lactating women. Taken from 42% urban and 58% rural of the lowest 40% income groups
2. Program providers (public and private)- see capacity building

Output:

a. Qualified manpower for QA and QC for wheat flour fortification in the flour mills, major port laboratories, and national labs available in project areas.
b. Improved laboratory facilities to test milled wheat flour to see in it meets the standards and established network for QA and QC among the labs.
c. Improved awareness of various target groups including legislative, executive, judiciary, food industry and consumers about the benefits of fortified wheat flour.
d. Improved quality of wheat flour in the market as indicated by compliance to the national standard.
e. Increased prosecution of illegally imported unfortified wheat flour cases.
f. All imported wheat flour will be monitored for compliance with national standard.
g. An increase from 37% to 50% of households consuming fortified wheat flour.
h. Availability of data on trends of IDA by geographical region and risk groups.
i. Decreased prevalence of IDA among target groups.
j. Capacity Building

b. Development and Delivery of Sprinkles

The need for low cost fortified MPASI affordable to poor families emerged during economic crises in 1998 when the prevalence of severe malnutrition was increasing. As emergency actions, to prevent worsening situation, MOH and UNICEF Indonesia in collaboration with a private industry produced low-cost fortified MPASI to be distributed free to the afflicted areas to at risk

children, through Puskesmas and Posyandu. The program is still continued with government budget even in normal or non-emergency situation. For sustainability purposes, the availability of low-cost MPASI should go through market mechanism with government price subsidy for poor families. In its development there is alternative for low cost complementary food for poor children through development of sprinkle

Goals:

To assure that Sprinkles contributes to the reduction of 50% under-weight children during period of the project, through:

a. Advocating to potential industries for market development of low-cost Sprinkle
b. Advocate policy makers (legislation and executive) to allocate budget for Sprinkles subsidy to poor families and annual emergency budget earmarked for MPASI for under-three children in emergency areas.
c. Promote community awareness on the importance of breast feeding and Sprinkles as part of "family-awareness" campaign on nutrition.

Activities:

a. Conduct nutrition campaign on breast feeding and uses of sprinkles through national and local mass media (print and electronic)
b. Conduct validity study for efficacy, effectiveness, and acceptability of existing sprinkle in the market.
c. Advocate industry to develop new Sprinkle with main nutrients: iron, iodine, vitamin A, zinc, folic acid, and B1 and B2 vitamins.
d. Advocate legislative and executive through meeting and seminar, and personal contact on breastfeeding Sprinkle issues during normal and emergency situation.
e. Advocate local legislators to issue legislation on emergency budget for
a. MPASI during disaster (emergency) and subsidy for the poor during normal situation.
f. Lobby Budget Commission of DPR and DPRD, BAPPEDA, (local Planning Agency), BAKORDA (local Emergency Coordinating Committee) to allocate budget for MPASI and Sprinkles subsidy for the poor, and MPASI during disaster emergency budget for MPASI and Sprinkle.
g. Lobby to MOH and MOI to issue regulation that give incentive to infant food industries to produce low-cost MPASI for emergency purposes and for poor families
h. Training and workshop on distribution, storage, marketing, and promotion/ consumer education to consumers of MPASI and Sprinkle during normal and emergency situation
i. Conduct formative and summative evaluation on distribution, marketing coverage, effectiveness MPASI and Sprinkle in any situation.

Target groups:

Children under-two of age of poor families, taken from 42% urban and 58% rural of the lowest 40% income groups

Output:

a. Issuance of regulation concerning production, distribution, marketing, and subsidy of low cost MPASI that accessible to low-income families and its availability during disaster/emergency

b. Availability of low-cost MPASI in the market and small vendors
c. Availability of MPASI as part of food aid basket ("Sembako")
d. All under-two children consume MPASI during emergency
e. 80% under-two children of poor families consume MPASI .

Capacity Building (Public and Private)

The program will train people, improve facilities, establish laboratory and communication networks in the private sector, the public sector, and among consumers. In private sector, the milling industries will have improved ability to do compliance testing for QA (Quality Assurance) and QC (Quality Control) on their milled flour products (and other fortified food products as well). In the public sector, the Ministry of Food and Drug will have improved capacity to assess fortification level of imported milled wheat flour. National and district level legislature will have better understanding of nutrition, the functional consequences of anemia, as well as the importance of food fortification. Legal systems will have an enhanced ability to apprehend, and persecute food industries that are importing unfortified milled wheat flour. Consumer groups will have a better understanding of the importance of fortified foods, and will begin to learn how to advocate for more nutritious manufactured foods.

Sustainability

The sustainability of the flour fortification program will be enhanced by:

a. Developing consumer awareness and demand,
b. Building linkages between government, private sectors and consumers,
c. Consistent enforcement of laws and legislation,
d. Ensuring consumers will demand and be willing to pay for fortified foods,
e. Mobilizing consumer groups as advocates for more nutritious manufactured foods,
f. Ensuring government commitment to funding continuous quality improvement and monitoring of fortified foods.

Institutional Requirement

List of Implementing Agencies of National Fortification Program

Public:

a. Directorate of Community , Ministry of Health (MOH)– developing policy and project plan
b. Directorate for Industry, Chemical Agro Chemistry, Department of Industry (MOI)
c. National Food and Drug Control (POM) – food licencing and regulation
d. Center for Nutrition and Food Research & Development – coordinating research for vitamin A assessment , efficacy and effectiveness study, formative evaluation
e. University :
f. Department of Community of Nutrition, Faculty of Agriculture, Bogor Agriculture University, Bogor (IPB) – research and training
g. Department of Nutrition, Faculty of Public Health, University of Hasanuddin, Makasar (UNHAS) – research and training-advocacy local government

Private:

a. Flour Mills Producers' Association (APTINDO) - producing and marketing fortified wheat flour
b. Cooking Oil Producers' Association (AIMMI) – producing and marketing fortified cooking oil
c. Salt Producers' Association (APROGAKOP) – producing iodized salt , and developing combined iron-iodine salt fortification Public-Private Partnership
d. Koalisi Fortifikasi Indonesia (KFI) – design and plan fortification research, organizing training, seminar and workshop, drafting policy and fortification program.

c. Pilot Testing of Iron Fortification of "Rice for the Poor" (RASKIN)

Iron deficiency anemia (IDA) is the most prevalent micronutrient deficiency in Indonesia. The prevalence of IDA in children in Indonesia was the highest among some of the East Asia and Pacific countries in 2000. Iron deficiency is assumed to be the major factor contributing to anemia in the country, although it is well established that there are other causes, including malaria and hookworm infection. Currently, more than 100 millions of the Indonesian is at risk of iron deficiency anemia (IDA). There are three strategies implemented to cope with the problem, namely iron supplementation, food fortification, and dietary improvement. Data show that the coverage of iron supplementation, particularly among pregnant women is around 72 %. The decrease of prevalence was found for pregnant women from 50.9% (1995) to 40% in 2001 as well as women aged 15-44 years from 39.5% (1995) to 27.9% (2001). This is assumed due to iron supplementation program for pregnant women and women at reproductive age. However, for children under-fives the IDA rate increased from 40% (1995) to 48.1% (2001), particularly it is very high (>55%) in the younger children (<24 months). This trend seems to correlate with the declining quality of household food consumption, including low quality of complementary food for young children due to economic crises since 1997.

Since dietary improvement requires significant increase of both income and knowledge of the people, fortification is the only promising strategy, now and the future. Iron food fortification has been implemented in Indonesia on wheat flour since 2000. Although official data is not available yet, however it is predicted that this effort is inadequate to improve iron status among the poor due to limited access of the poorest people to wheat flour and its products. Therefore, a complementary iron fortification strategy on staple food should be made. Since RASKIN is targeted for the poor, it is believed that RASKIN fortification, aside of wheat flour fortification, will significantly improve iron status of the beneficiaries. Technically, rice fortification with iron is now available and has been implemented at various countries, including Japan and the Philippines.

Rice is the most populous staple food consumed by the Indonesian. Approximately 98 % of the Indonesia consuming rice daily with the average per capita consumption is close to 100 kg/year. Economic crisis hit the country since 1997 decrease the purchasing power of the people, particularly those who are living under the poverty line. With this reason, since 2001 the government of Indonesia provide a rice subsidy targeted policy for the poor, which is so called as "RASKIN" (beras untuk keluarga miskin = subsidized rice for the poor).

In 2005, the availability of RASKIN is 1.992 million tons, which will be distributed among 8.3 millions poor households. This distribution is managed by BULOG (national Bureau of Logistic). Every household will receive 20 kg of rice, which is contributes to 40-60 % of household's rice consumption. Studies show that the effectiveness of the RASKIN program to reach the poor is 78.2-83.7% with the average real amount received by the poor around 13 – 15.5 kg (59.7-77.5% of targeted 20 kg).

As the major staple, rice is consumed by almost all people in Indonesia, including the poor. The coverage consumption among the lower income both in urban and rural based on 1996, 1999 and 2002 SUSENAS data was the most. The average per capita rice intake was approximately 100 kg/year. If it is assumed that RASKIN contribute 40-60 kg/capita per year to total rice intake, it can be expected that iron fortification of RASKIN is very much promising to improve iron status among the poor.

Indonesia is the largest rice producer and consumer in the world. In 2002, the rice availability is 29.76 million tons. Approximately 98 % is locally produced and 2 % is imported. With the current regulation of rice importation, the amount of rice import is estimated to decrease. Importation is only allowed whenever there is lack of local rice production.

The goal of the iron fortification of RASKIN is 15% reduction of the prevalence of iron deficiency among the risk groups by the end of the project, while the objectives are: a) to develop a pilot project of iron fortification of the RASKIN; b) to develop the regulations and manuals of RASKIN fortification; c) to assure that at least 75% of poor population consumes fortified RASKIN in the end of the project; e) to demonstrate the impact of iron fortification of RASKIN on the iron status of the poor.

Activities to be conducted to achieve the above mentioned goal and objectives are: a) Capacity building, particularly training for BULOG staffs and other related sectors (program management), milling industries (on mixing, packaging, handling); laboratory staffs (QA/QC); b) Development of regulation, standards and guidance; c) improve the equipment of some major rice milling industries to be able to run rice fortification; d) provide technical assistance; e) provision of rice premix fortificant; f) run the fortification of RASKIN and its distribution to the poor people; g) conduct effectiveness study to evaluate the impact of RASKIN fortification to the iron status of the poor.

To evaluate the Goals and Objectives achievement, the following will be held: a) Monitor and evaluate of RASKIN fortification by milling industries and its distribution by BULOG; b) Monitor poor household consumption of RASKIN, c) Conduct efficacy and effectiveness study.

3.2.2. Vitamin A Fortification

Efforts have been made since the past 30 years in Indonesia to develop national vitamin A fortification programs. During the 1977 national xerophthalmia prevalence study information was collected on consumption of various foodstuffs and condiments. The most widely used condiment among families with cases of xerophthalmia among its children was MSG. As a results, a fortification program was included in HKI's national xerophthalmia control initiative that was started in 1980, using MSG as the carrier. Major efforts to use MSG as a carrier in 1980s failed owing to factors including colour stability, lack of producers' acceptance and community concerns about the safety of MSG for infants and young children. In recent years a private

company has produced a fortified complementary food that includes vitamin A, targeted to infants 6-11 months. In addition there is partial fortification of dry skim milk powder and wheat flour noodles. Data from a recent round of nutritional surveillance (NSS, 2004) indicates that as many as 30% of children aged 10-24 months are receiving at least 1/3 rd of their RDA for VA from fortified foods. This is particularly true in urban areas where such foods are more widely available.

Recent food consumption studies show that among the potential food vehicle for vitamin A fortification are sugar and cooking oil. However, vitamin A fortification of sugar seems difficult to implement in Indonesia at this moment due to the price instability of sugar and trade policy. Cooking oil is likely to be the most feasible to be fortified with vitamin A. The introduction of Vitamin A to cooking oil is has been explored to identify the types of oil most commonly consumed and the amount consumed by the population, particularly the poor. The study found that average cooking coil consumption was 23 g/cap/day, and the most commonly consumed is the unbranded cooking oil or 'minyak curah' (KFI, 2004). In addition, any effort to fortify with vitamin A should be preceded by an assessment of VAD prevalence and the intake of Vitamin A so that appropriate fortification levels can be established. The latest data available on VAD prevalence in Indonesia are from 1992 national vitamin A survey.

Goals:

50% reduction of the prevalence of VAD and improved nutritional status among at-risk groups through cooking oil fortification with vitamin A by the end of the project

Objectives:

a. to assure the availability of the latest VAD prevalence, at least in 10 provinces at the first year of the project
b. to develop the regulations and manuals (SNI, Notification to WTO, etc) regarding cooking oil fortification in the midle of the project;
c. to scale up cooking oil fortification with vitamin A at the midle of the project
d. to assure at least 50% of poor population consumes fortified cooking oil in the end of the project;
e. to demonstrate the impact of cooking oil fortification on the vitamin A status of the poor population at the end of the project.

Evaluate Goals and Objectives:

a. Monitor and evaluate scaling up process of cooking oil fortification by industries
b. Identify the availability and implementation of the regulations and standards for cooking oil fortification
c. Monitor household consumption of cooking oil
d. Conduct efficacy and effectiveness study

Activities:

a. Provide data base on vitamin A prevalence by conducting VAD assessment at the first year of the project, at least at 9 provinces
b. Facilitate the development of regulations, standard and manuals for cooking oil fortification with vitamin A
c. Training the manpower and institution for quality assurance, quality control, law enforcement, and communications.

d. Strengthening lab facilities at cooking oil industries, and at government food monitoring agencies;
e. Running fortification communication, particularly and advocacy program for legislative, executive, judiciary, food industry, and the general public.
f. Conducting effectiveness and efficacy study on fortified cooking oil

Target groups:

a. At risk population: all children under five years, all school aged children, all women at reproductive age. Taken from 42% urban and 58% rural of the lowest 40% income groups
b. Program providers (public and private)- see capacity building

Output:

a. Updated VAD prevalence, at least at 10 provinces
b. Implemented cooking oil fortification with vitamin A by industry
c. Availability of regulations, and standard operational and procedures for fortified cooking oil production, QA/QC, and impact evaluation
d. Improved laboratory facilities to test vitamin A content in it meets the standards and established network for QA and QC among the labs.
e. Improved awareness of various target groups including legislative, executive, judiciary, food industry and consumers about the benefits of fortified cooking oil.
f. A decrease of 50% VAD prevalence among the target groups at the end of the project due to fortified cooking oil consumption
g. Capacity Building

Capacity Building (Public and Private)

The program will train people, improve facilities, establish laboratory and communication networks in the private sector, the public sector, and among consumers. In private sector, the cooking oil industries will have improved ability to do compliance testing for QA (Quality Assurance) and QC (Quality Control) on their cooking oil products. In the public sector, the Food and Drug Agency and Agro-industry laboratory will have improved capacity to assess fortification level of fortified cooking oil. Consumer groups will have a better understanding of the importance of fortified foods, and will begin to learn how to advocate for more nutritious manufactured foods.

Sustainability

The sustainability of the cooking oil fortification program with vitamin A will be enhanced by:

a. Strengthening the cooking oil industries awareness and willingness regarding the importance of fortification and the benefit gained by industries
b. Developing consumer awareness and demand,
c. Building linkages between government, private sectors and consumers,
d. Consistent enforcement of laws and legislation,
e. Ensuring consumers will demand and be willing to pay for fortified foods,
f. Mobilizing consumer groups as advocates for more nutritious manufactured foods,
g. Ensuring government commitment to funding continuous quality improvement and monitoring of fortified foods.

Institutional Requirement

Various private and public institutions will involve in this programs. List of institutions and their role is presented in the following.

INSTITUTION	NATURE OF AGENCY	ROLE
Directorate for Industry Chemical Agro Chemistry, MOI	Public/ Government	Developing regulation and standards for cooking oil fortification
National Standard Body/ BSN	Public	Developing regulation and standards for cooking oil fortification
Indonesia Fortification Coalition (KFI)	NGO	Implementing research, advocacy and capacity builiding in food fortification programs, and assisting both public and private institutions in developing food fortification policies and programs.
National Food and Drug Control	Public/ Government	implementing food fortification regulation/QA-QC for cooking oil fortification
Directorate of Community Nutrition, MOH	Public/ Government	developing policy for food fortification
Center for Nutrition Reaseach and Development, MOH	Public/ Government	Implementing research on food fortification
Department of Community Nutrition of Bogor Agricultural University and other Departments/ Universities	Education and Research	Implementing research of the effectiveness and efficacy of cooking oil and other food foortification
Cooking oil producers association	Private/ Industry	Implementing fortification activities on cooking oil

SUPPLEMENTARY APPENDIX D

COMPREHENSIVE COMMUNICATION PROGRAM

Background:

1. Nutrition education/BCC programs in Indonesia made noteworthy achievements only a decade ago, but have seen a steep decline ever since. State-of-the art programs in nutrition social marketing, well-coordinated multi-sectoral breastfeeding initiatives, and a world-class Vitamin A program made Indonesia a demonstration site for nutrition programs. However, the budgetary pressures triggered by the monetary crisis started a precipitous drop in the tangible aspects of nutrition education. Posyandus, once stocked with abundant IEC materials on multiple nutrition themes, are now virtually empty of visual aides. The airwaves are silent on public health nutrition, while the advertisers of food and formula products capture consumers' attention with appeals to modernity and convenience. The lack of budgetary support for the operational costs of outreach and community mobilization has quieted the local voices needed to encourage the adoption of the many behaviors required to assure steady and monitored growth of the young. And where poverty is most acute, the consequences of this steep decline are most severe.

Emerging policy:

2. The rhetoric of policy at the national level is a bright spot in this otherwise dark picture. There is explicit commitment to nutrition education as a key component to the MOH long-term strategy. BAPPENAS cites nutrition as a major priority in the social sector. However, the policy has yet to take strategic shape, or to produce recognizable impact on budget allocations, planning or implementation approaches. In addition, decentralization challenges the implementation of the emerging national policy. Advocacy is crucial to urge local governments to unlock more resources in general, and, specifically, for the operational costs needed to revitalize the posyandus, support the fieldwork needed to achieve the preventive mission of the Puskesmas, produce and distribute local programs and materials to strengthen key nutrition (and health) messages.

Situation analysis:

3. To revitalize nutrition education/BCC, plans and programs must take into consideration the changed environment within which nutrition BCC needs to operate. The media landscape has changed dramatically, with television overtaking radio as the principal mass medium, and with access to television viewing climbing to near universal levels. Regional broadcasting has opened new channels of information, including local language options not available a decade ago. The press has proliferated, spawning many new voices and more regional and local outlets. More media access has led to more strident advertising and marketing approaches as companies compete for consumers.

4. Emerging democratic processes have created and will continue to create new platforms for social and policy discourse. Health issues were scarcely mentioned in the first direct national election process, but are likely to become more significant as voters grow to expect candidates to be accountable for their performance. More frequent election campaigns at all levels give would-be leaders and their constituents more room for dialogue. Local businesses, a major source of financing for the ever-more expensive local campaigns, become more involved in shaping the outcomes. Parties turn to business for support, and advocacy strategies must take these phenomena into account.

5. The face of public health itself has also changed. More communicable diseases (TB, HIV, Avian Flu) compete for fewer resources. Shocks awaken the public and the health community as polio resurfaces, and as malnutrition reaches surprising levels. Population growth and urbanization push water and sanitation problems to the foreground. Demographic transition produces ever higher levels of cardiovascular disease. The private health sector has grown to fill the gaps of a resource-diminished public sector. Policy and regulatory measures lag behind many of these developments.

Strategy development:

6. All of these changes require a fundamental recasting of strategy to address the problems of nutrition and especially, those of designing and implementing a nutrition BCC approach that can produce realistic results with available resources. It is not enough to reprint the old brochures and pamphlets. New messages from new sources are needed for new channels targeting changing audiences with new needs and tactics. Women, especially pregnant and lactating mothers, need to be understood in depth in order to engage them appropriately in the behavioral changes they control.

7. The private, commercial sector has become a bigger and more critical actor in the process of changing nutrition behavior. Their role must be integrated in a wide range of interventions to assure sustainability. To achieve all this, the BCC component of the program must undertake a process of "formative research." The current state-of-the-art in public health BCC rests on this approach.

8. Formative research is the basis for developing effective strategies, including communication channels, for influencing behavior change. It helps researchers identify and understand the characteristics - interests, behaviors and needs - of target populations that influence their decisions and actions. Formative research is integral in developing programs as well as improving existing and ongoing programs.

9. Although the BCC component of this PPTA will identify and assign general and indicative costing to recommended messages and channels, the detailed design of the eventual strategy must begin with an initial phase of formative research to build a viable BCC strategy and program for the long-term. Illustratively, television entertainment programming is the primary mass medium reaching the largest number of people from multiple target audiences. Developing ways to engage the creative community of TV writers and producers is key to a cost effective national BCC strategy that can tap the vast resources of the broadcast community. Similarly, engaging journalists in accurate and persuasive coverage of nutrition issues and messages is a key support to a national and local advocacy initiative. Developing a coherent message and materials strategy can enable the NGO community to join forces with the public sector to produce measurable results.

10. Advocacy for increased health expenditures at the district level will require a coordinated effort by the MOH. It is not feasible to support advocacy measures that create competition among the many vertical programs that need local government support. Formative research will be used to design integrated advocacy and BCC strategies and messages that focus on, but are not limited to nutrition.

11. The detailed strategy, implementation steps and actors, audiences to be reached and objectives for the key audiences will be described in detail in the following sections.

Proposed BCC/Advocacy Interventions by Audience Segment:

(Overall goal: Improved awareness -knowledge, attitudes and behavior- and commitment to nutrition at government, private sector, and community level)

Policy-makers:

National level

12. Both elected representatives and ministerial officials need to provide specific authority and support to nutrition policies and budgetary requirements at the national level. The pending amendment of Health Law Number 23 is one platform for integrating the proposed nutrition policies. DPR Commission 9 has responsibility for health; focused advocacy is needed to assure their awareness of nutrition problems and requirements, ranging from regulatory issues to integrating nutrition considerations in other relevant laws. The DPR budget commission needs to incorporate explicit funding for operational costs for nutrition surveillance and services. Health expenditures have tended to emphasize physical infrastructure such as hospital construction and procurement of medical equipment over the operational costs needed to support nutrition initiatives. Advocacy programs must highlight the importance of achieving measurable improvements in nutritional status, including an increase in exclusive breastfeeding.

Expected Outputs for national policymakers:

- Amendments to the health law supporting nutrition, including:
  - reinforcement of the Breastfeeding Code covering the promotion of infant formula:
- National Action Plan on the Prevention of Malnutrition 2005-2010 drafted and signed;
- MOF to prepare plans for increased spending in nutrition through reallocation of resources at central and local levels

Implementing policy advocacy:

- Creation of Nutrition Roundtable
- Commissioning analysis of economic loss associated with low nutritional status
- Contracting with academic and advocacy organizations (*e.g.* "Forum Parliamen, " REMDEC, National Breastfeeding Action Group) to formulate nutrition advocacy strategy supported by fact sheets, direct appeals to concerned commissions, reinforcement and development of nutrition network
- Mobilizing press and broadcast media to publicize facts about nutrition status, policy and funding gaps to stimulate public dialogue on nutrition

A. **Kota/Kabupaten officials; Bupatis and other local elected officials**

13. Decentralization has brought - and continues to bring - new players and processes to the Municipal and District level. Although broad outlines exist to define minimum standards for health services, these are not uniformly understood or applied. At the financial level, many local governments tend to regard the fees charged at the health services as local revenue, rather than as funding to support the needs of poor, or the extension of, or improved quality of health services. Advocacy is needed to assure that the poor receive affordable service and that outreach is undertaken to monitor nutritional status in this high-risk population through surveillance. Normal accounting does not segregate or apportion

costs to control of specific diseases or health problems. All of these concerns must be addressed through advocacy initiatives targeting the local policy makers.

Expected Outputs for local policymakers:

- Assured local budget and monitoring plan for health/nutrition operational costs
- Public support for community-based nutrition initiatives
- Improved understanding of major nutrition issues;
- Incorporation of explicit nutrition line items in local planning and budget processes

Implementing policy advocacy at Kota/Kabupaten:

14. Conducting systematic advocacy at the local level requires both identifying existing human resources and building local capacity to mount targeted interventions. Strategically, it will be necessary to develop regular local advocacy programs to urge local authorities to allocate increased resources for the overall needs of preventive health. This will require identifying and contracting with organizations with skills and resources in mounting local advocacy on these themes. Some university departments and local consulting firms exist that have done related work at the district level.

II. Providers:

Puskesmas nutritionists

Expected Outputs for Puskesmas nutrition staff

- Staff development plan prepared for the nutrition sector at central and local levels
- Regular monitoring and personnel evaluation tied to nutrition-related performance
- District staff will identify and collaborate with local education and social mobilization resources to raise the profile of nutrition and increase community awareness and participation in effective nutrition activities leading to behavior change.
- Measurable improvements in District staff skills in interpersonal communication, nutrition counseling and training of cadres and community volunteers

Implementing upgrading of Puskesmas staff capacity:

15. Main issues affecting the incorporation of nutrition education functions are the multiple demands on staff time, limited operational funds for outreach and monitoring, and low priority assigned to prevention. In addition, staff capacity to deliver and manage counseling and interpersonal communication program activities is in need of refresher training. Staff and supervisors need to receive in-service training, clear directives for assuring implementation and monitoring of nutrition functions, and develop routine work plans for soliciting local support to conduct outreach with special focus on supporting the posyandus' front-line activities in nutrition education. New nutrition education staff from Center of Excellence will develop norms and guidelines for in-service training of Puskesmas nutrition staff, and assure flow of support materials to Puskesmas and Posyandus to transmit clear messages using improved interpersonal communication skills.

Posyandu Cadres

16. Grassroots services at the perimeter are provided by the Posyandu cadres. Their outreach activities are the backbone of the behavior change process associated with

growth monitoring, exclusive breastfeeding, and complementary feeding. They are the volunteer extension workers that deliver the face-to-face messages to what must become a well-mapped coverage area. Their nutrition counseling skills are key to behavioral outcomes and must be strengthened. A once-extensive collection of nutrition education teaching aides has deteriorated seriously over the past several years, and must be developed to strengthen their capability to perform this front-line role.

Expected Outputs for Posyandu cadres:

- Rejuvenate posyandu commitment and roles in growth monitoring and nutrition education
- Posyandu cadres plan and report on expanded outreach in nutrition education and measure improved results in growth monitoring and support to children with recorded deficiencies
- Quality control of growth monitoring undertaken by cadres; participating staff improve knowledge of monitoring and required interventions

Implementing upgrading of Posyandu cadres:

17. The Repelita period featured a dynamic Posyandu structure with clear commitment and capability to undertake such core tasks as growth monitoring and Vitamin A supplementation. Gradually commitment and quality declined, with lower knowledge of the cadres about the reasons for growth monitoring and the actions to be taken to correct problems. Experience in other countries in the region (*e.g.* Nepal, India) have shown that targeted mass media, especially local radio, can heighten awareness among both the community and the cadres to revitalize the practices. Offering both recognition of the cadres and information through local media will assist in the rejuvenation of these structures. Enrolling local NGOs and CBOs to assist in the effort can also be stimulated through the media. The Center of Excellence nutrition education team and potential contractors will develop refresher training, media templates to support group and face-to--face delivery of all key messages, and provide financial and technical support to enable local media to contribute to the re-energizing of the posyandus.

18. A major radio and print materials initiative is required to strengthen the effective functioning of the cadres. Formative research will help guide the formulation of updated messages to reverse the decline in breastfeeding, restore capability to promote and conduct growth monitoring and guide improvements in complementary feeding. A key component of the radio-based training supported by print materials is the improvement of the capacity of cadres to provide counseling to the mothers and lactating women.

International NGOs

Expected outputs for International NGOs:

19. Many international NGOs have developed extensive methodological and educational resources in nutrition education, including a recent focus on breastfeeding. Much of this is focused on "Positive Deviance," for which they have formed a network in North Jakarta. Their geographic coverage is somewhat limited, but their expertise and commitment can be applied to benefit both the nutrition education staff of the Center of Excellence and to the training and institutional strengthening of locally-based Indonesian NGOs and other local institutions, including the development of monitoring systems.

- Structured sharing of methodologies, materials and experience with Center of Excellence, Puskesmas and Posyandu cadres
- Support to improved monitoring at local level
- Support to development of mass media-based in service training for cadres in growth monitoring, breastfeeding promotion
- Shared R&D model development and dissemination on effective nutrition education BCC in selected areas

Implementing INGO support

20. The INGOs are active with USAID, UNICEF and other donors, and are likely to welcome the opportunity to support a major initiative of this type with greater geographic scope and with a focus on policy reform in nutrition. Their field staff will be able to assist in providing technical assistance to the new staff of the Center of Excellence. Small grants to the INGOs can underwrite the transfer of their field experience to interested Provincial and District health staff.

III. Communities

Local NGO's CBO's, (*e.g.* Scouts, Teachers Associations, Faith-based organizations, etc.)

21. Although the mix of local NGOs and CBOs varies widely, there is a critical need to call upon these organized groups to support the social mobilization needed to raise the profile of nutrition, and nutrition BCC locally. Nutrition is a topic that lends itself to adoption by many groups interested in social welfare. There is a need to identify and communicate to these local groups the concrete measures they can take to support the process of strengthening *inter alia:* growth monitoring, Vitamin A supplementation and the rejuvenation of the local posyandus. At the local level, enrolling interested NGOs and CBOs in recruiting and supporting cadres and consumers to participate in Posyandu activities can be a key to stimulating the rejuvenation required.

Expected outputs for local NGOs and CBOs:

- Creation of a "Friends of Posyandu Network" to support and assure recognition of cadres and to reinforce and validate key messages on exclusive breastfeeding, complementary foods and Vitamin A.
- Volunteer efforts to expand outreach for monitoring and house-to-house education among the poor
- Participation in planning and implementing community events around nutrition themes
- Conducting advocacy initiatives with local business and government to assure support for nutrition programs

Implementing local NGO/CBO support

22. Findings on the role and capacities of local NGOs and CBOs are limited and somewhat mixed. The still-immature state of civil society in Indonesia has not yet created a generally vibrant or competent array of local organizations with social missions. Nonetheless, there are many local NGOs and CBOs with a strong sense of social mission and excellent local networks that are well integrated into local cultures. These groups usually have knowledge of and influence in, their communities. Building their capacity to do focused work in the community is a required step in deepening and strengthening the local support required to

bring about behavior change. The International NGOs with experience in nutrition education are well placed to assist in this effort. Local DinKes staff and even volunteer cadres will always require more local participation to provide the breadth of coverage required.

23. The technical knowledge required to mobilize and direct these local organizations is modest. Central and District MOH staff can provide educational methods and materials to enable the local groups to act as volunteer extension workers, who can both help deliver and validate the core messages. Local scouting groups, for example, when active and led by committed parents, can become active partners in supporting growth monitoring. Training and recognition programs can be designed that can be integrated into the scouting program nationally and locally.

IV. Public

24. 'The decline in exclusive breastfeeding shown in the NSS data and the poor knowledge of mothers of complementary feeding practices indicate the need for a program of communication for behavior change. Programs will be designed with formative research and should be evaluated for effectiveness. The programmes should be implemented through the puskesmas nutritionist, village midwives and posyandu cadres as described above. The primary target audiences for this effort are: mothers, lactating mothers, pregnant women, and preschool children.

25. Most inputs proposed for various providers are intended to strengthen the nutrition knowledge interpersonal communication skills of those in contact with the primary target audience. Likewise most policy reform initiatives are designed to enable programmatic inputs linked to improvements in the behavioral practices and eventually, the nutritional status of the primary beneficiaries, the poor.

26. At the level of individual changes, worldwide evidence shows that behavior change is most likely to occur when supported through effective interpersonal communication. At the same time, there is a growing body of evidence that mass media can also contribute significantly to behavior change, especially when interpersonal and mass media messages are congruent, based on formative research, and carefully pre-tested with the target audiences. Given the steep declines in breastfeeding in particular, as well as evidence that complementary feeding practices are poorly understood, the project will support an intensive campaign blending the two approaches to affect these key behaviors.

Expected outputs for primary target audiences:

- Increased practice of exclusive breastfeeding among target audiences exposed to project inputs
- Improved knowledge and practice of complementary feeding by mothers exposed to project inputs
- Increased practice of growth monitoring
- Increased access to nutrition counseling

Implementing core behavior change programming

27. A formative research initiative will be undertaken to understand and formulate the core nutrition education messages that can most effectively lead to positive behavior change. This initiative will cover both interpersonal and media messages, and feature careful pre-testing with multiple target audiences of all core messages. The research will explore the many psycho-social, cultural, operational and economic issues related to *inter alia,* the

decline of exclusive breastfeeding, and the limited knowledge and practice of complementary feeding. The formative research process will be used to guide the development of a behavior change program strategy that will drive the full range of inputs from mass media to local training and materials development. The outcome of the formative research will be critical in making program decisions about the media to be deployed, the messages for the various media, and the approach to community mobilization.

Commercial private sector

28. The human and material resources in the private sector dwarf that of the public sector. The private sector is a largely untapped resource to improve nutritional status. As one example, employers in the formal sector can become powerful partners to improve nutritional status. Personnel productivity is important to employers. Demonstrating the link between productivity and improved nutrition of workers and their families is one way to engage employers. Bogasari – one of Indonesia's largest employers – has long had an active program of support to the health and wellness of its staff. As in the case of Positive Deviance with consumers, Bogasari, and other such activist large employers may be willing to act as examples to other large businesses of the value to the enterprise of supporting employee health. This may be of considerable value in the urban areas with many large employers.

29. The arena of Corporate Social Responsibility or Public Private Partnerships or Alliances remains an area of promise for public health. The economic weight of the private sector in Indonesia virtually requires the public sector to look for productive ways to create alliances.

30. There has already been some successful engagement in the water and sanitation sector which may provide a foundation for expansion. Unilever's Foundation – "Uli Peduli" – has financed the purchase and construction of 40 community hygiene centers ("MCK) in Java (Bandung and Makassar, two districts with high diarrheal disease rates.) Unilever engaged CARE and a national NGO as partners in the process. The link for Unilever – apart from CSR - is the promotion of handwashing with soap, a key to their Lifebuoy product line. Unilever has also financed community-based health education targeting improvements in handwashing. Wings, the major national company in the sector, has worked on producing a water decontamination product and may be open to further social investments as a leading hand soap producer.

31. There are two major corporations under long-term contract with the Government of Indonesia to supply piped water on a commercial basis: Thames Water and Lyonnaise des Eaux. Both have a mandate to provide support to communities for improved water and hygiene education.

32. Small and medium-sized employers can also be approached to explore low-cost ways they can provide educational and material support to employees. This can include providing encouragement, support, nutritious food, and even facilities for nursing mothers. Likewise, they might be encouraged to collaborate with local Puskesmas or posyandus to support growth monitoring and even nutrition surveillance linked to the workplace.

33. In addition to formal sector employers, another promising initiative is to work with the informal sector. The project will include an initiative to mobilize the local private sector in the community itself to promote increased nutritional awareness and, hopefully, improved nutritional behavior among the target group. This program will complement and to some

extent inter-mesh with, the revitalized or restructured PY/PKM system (including its institutional public and private ancillaries.)

34. Specifically, there exist in and/or immediately adjacent to the local communities in which the target group lives, numerous and small shops and stalls (*warung*) selling manufactured food products ('packaged food sellers' or 'retailers', for short), which have the target group among their other regular customers. The packaged food products which they stock, promote, and sell are relevant to improving the target group's nutritional status.

35. The project will include local outreach-and-education programs to these local private for-profit or for-livelihood stakeholders. The goal of the programs will be to raise the packaged food sellers' awareness of malnutrition issues among the urban and rural poor, and to alert them to the social value and profit opportunities of stocking and selling a range of nutritious food products, such as weaning foods (*bubur*) for infants and fortified milks for pregnant women, and also more nutritious varieties of the noodles, sprinkles, snacks, etc. consumed by poor children under five and their mothers, as well as by their other regular customers.

36. These programs will be implemented in each district or city initially by a locally-based NGO to be contracted for this purpose by the local authority, working in tandem with the local outposted midwives, who are generally seen as trusted local community figures by the packaged food sellers (retailers). It is believed that effective outreach to and education of these private retailers cannot be achieved by any one party acting alone, albeit the outposted midwives – the community-based *bidan di desa*, or the midwives in the nearby PUSTU sub health center - appear to be well-respected and trusted by the traders in the traditional markets (*pasar*) and by the smaller, more dispersed, retailers.

37. Therefore, a joint and progressively evolving package of mechanisms is recommended. If the contracted local NGO is already cognizant of local food trading conditions and the nutritional dimension in packaged foods, it can directly train the midwives and then conduct the initial outreach campaign jointly with the midwives, to the retailers in the traditional markets (*pasar*) and in the local residential communities. If the local NGO does not have such knowledge, then joint training of its staff and the midwives by a specialist NGO will be the first step, followed by the initial outreach campaign conducted by the local NGO staff and the midwives. After two years of this campaign, which would involve repeat visits to reinforce the messages conveyed to the retailers, and would almost certainly take at least that period of time to achieve widespread local 'market coverage', follow-up reinforcing contacts with the retailers by PY cadres selected under the cadres' incentive programs in their local areas, would be introduced after a short training of the selected cadres by the NGOs. Such follow-up reinforcing contacts by the cadres will be made at quarterly intervals. To make these contacts effective, the NGOs' contracts will include provision for their providing briefings (lists of retailers, schedules of contacts already made with the retailers by the NGOs and the midwives, and the retailers' reception/perception so far of the messages imparted to them) to the cadres.

Expected outputs for private commercial sector:

- At least 25 employers conduct and evaluate programs supporting on-site nutrition education and provision of nutritious foods in company facilities
- At least 100 local food sellers enroll in a program of improved nutritional offerings
- At least 10 local NGOs contracted to manage and monitor local food seller programs

- Monitoring and evaluation results lead to measurable improvements in employee nutrition behaviors and to modifications and expansion of commercial sector initiatives based on lessons learned

Implementing initiatives with the private commercial sector

38. Relations between the public and private sector are complex, and are often characterized by sharp divergence in values and cultures. Despite the attractive rhetoric of public-private partnerships, in actual practice there are many obstacles to overcome to generate the results both parties seek. In some less-developed countries, the experience is generally positive, especially when donors and the national government together represent a major percentage of the GDP. But in Indonesia, the private commercial sector represents the lion's share of the GDP. In rapidly democratizing Indonesia, the private commercial sector funds much of the electoral process, giving it an even stronger hand in any public-private partnering.

39. Despite the challenges, efforts to collaborate with the private sector must be pursued. Reaching the goals of this project will be much more likely if the private commercial sector joins hands with the government to improve nutritional status across many fronts, from manufacturing nutritious products, to allocating some portion of advertising messages to generic nutrition education. To improve the prospects for successful collaboration, the public sector will benefit from technical assistance to build and manage relationships with potential partners. Emerging international experience with the benefits and risks of such teaming can play a role in mapping out a strategy for a long-term process of benefit to all sides.

VI. Press/media

40. Although the recent publicity about the "malnutrition crisis" captured headlines and triggered a burst of attention by the electronic and print media, nutrition has not generally been successful at attracting press. Lacking the drama and controversy associated with HIV-AIDS, family planning, Avian Flu and Dengue outbreaks, nutrition does not normally receive coverage that advances its profile and spreads knowledge about the key issues. To change this will require both investment and strategic planning for increasing the targeted use of mass media. Two paths to mobilizing the media are needed: one is known as "media relations," the unpaid, editorial and feature items covered in the media that originate with editors, producers and individual journalists. The other is the paid, or sponsored media: typically TV and radio spot advertising or printed inserts. There is a third, hybrid type: "placements" or insertion of information in entertainment programming. All three have their place in supporting reform and improved information and education, and need to be part of the planned program.

A. Media relations:

41. Nutrition themes and issues need to be "packaged" in special ways to attract the attention of the press and media. The media is not homogeneous. Each group has different needs; understanding their needs and developing personal relationships with media representatives is key to success in getting coverage. One of the proposed BCC posts in the Center of Excellence is a specialist in media relations, whose job would entail making these relationships and preparing specific inputs to the media representatives in various sectors. The following are examples of needs and approaches for various groups.

- National and provincial journalists

42. Journalists need attributable and verifiable facts and statistics supported by expert and authoritative sources that can be called upon to offer statements on the record on selected topics.

- National and provincial TV and radio producers and writers

43. Producers and writers need material that can contribute to compelling and dramatic stories. They need insight into conflicts that can be integrated into dramatic programs. They also need facts, but more importantly they need to have material that can help enrich stories.

- Advertising agencies marketing to young mothers

44. The Food and Beverage sector is a large part of the Indonesian economy; the Indonesian Food and Beverage Association claims that F&B accounts for over 30% of the GDP. Advertising is a large expense in this sector. The total annual advertising budget for reaching young mothers with food and beverage product advertising can be estimated to be at least one hundred million dollars. Leveraging that platform for nutrition information and issues can add value to promotional messages, but needs to be handled ethically and within well-defined boundaries. For example, advertisers wanting to create credibility among young mothers can be encouraged to add generic messages on the value of exclusive breastfeeding to their product marketing to mothers. On the other hand, advertisers wanting an explicit GOI/MOH 'endorsement' for their brands and products are not appropriate partners.

Expected outputs for media relations activities:

- Increased presence of nutrition information and promotion through multiple media channels
- Growing numbers of media professionals supporting selected advocacy topics to many target audiences
- Increased awareness of the importance of key nutrition information
- Specific support to selected nutrition interventions

Implementing media relations:

45. Competition for media attention is intense in Indonesia. At the same time, the media industries have a large and pressing need for content of interest to their audiences. Properly packaged for the many different producers and journalists, nutrition can gradually be transformed from a low to a high profile topic. The treatment of nutrition can range from support to policy reform to popular treatment of nutrition behaviors. To reach the media and produce the desired outputs, often professional media skills are required. Such skills are typically found in the private sector, notably in the advertising and public relations industries that work with media professionals on a daily basis. The project needs to consider the use of such resources to leverage the resources of unpaid media.

- **B. Paid media** (e.g. campaigns, special programs, and spots)

46. Entertainment programming is ubiquitous in Indonesia. The scale and diversity of Indonesian mass media allows for relatively precise geographical and demographic targeting. The AC Nielsen group's quarterly broadcast audience panels in major markets permit programmers to capture detailed information on audience exposure, response and retention at modest cost. Most public health research (such as the 2003 Demographic and Health Survey) covering the general public's knowledge and attitudes on various health

issues cite television as the most frequent source of information on health topics. TV is frequently cited as the primary source of information on a wide range of health topics. Although national media is expensive – especially prime time advertising on major channels - there are many ways to apply focused use of media to support the objectives of the project. There are also ways to engage socially-minded advertisers in *pro-bono* services. Not to involve mass media is to limit the impact of the proposed project.

Expected outputs for media investments

- Increased knowledge, more positive attitudes and higher levels of positive nutrition behaviors among consumers, including the poor
- Focused and persuasive advocacy messages targeting national and local leaders
- Periodic campaigns triggering participation by leaders and consumers in selected nutrition activities

Implementing media programming in support of nutrition policy reform and behavior change

47. Awakening the media community to its potential role and responsibility in improving nutritional status will require the concerted efforts of many parties. It will not occur without sustained and intensive effort. It will require the deployment of multi-sectoral and especially private sector talent, commitment and creativity to overcome the existing pattern of media indifference to all but the sensational stories of malnutrition, starvation and famine. The highest level of government authority is required to bring pressure to bear on the professional media to meet its responsibilities of informing the public in the interest of the public good. Regulation may be required to support a broadcasting code that requires publicly licensed media outlets to allocate resources to promoting socially beneficial outcomes with some portion of their airtime.

48. Operationally, human and material resources need to be dedicated to the task. The nutrition education unit must be staffed with qualified expertise in the area of media relations and needs to develop the capacity and allocated budget support to leverage the power of the media to help bring about needed changes in knowledge, attitude and behavior at all levels.

49. Provincial and local media have a key role to play. The decentralization of broadcasting offers an opportunity to develop lower-cost, locally targeted and relevant programming to support the institutional and behavioral changes required. Provincial media can be used to help train, stimulate and recognize more local resources – private and public.

Institutional development required to design and implement expanded nutrition advocacy and BCC

50. Reversing the steep decline in nutrition BCC and meeting the advocacy needs associated with many of the reform goals will require a major investment in human resource development at many levels. The primary guidance will need to come from a Center of Excellence capable of reaching out successfully to new stakeholders from the private sector, civil society, and cross-ministerial bodies. New skills and staff are needed to meet this challenge. Major capacity building is required; methods and materials need upgrading, and a multi-sectoral program strategy needs to designed, financed, and rendered operational.

51. A nutrition education unit at the central level is a starting point. Talent must be recruited and trained to revamp a major BCC effort. Technical assistance, both local and international, will be required to meet the challenge. The starting point is a formative research exercise that investigates the current nutrition-related knowledge, attitudes and practices at community level that are driving the nutritional status. Private sector resources are needed to understand the market issues associated with nutrition practices. Unlocking the power of the mass media to play its role in both advocacy and BCC will require professional media support. The public sector needs to develop the capability to acquire and manage professional services through well-designed procurement processes. Technical assistance will be a key component to trigger the reform and institutional development needed.

Proposed International and National Technical Assistance for BCC/Advocacy

Terms of Reference

Background:

A. Nutrition communications:

Revitalizing nutrition communications is one key to improving nutritional status. This needs to be done through a range of approaches and with the involvement of many actors. The private sector is one key partner. Indonesia has a robust media environment with abundant resources in marketing and advertising that can be applied to the nutrition field. Specialized skills and knowledge are required to focus the potential of such resources on the targets and outcomes needed in professional media communications.

Public sector agencies – at both central and regional levels – need upgraded staff and skills to address demand creation. International and national NGOs have broad networks in place but uneven capacity to deploy those networks to stimulate change. Materials to support community-based interpersonal efforts, once plentiful, have been reduced to unacceptable levels. These need to be upgraded. The foundation of communications – strategic, targeted and effective messages based on what people actually do, and why and how they do it, are urgently needed. This can only be done through engaging in formative research. International technical assistance is required, either long-term or through multiple short-term inputs, to support the revitalization in several key areas.

While international technical assistance will be productive in bringing state-of-the-art methods and strategies to bear on key BCC and advocacy initiatives, there is a need to call upon and strengthen the capacity of local professionals to direct the new efforts. BCC and advocacy require substantial knowledge of the local environments and cultural/political landscape. The ideal configuration is one of teaming international specialists with local counterpart consultants. The following describes the recommended areas, duration and terms of reference for consultant services in BCC and advocacy

- **Formative research and message design: 6-8 person months International; 12 person months national**

Consultant services are needed to lead a process of formative research. The consultants will be responsible to oversee

- a literature review of current information about the nutrition knowledge, attitudes and practices of key target audiences, including providers, with a special focus on women, especially mothers, pregnant and lactating women

- a gap analysis of what is not currently known about the KAP of the target audiences
- a qualitative research initiative to validate the findings of the literature review and obtain in-depth information on what people – especially women – are doing, and why and how they are doing it as affects nutritional status of most affected infants and children. This to be done through in-depth interviews and focus group discussions
- a series of roundtable discussions among target audiences and providers to build consensus around the core issues to be used as the basis for message design and BCC strategy development
- message design: the translation of the formative research findings into message types for segmented target audiences
- a process of early pre-testing of the message concepts and approaches prior to building an integrated communication strategy

- **Communication strategy development: 4 person months International; 8 person months National**

Drawing upon the outcomes of the formative research process, consultant services will be required to support

- development of a detailed communication strategy to mobilize interpersonal and media channels to reach segmented audiences with specific messages
- institutional analysis of pubic and private organizations and agencies to implement the strategy
- preparation of a "creative brief" and tender documents to engage the services of one or more professional advertising and public relations agencies to implement selected aspects of the communication strategy
- development of a monitoring and evaluation plan for the communication strategy

- **Local contracting services in communication: advertising and public relations services**

With the development of the research and strategy/message design above, the implementation of media campaigning required to help trigger major changes in knowledge, attitudes and practices will benefit from the services of one or more professional advertising and/or public relations agencies. Experience in Indonesia in Family Planning, Maternal and Neonatal Health, and Vitamin A have shown that professional agencies, guided by the subject matter specialists, have been effective in achieving results on a large scale. Media penetration in Indonesia is remarkably high, with television viewership most often cited as the major source of information in health. Professional agencies are best able to make use of this resource. The specific Terms of Reference for an agency must follow from a process of formative research and be defined in a "creative brief" that directs the agency to the audiences and message types needed to produce the planned results. Consultant services are proposed above to prepare the "brief" and assist GOI in managing a procurement process.

- **Capacity building and training 6 months International; 12 months National**

To develop the BCC skills required at multiple levels, from communication planning to local community mobilization, consultant services will be needed to support:

- a BCC needs assessment of a cross section of MOH staff at national, provincial and district level
- an institutional analysis of public and private/NGO resources for training design and implementation
- a training plan for upgrading priority needs at all levels using a broad array of strategies from TOT to distance learning
- design of curriculum and training materials
- development of a plan to monitor and evaluate training

B. Advocacy

With newly elected representatives at all levels of government, and with regional autonomy shifting the locus of resources, there is a clear need to address matters of nutrition policy and budget support through advocacy initiatives. While there is some overlap between the BCC component and the area of advocacy, the differences are considerable. First, the audiences are quite distinct. While women and providers are the primary audiences for BCC, legislators, political party and senior government officials are the primary audiences for the advocacy effort. Messages are also quite different: the BCC messages focus on individual health behaviors, while the advocacy messages focus on policy, legislative and economic matters. Civil society and advocacy are in the earliest stages of evolution in a newly democratizing Indonesia. The skills and strategies of advocacy are new and unfamiliar. International technical assistance will be able to assist in building the capacity needed to mount the advocacy efforts required to achieve the goals of reform.

- **Advocacy strategy design 4 months International; 8 months National**

Advocacy is a highly focused form of communications that requires the development and testing of specialized messages for selected audiences. Consultant services will be used to help national counterparts to:

- Identify and plan appropriate research and analyses to formulate strategy
- Develop a detailed strategy for national and selected district level audiences
- Develop message strategy in the context of current and pending laws and budget allocations
- Develop fact sheets focused on key policy issues for policy-makers
- Mobilize press and broadcast support in key outlets
- Identify civil society networks and organizations that can be enlisted in advocacy process
- Train counterparts in advocacy processes, including preparation of events such as hearings with DPR Commissions, and local governments during the planning and budgeting cycle.
- Develop partnering scheme with other health agencies (e.g. TB, Malaria, etc to combine advocacy initiatives across health topics

- **Implementing district level advocacy 24 months national**

The diversity of local environments in Indonesia makes a single, one-size-fits-all advocacy approach unrealistic. While the objectives of district level advocacy are similar, the strategies will vary with the local landscape. With decentralization, there is no reasonable way to affect local policy, planning and budget decision-making without a structured effort. National expertise exists in Indonesia to lead the way to such processes. Groups such as REMDEC , LP3ES AND PIRAC have extensive experience and networks in many districts, especially in priority provinces for nutrition. REMDEC has recently published a 200-page

manual on district advocacy for health as a right, and is engaged through Global Fund resources in advocacy for TB. Collaborating with such efforts is a very promising initiative. The health sector cannot realistically afford separate advocacy initiatives for each of the many diseases and health problems. Groups such as these can and need to be mobilized to move the overall public and preventive health agenda - and district budget allocations - much higher on the agenda of decision makers at all levels.

SUPPLEMENTARY APPENDIX E

INSTITUTIONAL STRENGTHENING

Introduction

1. The aim of the project is to improve the nutritional status of children less than five years of age, as indicated by the prevalence of under-weight, through the strengthening of relevant Government institutions and empowerment of local and community organisations. The project will be designed to cover nine provinces, ten cities and 24 districts (kabupaten) across Indonesia. It is structured in five components: Institutional Development, Integrated Nutrition Package, Food Fortification, Behaviour Change Communication, and Project Management.

2. The nutritional status of the population is subject to a wide variety of influences including health, education, agriculture and broader economic and social factors. Addressing malnutrition thus requires a cross-sectoral approach based on co-ordination of institutions and linkages across sectors. The institutional development component of the project thus aims to strengthen the capacity of food and nutrition related institutions at central and local levels including the relevant units of the Ministry of Health (MOH), Ministry of Agriculture (MOA), other central government departments, local government and linkages with appropriate external organisations. These development activities will seek to ensure capacity for nutrition policy and programme development, nutrition surveillance systems and response capabilities, as well as the capacity to effectively plan, manage, finance and monitor nutrition programmes for the poor. The development of partnerships with the private sector and the empowerment of community organisations will also be essential to have the required impact.

Intersectoral Bodies

3. The Coordinating Ministry for Social Welfare (Menkokestra) is responsible for overall coordination across sectors and Bappenas is responsible for integrating intersectoral policies, planning and budgeting. Menkokestra operates at the level of political oversight of the welfare sector and has no specialised nutritional expertise. Bappenas synchronises policies and one-year, five-year and long-term (20 year) plans across sectors, in the field of nutrition this entails planning coordination across MOH, MOA, Ministry of Industry, the National Agency for Food and Drug Control (BadanPOM) and to a lesser degree the Ministries of Home Affairs and Trade (up to 1995 there had been a Ministry of Food). Within Bappenas this coordination is performed by the Directorate of Health and Community Nutrition and the Directorate of Food and Agriculture, which work with the respective ministries and agencies. Bappenas also allocates a block grant for the annual budget for the nutrition sector in discussions with the above bodies. The division of this budget between ministries and agencies is now decided through negotiations with parliament (DPR).

4. Parliament, Menkokestra and Bappenas agree that more budget needs to be allocated to nutrition, and this is established as a priority area over the next five years, especially micro-nutrition and macro-nutrition (including food fortification), surveillance, nutrition education and food security, These priorities have been formed partly under the influence of recent nutritional crises in Eastern Indonesia.

5. In recognition of the cross-sectoral nature of nutrition issues the government has previously established a number of co-ordination bodies with representatives from the relevant ministries and agencies. However, many of these have become inactive under the

pressures of the financial crisis of 1998 and the decentralisation programme. Moreover under the Indonesian system of public administration the maintenance of intersectoral coordination can be problematic, given the hierarchical nature of government departments and the relative autonomy of ministries and agencies in programme management and human resources.

6. In 1974, the People's Food Improvement Unit (UPMMR) was established at the national level under Menkokestra. At the provincial and district levels, the Regional Nutrition Improvement Board (BPGD) was likewise established. The BPGDs consisted of steering and implementing committees, the steering committees headed by the provincial governor and by the district mayor, with representatives by agencies from agriculture, health, trade, industry, education, and statistics. It was supported by five core groups: (i) Information, Education, & Communication (KIE); (ii) Family Nutrition Improvement Effort (UPGK); (iii) Iodized Salt Program; (iv) Food and Nutrition Surveillance System (SKPG); and (v) Food Balance Sheet (NBM). UPGK was the first Indonesian national program in the 1970s to 1980s. The concept of UPGK followed FAO/WHO's applied nutrition program (ANP) initiated in 1960s. The concept was based on the "old' paradigm that malnutrition was primarily lack of protein and energy due to insufficient food production and supply coupled with low education, particularly in nutrition. Therefore its main activities were nutrition education and home gardening. Although originally these were effective, it is understood that few of the BPGDs continue to operate.

7. In 1994, Menkokestra issued Ministerial Decree No 36/1994 to establish a Food Team at national level with intersectoral representations, consisting mainly of the Food and Nutrition Surveillance System (SKPG). Subsequently, Food Teams were established at provincial and district levels. Due to lack of resources and support, the team was unable to fulfill its mandate and remains ineffective, although continuing to operate insome parts of the country.

8. A National Food Security Council was set up in 2000 and is now the main mechanism through which nutrition and agricultural policies are linked. Its function is to evaluate the food security situation and formulate and implement policy to improve food security. Led by the Ministry of Agriculture it is inter-ministerial and chaired by the President. The Council is supported by two working groups: the Technical Working Group and the Expert Working Group, consisting of government officers and independent experts, respectively, to examine food security issues from economic, political, geographic and nutritional perspectives. The Council examines policies on rice subsidies, food diversification and transgenic foods and assesses strategies for food security monitoring (Morse 2003).

9. A Food Security Board and a Food Security Agency were established at the provincial and district level with a responsibility to report to the national council on food security in their areas. The Board is responsible for policy making locally and the Agency for the implementation of activities. The Board is a multi-sectoral institution that includes the departments of health, agriculture, education and manpower. The Agency is often placed under the governor and had the role of monitoring food quality and quantity and food prices. The Agency has three departments: food diversification, food consumption, surveillance and monitoring but although data is collected, the capacity and budgets are limited resulting in small studies without real validity.

10. Other health related intersectoral bodies have been established at district and city level, including district health councils, and local committees for posyandu, for AIDS and for family planning. Many of these no longer operate and in any case they had little concern with nutrition. But some officials feel that they diverted resources and the time of key staff from their core functions, as some senior local officials were members of many of

these committees, and that the previous proliferation of intersectoral committees has contributed to the reluctance of some local governments to maintain or develop them since decentralisation.

Present Institutional Capacity

11. In terms of administration and service delivery, nutrition functions in practice are situated solely in health sector institutions. Thus the organization, management, and financing of the nutrition sector are mainly the responsibility of the Ministry of Health (MOH). At the central level these are discharged through the Directorate for Community Nutrition under the Directorate General of Community Health. However, since the major government decentralisation in 2001, local (district and city) governments have the primary responsibility and authority to provide health and social services, including nutrition, to their respective populations. In general, local governments' priorities have been placed elsewhere, to the detriment of nutrition services, particularly for the poor and vulnerable groups. Delivery of primary health care and nutrition services is based on a network of district and sub-district health centres, and village health posts organised by volunteers with support from health centres.

Directorate of Community Nutrition (MOH)

12. MOH's Directorate of Community Nutrition carries responsibilities for developing national policies and plans for nutrition, drafting legislation, formation of guidelines and procedures for intervention, and monitoring and evaluation. This includes the development of the minimum standards of service for nutrition as part of the MOH Minimum Standards of Service established by Ministerial Decree. To some degree the Directorate also specifies the required qualifications for nutritional manpower in provinces, districts and health centres, and conducts limited research and development (such as pilot field studies).

13. The Directorate (Echelon II position) is organised in five sub-directorates (Echelon III), each of which has two main sections - for guidelines/standardisation and for monitoring and evaluation functions respectively:

(i) Micro-nutrition (Vitamin A, IID, Zinc, Calcium, etc.)
(ii) Macro-nutrition (Protein and energy)
(iii) Food Consumption (Promotion and marketing)
(iv) Clinical Nutrition
(v) Nutrition Surveillance (targets and monitoring process)

14. The Directorate currently has 92 staff, 63 of which are graduates in nutrition (29 with higher degrees). There are 27 'structural' positions, i.e. management and supervisory positions heading sub-directorates, sections and sub-sections.

15. The performance of the above functions has been affected by the decentralisation process and the increased autonomy of local government. Policies and plans produced by the Directorate are often subject to adjustment by city and district health departments in the light of local priorities. Similarly the reporting process from provinces and districts has become more disconnected since decentralisation and this has been compounded by the weakening of community organisations in the field, so that the Directorate has difficulties in compiling information for monitoring and surveillance. The impact of decentralisation on MOH is reflected in a forthcoming Ministerial Decree changing the name of MOH units to 'facilitating' (bina) units – i.e. Directorate for Facilitating Community Nutrition, Sub-

Directorate for Facilitating Macro-Nutrition, etc., recognising that the responsibility for implementation lies with the Provincial and District/City Health Departments.

Ministry of Agriculture

16. The Ministry of Agriculture's (MOA) involvement in nutrition is executed through the National Food Security Board (BKP), established in 2000. The Board's council is inter-ministerial and chaired by the President and it is operationally linked to MOA through MOA's Directorate of Food Security. It aims to assess the food security situation across the country and formulate and implement policies to improve the situation as necessary. It is supported by two working groups – the Technical Working Group and the Expert Working Group. They examine food security issues from economic, political geographic and nutritional perspectives. The Board has reportedly had limited impact on effective policies and programs for promoting long-term nutrition, or nutritional surveillance and institutional response systems, whether at the national or lower levels. It lacks institutional underpinning, whilst major budgets and responsibilities have remained elsewhere, located in sectoral programs and decentralized governments. This also applies to the subsidiary Food Security Agencies that were established at the provincial and district/cities levels.

17. BKP is led by the Head of the Agency, an Echelon I position reporting to the Minister, and with its Council chaired by the President it is potentially in a strong position to enforce food-related policies and to manage food supplies, distribution and quality.

Ministry of Industry

18. MOI is involved in nutrition through its DG Agro and Chemicals, particularly its Directorate of Food Industry and Directorate of Chemical Downstream. They enforce and monitor standards for food quality and chemicals (salt, IDD, etc.). Food fortification is monitored by MOI as well as by Badan POM, MOH, the industry itself and various NGOs. MOI also liases with MOH on nutrition policies and participates in multisectoral events such as the national workshops on nutrition policies and problems organised by the Institute of Scientific Knowledge (LIPI). MOI has a few staff in these directorates who are qualified in nutrition.

National Agency for Drug and Food Control

19. BadanPOM's function is drug and food control for the protection of public health, including legislation, regulation and standardisation, licensing for pharmaceutical industries, pre-market evaluation of products, post-market monitoring and inspection, audit of product advertisement, research and public communication. It has 27 provincial laboratories for product analysis in addition to the Jakarta headquarters. It was previously part of MOH and although it is now a separate agency it is still coordinated by the Minister, and effectice coordination is maintained with MOH units.

20. The Agency has three Deputies: the Deputy for Drug and Therapeutic Products, Deputy for Traditional Medicine, Cosmetics and Food Supplements, and Deputy for Food Safety and Hazardous Substances. This last Deputy covers nutrition, and has five directorates:

(i) Directorate of Food Safety Assessment (Its approval is required for the registration of every new product)
(ii) Directorate of Food Product Standardisation (Establishes standards)
(iii) Directorate of Food Inspection and Certification (Maintains

standards).
(iv) Directorate of Surveillance and Promotion (Conducts surveys of exposure, and conducts training for district inspectors).
(v) Directorate of Hazardous Substance Control.

21. Total manpower is approximately 150 and includes a few (6 to 7) graduates in nutrition, mainly in the Directorate of Food Product Standardisation, as well as Pharmacists, Biologists, Chemists and Food Technologists. The 27 laboratories report to the Agency's Centre for Food and Drug Testing (one of four centres). Most laboratories have a qualified nutritionalist. More than 1000 of the District Food Inspectors in the regional health departments have been trained by the Agency, through the staff of the Directorate of Surveillance and Promotion. This training includes some basic content on nutrition.

Provincial and District Health Service Departments

22. Following the decentralisation programme the district and city health service departments have become the primary providers of health services in their areas, including nutrition, supported by the provincial health service offices (dinas) and the central MOH. MOH no longer has provincial and district branch offices, as these were absorbed by the respective local government departments during decentralisation. The district health departments are administratively responsible to the district government and technically responsible to MOH. They vary considerably in staffing and competencies across the country.

23. The limited capacity of the district offices to manage public services is generally acknowledged. Until the decentralisation programme the training and experience of local officials was confined to implementing central MOH programmes and compliance with regulations and procedures. Very little training in management has been received and the capability of district staff to formulate policies and plans, manage and monitor programmes, and manage budgets and human resources is generally very low.

24. The level of professional and technical training and competency in nutrition is also generally low, and a number of officials and observers have noted the lack of priority accorded to nutrition at district level. Policies, targets and guidelines (e.g. on minimum service standards) issued by MOF through the Directorate of Community Nutrition are re-shaped by districts in accordance with local priorities, often with little feedback to the centre on policy implementation, service provision or social impact.

25. In the Provincial and Local (District and City) administrations the organisation of the health departments have parallel structures. The Head of the department (Dinas in the provinces, Bagian in districts/cities) has five or six sub-units. These may vary slightly but are typically units for:

(i) Maternal/Child Health and family planning
(ii) Communicable Diseases
(iii) Community Participation (in some regions)
(iv) Medical Support for Hospitals and Health centres
(v) Sanitation

26. Staffing levels vary considerably between regions. Nutrition is generally covered by the Maternal/Child Health sub-dinas or sub-bagian. These usually have sections for Maternal Health, Child Health, Nutrition and in some cases for the Elderly. 90% of the Nutrition sections are estimated to have graduate nutritionalists (D3 or S1), up to a maximum of about 6 or 7 depending on the size and nature of the region covered. Where they have no

specialist nutritionalist, nutrition activities are covered by a senior midwife who has some training in this field.

Health Centres (Puskesmas)

27. Health centres are long established in Indonesia, providing basic health services including nutrition, some of the services under their management being provided by sub-health centres and outpost midwives. At the health centre facility they provide preventative and curative health services, including dispensing of drugs, dentistry and immunisation. Most of them are led by a physician, supported by nurses, midwives and other para-medical staff and unskilled support staff up to a maximum of about 20 staff, although staffing level and mix varies greatly. Any sub-health centres under their jurisdiction are typically staffed by a nurse and a midwife. Out-posted midwives are based in the community, especially in rural areas.

28. Although nutrition is one of the basic six service obligations of the health centres, it has been neglected in recent years. Some health centres (approximately 30%) have a dedicated nutrition officer with D1 (one year tertiary) education, while others have only general nursing or midwife staff with up to three months training in nutrition. Most staff have no training in nutrition. MOH wishes to place D3 Nutrition Academy graduates in these posts.

29. There are one or more Puskesmas in every sub-district (kecamatan). According to the latest Ministry of Health (MOH) comprehensive report, in late 2004 there were a total of 7,550 Puskesmas operating in 4,820 sub-districts nation-wide. Among its other health service functions, each of these services many local community posts (Posyandu). The number of these posts per health centre may vary from about 15 to about 75, depending on local circumstances: The MOH publication *Basic Data on Local Health Centers 2004* reports a nation-wide total of 206,971 posyandus, or an average of approximately 27 per health centre.

Community Organisations

30. The nation-wide system of these local community posts (Posyandu), mainly for monitoring the growth of babies and children under 5 (U5s), is operated by members of the local women communities known as PKK (Education, Family and Welfare Organization) and their cadres, with technical support provided by professional staff of the local health centers. The Posyandus are not formally part of the health services nor of the government structure as a whole, but are community-based organizations staffed by volunteers with monthly events based in volunteers' homes.

31. In principle, mothers bring their U5s to the Posyandu event each month on a specified day of the month, have them weighed by the cadres, receive nutritional advice if needed, vitamin A distributions at 6-monthly intervals, and sometimes supplemental nutritious foods for their U5s. Curative medical care may be administered on the spot by the attending Puskesmas staff, who normally carry a small stock of medicines to the event. These staff may be midwives, nurses or vaccinators. The basic nutritional 'protocol' of the Posyandu is the monthly weighing of U5s. If no weight-gain occurs between any two to three monthly weighings of a U5, this should trigger remedial actions by government agencies, among them reference to a Puskesmas or hospital for medical assessment, professional nutritional advice to the mother, and (where appropriate) the provision of supplementary foods and/or special medical care and treatment.

32. Between the monthly events, the volunteer cadres, who usually number between 3 and 5 per active Posyandu, may go about their communities, monitoring nutritional status and environmental health conditions, and providing appropriate though non-professional advice thereon to community members and households. But the frequency of these visits has declined in recent times. The volunteer cadres receive minimal or no training. Where training is available it may be a one-day course, usually focused on the basic weighing process.

33. Typical practice falls far short of the 'ideal' outlined in the above description. Many serious weaknesses have been reported in the local systems of nutrition service delivery including:

- There are not enough effectively functioning Posyandus in some localities;
- The system does not reach more than a fraction of the poorest families;
- The system has no effective ante-natal outreach by Puskesmas staff such as midwives to pregnant women;
- There has been a declining attendance and growth monitoring at the Posyandus as testified by increasing levels of malnutrition;
- Its volunteer cadres are ill-trained, both in nutritional and social mobilisation skills;
- It is not focused enough on nutrition to deliver nutrition services effectively;
- It provides no significant nutrition services to local community between the monthly events' (one morning, each month);
- It is presently starved of adequate budgets by local governments.

External Organisations

34. There are also numerous international and Indonesian **NGOs** with activities in the nutrition sector. Most NGOs do not give priority to nutrition and are more active in other sectors. But some of the international NGOs have substantial focus on, and professional expertise and experience in, the nutrition sector in Indonesia. They are (a) Helen Keller International (HKI) (b) Mercy Corps (c) Save the Children (d) IRD Indonesia. Some **community based organizations** and religious organizations make minor contributions to nutrition-related services and to fund-raising but these are insignificant on a national scale. There have been some isolated initiatives in **public-private partnerships** with food processors and retailers to promote the consumption of fortified foods. To date these have made little contribution. Commercial operators often regard these products as low profit items, and they tend to have little capacity for R&D or market research.

Research Institutions

35. A wide range of organisations are involved in research that is relevant to nutrition. They include universities and research institutes (particularly the Institute of Agriculture in Bogor), NGOs, the Central Bureau of Statistics (BPS) and research conducted by the Directorate of Community Nutrition and by provinces and districts. There is little overall policy direction or coordination of these research activities.

Human Resource Issues

36. A number of important human resource issues need to be addressed across the above institutions. Many of these issues are shaped by the bureaucratic, rigid, and hierarchical structure of the public service in Indonesia, and the remuneration system, which have been long-standing structural impediments to reform. Although decentralisation offers the

potential for reform and increased accountability to local communities, to date it has exacerbated the human resource problems.

Intersectoral Collaboration

37. In general the vertical sectoral ministries and agencies with their heavily top-don power structures are not amenable to effective intersectoral collaboration. There is a long history of the creation of multi-sectoral committees and boards at all levels of government in indonesia, mostly on an ad-hoc basis. They have tended to exert limited power over line ministries, and their members often had little incentive to collaborate actively. This appears to be the case in the nutritional sector and as noted above the intersectoral bodies created to date have been ineffective and have largely fallen into disuse, with the exception of the Food Security Board and Council. This suggests that intersectoral arrangements must have strong top-level commitment, their authority and their functions must be clear, without overlaps or conflicts with other bodies, and there should be clear mechanisms for them to influence policy making and implementation in the sectors covered.

Availability of Competencies and Skills

38. The shortage of competencies in nutrition in relation to the need across Indonesia and the need to improve the volume and quality of training is recognised by all concerned in the sector. Many Academies of Nutrition have been established across the country, and these are producing the bulk of the nutritionists working in district health departments, hospitals and health centres at D1 and D3 educational levels (one and three years post high-school education respectively). Some 10,000 D3 graduates in nutrition have been produced. But these do not meet international standards, which are equivalent to D4, and there is a lack of quality control in curricula and training materials. The quality of technical training provided is generally considered variable and non-standardised below S1 level. Four universities have recently opened Schools of Nutrition and these have the capacity to produce up to 200 S1 graduates per year. An increase in this capacity is required to supply more districts and hospitals with university graduate level personnel. A number of institutions offer Masters degrees in nutrition. Doctorate education is available overseas.

39. It is particularly important to develop the capacity of district and city health departments to manage the health and nutrition programmes. Their present capacity for effective planning, execution, monitoring and evaluation remain extremely weak, as there was little opportunity to gain management experience before decentralisation. This includes the management of local government resources in the nutrition field, the relevant resources at the Puskesmas, and the mobilisation of community, private sector and NGO resources. Non-technical training in areas of programme management, human resource management, leadership, data analysis, and innovation in mobilising local resources and the private sector are rarely available. The MOH training school (Pusdiklat) now offers a relevant short course in leadership (see below) and some district and city governments have invested in management training courses with local institutions. But on a national scale the impact of these is minimal to date. This results in the inefficient deployment of resources, the lack of development of human resource potential and inability to access the wider resources of the local economy and community.

Training Capacity

40. As noted above there is a lack of training capacity for university graduate education in nutrition and a need to produce more D3 graduates from the Nutrition Academies, as well as improving the standards and quality control for the latter. This latter requirement would

probably entail an extension to the role of the Directorate of Community Nutrition in MOH or possibly to the Nutrition's Association.

41. For assignment to a 'functional position' such as nutritionist in the Indonesian administration, central or local, an individual requires accredited training. To obtain the required certificate he/she must complete a standard course of 30 days delivered by accredited trainers. The trainers are accredited by attending a Training of Trainers (TOT) program at the MOH Pusdiklat, which is approximately 12 days long. Nutrition is one of 21 TOT courses provided at Pusdiklat, usually to staff from the Directorate of Community Nutrition or from the regional health departments, who thereby gain accreditation to deliver courses in their local regions. This training together with other technical training, including short courses in nutrition, is provided at the regional health training schools (Bappelkes) which exist at provincial level. All courses at Bappelkes must be accredited by Pusdiklat to be accepted as official professional training. Pusdiklat reviews curricula, issues guidelines for visiting lecturers and monitors standards and training materials before a course is launched. The capacity of Bappelkes varies between provinces but in general it is highly constrained by funding, facilities and professional manpower.

42. MOH Pusdiklat also provides a range of other courses, based on demand and funding. It delivers structural training programmes in collaboration with LAN for officials seeking promotion from Echelon III to Echelon IV, and places particular weight on a leadership programme of 4 to 6 days for senior officials from MOH, provinces and districts, as well as from other ministries and agencies. This course aims to introduce modern concepts of management, strategic thinking, innovation and systems approaches to management and learning. It is much in demand and often includes nutritional issues, depending on the participants. Some of the lecturers are visiting Professors of Nutrition. But Pusdiklat capacity is limited, having only 8 full-time trainers (Widyaiswara), although it has 125 total staff and access to a wide range of external lecturers and MOH officials.

43. There is also a training programme developed by the National Board for the Development and Empowerment of Health Human Resources entitled 'Management and Planning at a Local Level under Decentralisation'. The potential of expansion and participation in this programme should be assessed.

Incentives and Professional Development

44. There is a lack of incentives for qualified personnel in nutrition to enter the public service. Firstly the remuneration system is very poor compared to salaries available in the private sector, e.g. approximately US$150 per month for a new graduate, compared to between 3 and 5 times that amount in the private sector. Additionally, public servants may receive a range of allowances but these make little difference to the disparity.

45. Secondly the grading system in the public service requires that personnel have long periods of service for promotion to line management positions. For example the Section Head for Nutrition in the District/City is a grade IIIc position. A university graduate S1 enters at grade IIIa and will need 8 years in post to progress through IIIb to IIIc, providing his or her superior approves their performance. An academy graduate D3 enters at grade IIc and will need 16 years in post to reach IIIc and thus consideration for a Head of Section post. Further long periods in post are required for appointment to Head of Sub-Bagian or Sub-Dinas. These constraints are long-standing rigidities in the national administration enforced by the regulatory system and it will not be easy for local government to reform them.

46. Thirdly the wider prospects of professional development are not attractive. The existence of a 'functional position' for a Nutritionalist offers professional recognition and slightly higher rewards than would otherwise be the case, but no clear career paths exist. Moreover the systems of performance appraisal, professional development and training are weak and tend to be conducted subjectively. Personal relations and nepotism often exert an influence, job descriptions are sometimes unclear, there is no capacity for training needs analysis and training may be divorced from personal development needs and from the needs of the post. Medium to long-term training and development programmes will be required to reform the system of human resource management.

Critical Institutional Issues

47. From the above situation assessment a number of key institutional issues may be identified. Above all is the **absence of a strong national intersectoral body** for coordinating and enforcing nutrition policies across sectors and through the levels of administration. The Regional Nutrition Improvement Board (BPGD) and the Food Teams, both established at central, provincial and local levels, are not effective on a national scale, have become fragmented and there appears to be some overlap in their functions. The Food Security Board and Council has only indirect concern with nutrition, its focus being on food supplies. The various other intersectoral health bodies that were established at local level operate sporadically across the country but have little concern with nutrition. An authoritative national institution for nutrition should have the capability to coordinate policies effectively across sectors, facilitate operational collaboration and integrate related activity.

48. The **policy-making process** requires development, both in skills and in the process. The existence of a national institution for nutrition (as above) could facilitate policy formulation and execution provided that the policy-making process and the necessary skills are developed. At present the role of the Directorate of Community Nutrition in post-decentralisation policy-making and strategic planning is unclear, and there is some degree of friction and overlap in policy formulation between the Directorate and provincial and local health units. A policy-making **cycle** in which the centre issues a framework for local submission of policies and priorities, and proceeds to integrate these into a national plan, thus accommodating local inputs, does not exist.

49. There is an urgent need to **build capacity** and develop skills in nutrition in the **provincial, district and city health departments**. This will require further expansion of university graduate courses in nutrition and expansion and quality control systems for National Academies of Nutrition. It will also require strengthening of MOH Pusdiklat and the provincial Bappedals. But broader training and development in management is also necessary in provincial and local health units, including programme management, human resource management, leadership, training needs analysis, data analysis, and innovative approaches in mobilising local resources and the private sector.

50. **Organisation development** is also required, especially in provinces and local government health units. More flexibility in organisation will assist in programme delivery, including task forces and working parties to target crucial local problems. For example, a more integrated approach to the use of external and commercial organisations and to the management of surveillance would be beneficial. There may also be scope for organisation development at the Directorate for Community Nutrition to take into account the effects of decentralisation as well as the scope for innovations in policies and the need for coordination of research.

51. The bureaucratic rigidities in the **system on human resource management** and development present an obstacle to all public sector reform and development programmes in Indonesia. The division between 'structural' and 'functional' positions, the grading and remuneration systems, and the formal systems of performance appraisal, promotion, training and development are major impediments to change. The solutions to these problems are long-term issues but short term development of human resource management skills and improvements to job descriptions, performance appraisal and career development systems for nutrition personnel in the districts and cities will be highly beneficial and may serve as a model for other departments.

52. There appear to be gaps and a lack of system in allocating responsibilities for **surveillance and for research**. Various internal MOH and external bodies contribute to research activity without evidence of any overall strategy and coordination. The surveillance system is failing, and reliance on voluntary cadres for basic surveillance may no longer be a viable policy. It is instructive that the recent nutrition crisis in Eastern Indonesia was initially brought to light by the press. This is partly another issue of district/city capacity and organisation, but an effective national strategy is also required from the centre and a simplification of reporting instruments and procedures.

53. The proposals made in a number of reports to revitalise the **Puskesmas** and the **Posyandus** are appropriate. They are established institutions accepted by the population despite their recent decline. It is vital to reverse the degrading of nutritional services and skills at the Puskesmas. More training in nutrition should be made available for health centre personnel, especially for midwives. Nursing and midwife manpower needs to be increased in many areas to improve services and to strengthen outreach to the villages. Also some limited short training activity needs to be provided for the community cadres participating in the Posyandu, and modest incentives made available.

Institutional Strategy

54. Based on the above analysis it is proposed that an institutional strategy is based on the following principles:

- Establishing a national institution for coordinating and enforcing nutrition policies;
- Reforming and strengthening the policy-making process in nutrition;
- Clarifying of roles and responsibilities among respective institutions, simplification of structures and procedures and organisation development programmes to facilitate flexibility and innovation;
- Strengthening technical skills in nutrition and management competencies at all levels but especially at the level with primary responsibility for managing service delivery, i.e. district/city level;
- Building on existing institutions as far as possible, thus mitigating problems of regulation and public acceptance;
- The Government's taking the lead in national nutrition policy and services, but finding ways to involve a range of external resources;

- Reversing the decline in the priority, service levels and skills applicable to nutrition at the Puskesmas.

- Initiating a review of the system of surveillance and a mechanism for the coordination of research so as to develop a clear strategy, effective coordination, and simpler reporting systems.

National Institution for Nutrition assess the feasibility

55. A number of Asian countries have a National Institute of Nutrition as a strong coordinating body across relevant sectors. Such an institution could provide the required leadership in Indonesia, raising the profile of nutritional issues, coordinating policy-making, supporting service delivery and public promotion programmes. It could integrate a number of activities by different organisations across the country, replacing some of the previous intersectoral bodies that operate irregularly and usually ineffectively at present.

56. To be effective such an institute would have a high-profile council at cabinet level with links to national planning agencies and supported by adequate secretarial and research functions, with sub-branches having parallel structures at provincial and district/city levels. Its functions would include:

- Coordination and formulation of policies on nutrition
- Strategic planning and coordination of funding
- Integrating and supporting service delivery
- Monitoring and evaluation of programmes
- Overseeing reform of the national surveillance system
- Coordinating research

57. There is a strong case for establishing such an institute in Indonesia, but different views exist regarding its feasibility and the appropriate strategy for its establishment. There are two main options:

1. The development of a new institution dedicated to nutrition on the model of similar institutions in the Philippines, Thailand and India. This is an attractive concept to many senior officials but it is an ambitious one given the political, regulatory, budgeting and practical issues it will face.

2. Extending the mandate of an existing institution to cover nutrition and food fortification, amending its composition and activity accordingly. The only feasible existing institution on which to build these functions is the Food Security Council and its Agency. This has a high profile council, being chaired by the President and with its Agency established at Echelon I level.

58. Given the regulatory process to create new institutions and the previous attempts at coordination in the health sector at all levels, the second of the above options may be the more realistic and effective option. A Presidential Decree would be required to amend the regulations governing the Council and the Agency. But with its established structure and the high level at which it is governed, it could form a strong basis on which to build. The issues of food security are strongly related to food fortification, quality control and nutrition. If there were two separate institutions, many of the officials involved at the political, management and operational levels would be the same individuals.

59. Thus there is a strong institutional case for extending the role of the Food Security Council and the Agency into a National Food Security and Nutrition Council and Agency. Similar extension would apply to the provincial and district councils such that they could fulfil the above functions.

The Policy-Making Process and the Directorate of Community Nutrition

60. Establishing an intersectoral institution as above will significantly facilitate policy-making. Its high level representation and its cross-ministerial composition will help to focus and integrate policies. But reforms in the health sector component of nutrition policy-making are also required. As noted above the policies prepared at present by the Directorate of Community Nutrition have a variable influence in the regions and may be refashioned in the light of local priorities without feedback to the centre. An effective policy cycle is required with inputs from each level. A broad policy framework should be issued by the centre, which the districts could use to formulate their policy proposals with input from their Puskesmas. These could be submitted to the provincial office for consolidation and subsequently to MOH for formulation of a national plan to be reconciled with those from MOA, POM, MOI, etc. by the National Council.

61. The development of this process will require the participation of several groups, possibly a working group under the coordination of the Directorate of Community Nutrition, with all levels represented. Training events to strengthen policy-making skills, workshops on system design and implementation, and the production of system documentation will also be necessary.

62. These reforms should be linked to the consideration of organisation development options and competencies required in the Directorate of Community Nutrition, given changes in its role since decentralisation (as recognised in the forthcoming Ministerial Decree on the names of the respective units) and organisational implications of the reform of the policy process. For example, committees or working groups may be considered for:

- Policies and systems for public-private partnerships (possibly including a 'matching grant' scheme);
- Coordination of research plans and activity;
- Policy on the reform of the surveillance system.

Strengthening Capacity Provincial and District Units

63. This is the most challenging area in terms of institution building, skills development and the implementation of change. The lack of technical and managerial skills in the regions has been demonstrated in numerous studies and in various fields. Nutrition is no exception and major programmes of development are required. The capacity for graduate nutrition education needs to be expanded and an institutional mechanism developed for quality control of the curricula. Training of trainers programmes should be extended at Pusdiklat and at Bappedals for a variety of technical and training courses. Standard technical courses for Puskesmas staff can thus be expanded (apart from the few graduates available there).

64. A range of management modules should also be designed and delivered at the provincial and district offices, including programme planning and monitoring, human resource management, leadership, training needs analysis, mechanisms for mobilising the private and community sectors, behavioural change systems and data analysis and reporting. Some of these training programmes may be undertaken under wider

management development programmes in the region covering all public service functions, while others will be specific to nutrition.

65. Training initiatives will need to be combined with reform of management systems especially for human resource management (job descriptions, performance appraisal, professional development systems, etc.) and organisation development to clarify roles and functions and to devise appropriate mechanisms for stimulating innovation by means of working parties, task forces or other means, some of which could include representatives of external organisations. These management and organisational development reforms will be considerably facilitated by technical support from experienced experts and by exchanges of information and experience between districts and cities – a process that could be organised by the provincial office.

Coordination of Research

66. Many officials in MOH consider that there is insufficient research on nutritional issues and the lack of capacity for research is emphasised. This is indeed the case, but the basis for research would be stronger if clearer policies were formulated for internal and external research, e.g. identifying research priorities, defining internal MOH, province and district roles in conducting research, and clarifying policies on outsourcing and the use of specialised research institutions. The establishment of a national institute should facilitate the formulation of such policies.

Surveillance Systems

67. The surveillance system is not operating effectively and has seriously degraded in some parts of the country. This is largely a consequence of the decline in the Posyandu cadres and the midwife outreach activity. There also appears to be some overlap in the functions of the SKPG (Food Team), BPGD (Nutrition Improvement Boards) and the BKP (Food Security Board). Reviving the previous systems will take time and will inevitably be uneven across the very diverse communities. It may not be possible in some areas where the community is less stable and little community spirit exists.

68. In the longer term a policy less reliant on volunteers may be necessary. To support a concerted effort to restore the national surveillance system a strategic review of the system would be advisable. This review may require additional research to be undertaken. It should result in a policy and plan to restore a viable system of surveillance, with manpower and budget estimates, and clarifying the roles of the various national boards. The existence of a national institute, as discussed above, would facilitate this review.

Puskesmas

69. The local health centres have been long established in Indonesia and they are accepted by most of the population as the entry point into the system of health care delivery, despite some recent decline in their capacity. It is vital to reverse the erosion of nutritional services and skills at the Puskesmas. More training in nutrition should be made available for health centre personnel, especially for midwives. A standard training of trainers programme could be provided by the provincial Bappelkes for District personnel for subsequent delivery of the short courses at the Puskesmas. Nursing and midwife manpower needs to be increased in many areas to improve services and to strengthen outreach to the villages. Midwives are key resources in service delivery and surveillance and there is anecdotal evidence that they are overburdened and that many are being lost from the public service. The way that they are contracted on fixed-term contracts needs to be reviewed.

Posyandu

70. There are probably many reasons for the decline of the Posyandus, social and economic factors as well as issues of health service policies and management. The contribution of the voluntary cadres and the PKK is extremely important in some areas, while in others it will be difficult to revive their former activities. In the future a less uniform system is likely to emerge across the country, with Posyandus remaining important in some areas while in others the local services will primarily be provided by other resources, whether internal health service manpower or external providers. These decisions will be a matter for the management in district health departments.

71. Where plans to revitalise the Posyandu are undertaken, provision should be made for short training events and some modest incentives for participating community cadres.

SUPPLEMENTARY APPENDIX F

FOOD AND NUTRITION SURVEILLANCE SYSTEM

A. Background

1. The nutritional status of populations is conditioned by many factors, including social and economic ones, as well as health, environment, and the availability of food. Therefore, the range of decisions that should be influenced by nutritional surveillance activities could be related to the concerns of many different areas of activity and sectors of government. By analogy with the surveillance and successful control of infectious disease in human populations, the World Food Conference in 1974 recommended the establishment of surveillance systems for nutrition.

2. Many Food and Nutrition Surveillance System (FNSS) have been established to obtain data on the overall food and nutrition status of a population without making provision for information on the underlying causes of nutrition problems. An opposite multi-sectoral view of nutrition surveillance was clearly set forth by the World Food Conference of 1974, which defined the scope of surveillance as *a wide range of information on all factors which influence food consumption patterns and nutritional status*. Given this point of view, FNSS will usually require data that go beyond those considered nutritional, to include economic, socio-cultural, and biological determinants.

3. FNSS is one of the important instruments in order to gain successful community-based food and nutrition improvement program, especially on program monitoring, analysis, and interpretation of indicators and causal factors in order to make appropriate decisions resulting in improvements in the community nutritional status. The main purpose of an FNSS program is to gather, interpret, and disseminate information about food and nutrition. Functions of FNSS systems include national and regional planning, monitoring and evaluation of food and nutrition programs, provision of timely warnings of food shortages, problem identification, advocacy support, and monitoring food and nutrition effects of structural-adjustment policies. The potential users are therefore the ministries, departments, and institutions responsible for relevant action in these areas.

B. Objectives

4. General objective of the report is to analyze the situation of FNSS and to design development strategy for improving FNSS performance at national and regional level in Indonesia. Special objectives of the report are: a) describe current performance of the FNSS in Indonesia; b) analyze the gap and main constraints on developing FNSS in Indonesia; and c) design FNSS development framework at national and regional level in Indonesia.

FNSS PERRFORMANCE IN INDONESIA

1. FNSS Development History in Brief

5. In 1979, Indonesia started to develop Food and Nutrition System (FNSS). In relation to the current situation at that moment, FNSS more focused on avoiding and mitigating consumption insecurity situation as a timely warning and intervention system (TWISS). In certain areas, especially in some sub-districts on Lombok Island in West Nusa Tenggara province, the NSS had effectively been in operation as a TWISS for eight years (1981/1988) when rice cultivation was still based on a local traditional farming system with a low production capacity.

6. During the third five-year plan, starting in 1978, a massive agricultural programme to increase production through a nationwide "green revolution" was implemented in the province. As a result of this programme, the people began to benefit by the mid-1980s. Since then, the province has completely changed from having an insufficient rice supply to exporting significant amounts of rice to other provinces while retaining rice self-sufficiency. As a result, periodic food shortages no longer occur, and there has been no report of acute malnutrition among the adult population.

7. In the above situation at that moment, the role of FNSS as early warning system was no longer function properly. Local government officials and the people then lost interest in the TWISS, largely because the food shortage was resolved. This also happened in other provinces, and interest rose only when the food situation became vulnerable once more or when an area was considered to have an inadequate supply of food, especially of rice. In such instances the objective of the NSS emphasizing timely warning and intervention was reassessed and shaped into a general nutrition-monitoring system. Finally, FNSS development was more emphasized in order to support mitigating food and nutrition problem planning in long term.

8. From 1988 to the present, the definition and scope of the NSS has been broadened to monitor the nutrition status of people in general. For the periodic monitoring of children's nutrition status on a national basis, the design, collection, and processing of data and information are integrated into a National Social and Economic Survey under the General Bureau of Statistics. With this integration, periodic data on weight and age are available for the national and regional levels. In addition, there are plans to monitor the height of primary-school entrants periodically. The pilot activity was completed in 1990, and the monitoring will be implemented nationwide in the sixth five-year development plan, starting in 1994. Consideration has also been given to using the growth-monitoring data and information collected monthly for children under five years of age in about 67,000 villages, covering almost every child, in the revised NSS (Soekirman and Darwin Karyadi, 1995).

9. With a view to coordinating attempts among various ministries to eliminate malnutrition, a central Food and Nutrition Team was established by ministerial decree of the Ministry of Public Affairs in 1994. The team, consisting

of the heads of several ministries including health, agriculture, education and the bureau of statistics, was coordinated by the Ministry of Food (disbanded in 2000). To support operational activities, the a central technical team was aided by a number of units which included the Food and Nutrition Surveillance System (FNSS) consisting of three sub-units 1) food production and availability surveillance (SKPP); 2) Food distribution surveillance (SKDP) and 3) consumption and nutrition surveillance (SKKG). Members of these units consisted of representatives from related sectors.

10. Under the 1994 decree Food and Nutrition Teams were established at provincial and district level under the Bupati with similar structure and functions to the national team with the addition of a task force established by decree of the Bupati. However, the operational capability of the teams and task forces were restricted by lack of budget support from national and local government and overlap in functions with the existing institution. The system operated effectively for a number of years and annual reports and maps of food and nutrition risk were produced in 1999 and 2000. However with abolition of the Ministry of Food and changes introduced as a result of decentralization, the system deteriorated.

11. Recognition of its unrealized potential for targeting poverty alleviation efforts following the late 1990s financial crisis has led to recent efforts to revise it. Food and Nutrition Surveillance System called SKPG (Sistem Kewaspadaan Pangan dan Gizi) has been more concerned and sounded by government through health field program of social safety net program. Capacity building program for nutrition surveillance system was developed and implemented in term of improving staff skill and instrument development as well as policy advocacy. Unfortunately, nutrition surveillance system capacity in Indonesia still becomes one of the burden problems in formulating and implementing nutrition improvement program. The purpose and objectives of the FNSS were clearly spelled out by the central FNSS Technical Team of the MOH in 1999.

2. Current FNSS Performance

1. FNSS Institutional Structure

a. At Health Sector Line Agencies

12. In terms of administration and service delivery, nutrition functions in practice are situated solely in health sector institutions. Thus the organization, management, and financing of the nutrition sector are mainly the responsibility of the Ministry of Health (MOH). At the central level these are discharged through the Directorate for Community Nutrition under the Directorate General of Community Health. However, since the major government decentralization in 2001, district/city governments have the primary responsibility and authority to provide health and social services, including nutrition, to their respective populations. In general, local governments' priorities have been placed elsewhere, to the detriment of nutrition services, particularly for the poor and vulnerable groups. Delivery of primary health care and nutrition services is

based on a network of district and sub-district health centers, and village health posts organized by volunteers with support from health centers.

13. The main objectives were to provide: 1) early information on food shortage and to implement action to prevent and overcome food crisis in an area; and 2) information on food availability and nutritional status of the community for planning and decision making process at district level. Outputs at the district level were to be as follows: 1) identification of the most food and nutritionally at risk sub-districts; 2) identification of poor families; 3) food and nutrition situation; and annual policies, plans and activities related to food and nutrition problems

b. At Agriculture Sector Line Agencies

14. In order for nutrition and agricultural policies to be better linked, a National Food Security Council was set up in 2001 under Presidential Decree No 41/2001. It superceded the Food and Nutrition Team at the national level. Its function was to evaluate the food security situation and formulate and implement policy to improve food security. Led by the Ministry of Agriculture it was inter-ministerial, and chaired by the President. The Council examined policies on rice subsidies, food diversification and transgenic foods and assessed strategies for food security monitoring.

15. The Council was supported by the Food Security Secretariat which is advised by a technical team consisting of government officers from various ministries who examine food security issues from an economic, political, geographic and nutritional perspective and an expert working group which devises policy and advises the National Food Security Council. A Food Security Council was then established at the provincial and district level with a responsibility to report to the national council on food security in their areas. The Council also became responsible for policy making locally. The Council was a multi-sectoral institution that included the departments of health, agriculture, education and manpower. Simultaneously a Food Security Office was established at provincial and district level often under the governor or Bupati with the role of monitoring food quality and quantity and food prices and the implementation of activities. The Office had three departments: food diversification, food consumption, and surveillance and monitoring. Although the office had the ability to collect data in its own right, capacity and budgets were limited resulting in small studies without real validity.

16. Although the mandate for agricultural statistics was transferred to BPS, the Agricultural Statistics Division of the Ministry of Agriculture still gathers many kinds of agricultural statistical data for its own purpose, such as basic data for extension and promotion of agriculture. BPS and the Department of Agriculture are the two main agencies involved in agricultural statistics.

c. Logistic Agencies (BULOG/DOLOG)

17. Historically the National Logistics Agency (BULOG) had overall responsibility for regulating food markets and for being the sole importer of

certain commodities such as rice. Recent reforms and liberalization of trade and imports, however, have meant that BULOG now exercises less control over imports and is now only responsible for rice, with trade in sugar, wheat and maize being privatized. Although international rice trade has also been opened to the private sector, it is unlikely that the private sector will play a significant role in marketing to vulnerable groups. They have little incentive to transport food to remote and distant areas, where purchasing power is low and infrastructure poor.

18. In the past, observers have credited BULOG with achieving two main objectives, namely in keeping rice prices relatively stable compared to international prices and ensuring adequate supplies to consumers throughout the country irrespective of distance and location. The agency was able to achieve this through its extensive network of go-downs and stores located even in the remotest of islands. The second of these has been of considerable importance in food security especially in areas that would otherwise have been neglected due to inadequate infrastructure and poorly developed markets. Partly due to the reduced role of BULOG and partly to growing insecurity, there are signs that the rice market is becoming increasingly localized, leading to much greater variation in rice prices throughout the country over the past year.

d. Statistics Agencies (BPS)

19. The Government of Indonesia has fully realized that statistics are important inputs into planning, monitoring, and evaluation of various programme implementations in every aspect of life. Law No. 6 of 1960 gave the KPS the authority to conduct population and other censuses required for planning purposes, while Law No. 7 of 1960 established the Biro Pusat Statistik (BPS) as an autonomous institution, directly responsible to the cabinet. BPS was to have provincial offices, which in turn were to have branches at district level and field workers at the level of sub-district. In the field of agriculture, the government in BPS sole responsibility over the collection and publication of current agricultural statistics to avoid duplication of statistical activities among agencies. BPS continued to depend on the supply of data from the departments, which to a large extent continued they ways in which they collected primary data. However, BPS was now supposed to act as organizer and coordinator of data collection. Moreover, it now had a mandate to develop new initiatives in the form of censuses and sample surveys in order to check the consistency and reliability of reported data, and to augment them.

e. Family Planning Coordination Bureau (BKKBN)

20. BKKBN is one of the most widely quoted sources of population data and poverty banding and is used generally in the absence of alternatives. It is also being used for targeting in some SSN programs. It is currently the only source for lists of all households in Indonesia. The census, carried out every 10 years, does not include household names, while the Ministry of Home Affairs, responsible for registration of vital statistics, has incomplete data as it depends on voluntary registration.

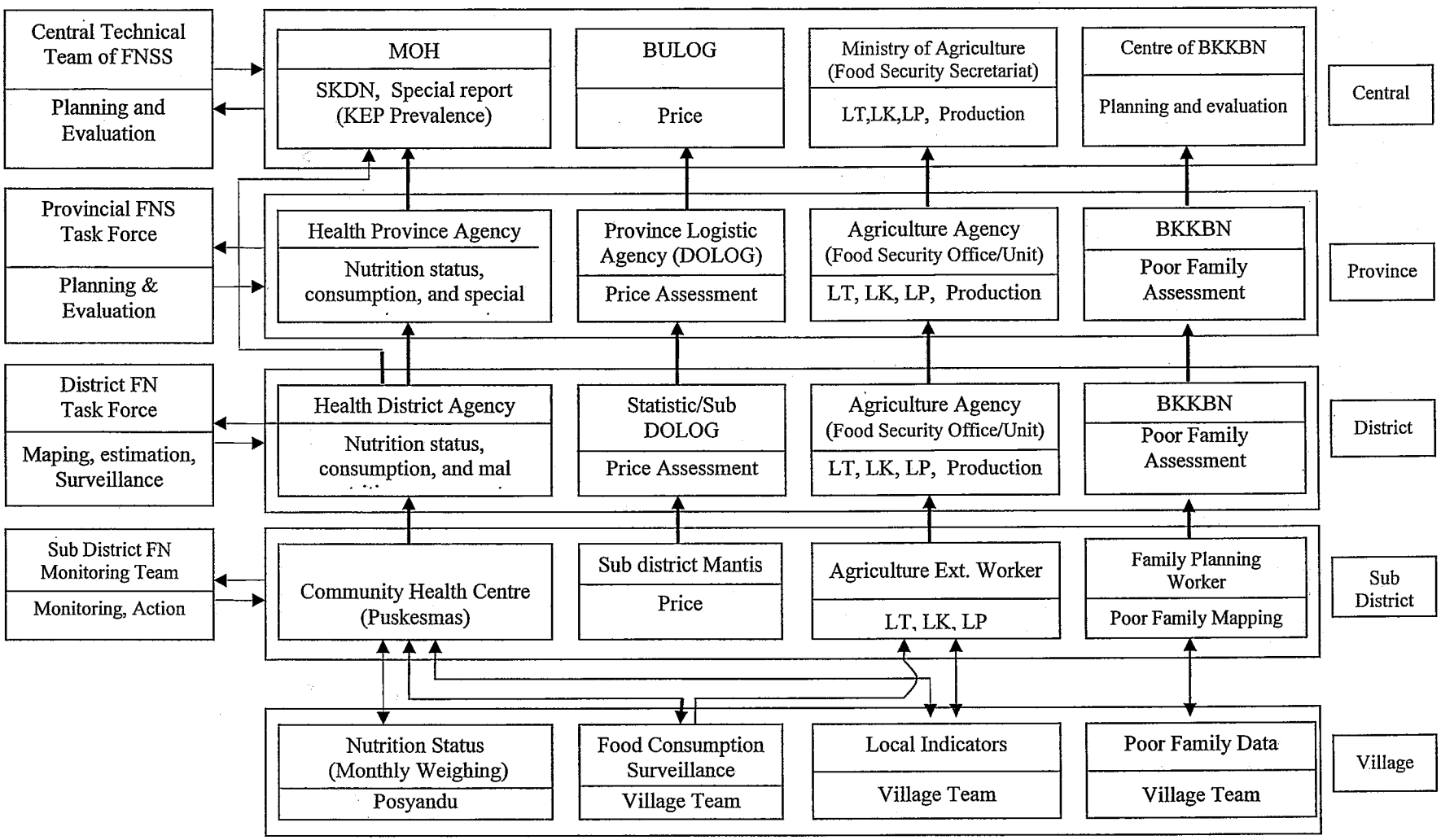


Figure 1. Structure of the Food and Nutrition Surveillance System in Indonesia

f. Others FNSS Related Organizations

21. There are also numerous international and Indonesian NGOs with activities in the nutrition sector. Most NGOs do not give priority to nutrition and are more active in other sectors. But some of the international NGOs have substantial focus on and professional expertise and experience in, the nutrition sector in Indonesia such as Helen Keller International (HKI), Mercy Corps, Save the Children, IRD Indonesia.

22. Saving the sight and the lives of the most vulnerable members of the human family is Helen Keller Worldwide's global mission. While our agency has historically implemented programs in eye health, our work in the Asia-Pacific region in the last 30 years has focused on and led the way in nutrition and health programming. Among the key activities we have established in the region is nutrition surveillance, which is currently operational in Bangladesh (since 1989) and Indonesia (since 1996). The Nutrition and Health Surveillance System (known by its acronym, NSS), which is a joint collaboration of the Government of Indonesia (GOI) and Helen Keller International (HKI, a division of Helen Keller Worldwide), has proven to be useful for monitoring trends and assessing differences among various rural as well as urban poor areas with regard to health, nutrition, socioeconomic status and other related indicators.

23. In 1995, the HKI Nutrition and Health Surveillance System (HKI NSS) was started in Central Java. After the economic crisis hit Indonesia, it was expanded to other rural as well as urban areas of the country in late 1998/early 1999 in order to primarily monitor the impact of the crisis on the health and nutrition of the population. As such, it has enabled the Government of Indonesia and its international, national and local partners to prioritize and design actions for limiting the potentially severe impact of the crisis on the population. As of early 2001, Indonesia began a rapid process of decentralization and NSS data have been made available to each of the participating provinces in order to facilitate the identification of priority areas and problems, and to enable independent monitoring of programs being conducted.

24. The HKI NSS currently collects data in nine provinces of Indonesia. The total population of these provinces makes up 75% of Indonesia's total population. Rural data are collected from the following eight provinces: West Sumatra, Lampung, Banten, West Java, Central Java, East Java, West Nusa Tenggara (Lombok) and South Sulawesi. Data from urban slum areas are collected in four large cities: Jakarta (which is considered to be a province in its own right), Surabaya (East Java), Semarang (Central Java) and Makassar (South Sulawesi), and have also been collected, for three rounds of data collection, in four cities in West Sumatra.

2. Source and Collection Mechanism of FNSS Data

25. The nutrition program is part of the Indonesian development program, which was included in the first five-year national development plan 1979-1984, food and nutrition data on several dimensions are routinely collected. The sources of nutritional information along with their strengths and weaknesses are explained in the following sections.

26. The first step of the FNSS implementation is data collection and analysis for: mapping of the food and nutrition situation, monitoring of food production and distribution, and monitoring of food consumption and nutritional status. The main sectors gathering information were the Ministry of Health, the Ministry of Agriculture, Bulog, BPS, and the BKKBN. The structure and reporting mechanism remains essentially the same until today. The purpose of this data collection is to provide information related to food and nutrition that is needed for a variety of purposes such as: targeting populations for short-term and long-term policy and program development, monitoring changes and evaluating the impact of interventions.

27. At the regional and local level, information produced by the Food Security Office on area under cultivation, food consumption changes or increase in the price of food, acted as an early warning and for interpretation by the Food Security Council. In addition annual cross-sectional nutritional status surveys were intended to be carried out by the district health office to determine the prevalence of malnutrition for use in planning.

28. In general, based on the source and collection mechanism FNSS related data can be distinguished in to five group of data, that are: 1) nutritional status, 2) food consumption, 1) food production and distribution, and 5) socio-economic and other related data.

a. Nutritional Status data

29. Starting from 1985, the Nutrition Surveillance System was gradually established and expanded to all provinces by the 1990s. There were three data collections assigned to monitor child malnutrition: a) Nutritional growth monitoring at posyandu; b) Nutritional status monitoring for first-grade school children; c) Nutritional status monitoring for sub-district level; d) nutritional status monitoring through Susenas; e) Malnutrition data from special surveys.

30. ***Nutritional Growth Monitoring at Posyandu***. At the village level, the nutrition program is implemented at Posyandu – the Integrated Health post covering 50-100 households. This growth promotional program includes activities such as immunization, basic health services for mother and children, nutrition counseling, family planning, and food supplementation. The activities are implemented once a month by cadres and supervised by health staff from health centers. Using the growth card, all three indexes wasting, stunting and underweight are collected for children visiting the Health Post. The monitoring use growth chart and the growth faltering are detected when a child's growth curve declines at less than the curve from the growth chart. If it could be

assumed that all mothers and children of the village make use of the services regularly, then the village health post would be the most complete source of information on children's nutritional status in Indonesia.

31. ***Nutritional Status Monitoring for First-Grade School Children.*** Starting in 1994, the Ministry of Health decided to evaluate the nutritional outcomes as an impact of program development. National surveys have been implemented for measuring all first grade school age children. The Height for Age (HFA) is the anthropometric index used to measure the children. The data has been collected every 5 years to represent the prevalence of stunted children at the district level. Two data sets are available for the years 1994 and 1999 consist of height measurement for children 5 to 8 years old. The data can be assessed to determine the prevalence of stunting for urban and rural areas and also by gender. A simple random sample was assigned to select elementary schools at the village level, and from selected schools, first graders were measured.

32. ***Nutritional Status Monitoring System at Sub-District Level.*** The Ministry of Health has its own Nutritional Status Monitoring System for classifying sub district level nutritional status. The purpose of the data collection is to provide an indication of nutritional status in sub-district areas affected by program development. The underweight data is collected under this system to determine the levels and trends of malnourished children at sub-district levels. The monitoring has been implemented yearly and regularly since 1995 to support district government's prioritizing of the highest risk areas within districts. The calculation of sample size was determined based on the previous prevalence of child malnutrition, and preschool children were chosen based on multi-stage/simple random sample. The data is available at the central level as well as district and sub-district level. There is a problem for continuation of data collection because of budget limitations, especially for the year 2001 when the decentralization system has started. Table 1compares between these two types of child malnutrition data collections.

33. ***Nutritional Status Monitoring through SUSENAS.*** The Susenas-type surveys which are integrated into routine Statistics Agencies (BPS) annual surveys consist of social and economic variables. The Anthropometric measurement for preschool children was introduced to the Susenas-type-module for the first time in 1989. Weight for age was the anthropometric index chosen to identify the prevalence of child malnutrition nationally as well as the regional/provincial figures. So, this anthropometric information is available for the years 1989, 1992, 1995 and 1998. From 1999 to 2001, the Ministry of Health supported a Susenas-type-core for the purpose of evaluating the consumption of iodized salt. The anthropometric measurement for preschool children is also expanded to cover the district level. The Susenas-type-surveys do not classify the areas into poor or non-poor, but into urban-rural and by gender differential.

Table 1. Comparison of Susenas and Sub-district Nutritional Status Monitoring

Parameters	Susenas-Type Surveys	Sub-District Nutritional Status Monitoring
Year of Survey	1989 – 1998 (every three years); 1999 – 2001 (every year)	1995 – present (every year)
Survey Design	Cross-sectional, Multi-stage cluster	Cross-sectional, Multi-stage cluster/simple random sampling
Sampling and representativeness	Representative for National and/or Provincial Level only for 1989-1998 data sets; and representative for district level for 1999-2001 Susenas.	Representative for sub-district level as well as higher administrative levels.
Sample Size	Calculated based on demographic assumptions and socio-economic conditions	Calculated based on epidemiology assumptions using the previous prevalence of malnourished children
Number of household	1989-1998: 65,000 1999-present: 220,000	Can not determined, all the households that have preschool children from selected villages.
Number of children measured	For Susenas 1989-1998: Less than 30,000 children For Susenas 1999-presents: between 70,000-75,000 children	It ranges from 1.5 to 2.2 million children for the whole countries, or between 200 to 1000 children per sub-districts depending on sub-district representativeness.
Data Collector	Staff of Central Bureau Statistics at sub-district level	Nutrition staff from Ministry of Health at Health Center
Index collected	WFA for preschool children	WFA for preschool children
Instrument	Any available scales: dacin scale, bathroom scale, etc	Dacin scale
Precision/accuracy	Standard Deviation : 1.6	Standard Deviation : 1.1
Data accessibility	Available in Central Bureau of Statistics – Jakarta	Available at all administrative levels from sub-districts to central levels
Data assessment	Can be aggregated by gender, urban-rural areas.	Can be aggregated by gender, age groups, urban-rural areas.

Source : S. Setboonsarng (2005)

34. ***Malnutrition Data from Special Surveys***. The anthropometric information is also available from special surveys or studies. Usually these special surveys/studies collecting all three indexes of child malnutrition. For example: a) The longitudinal survey from Helen Keller International is collecting the information from urban and rural areas within 7 provinces in Indonesia (West Java, Central Java, Lampung, West Sumatra, South Sulawesi, West Nusa Tenggara, and Jakarta). b) The national vitamin A survey in 1978 and 1992 covered all provinces The longitudinal study for evaluating Supplementary Feeding as the impact of the Social Safety Net Project was in 5 provinces in 1998/1999.In addition there are also other surveys, such as a Mother and Child health survey in 1995, the Indonesian Family Life Survey, the Eastern Island Survey and several small-scale studies. Research at National Research and Development Center (NRDC) was conducted in collaboration with the Ministry of Health, SEAMEO-TropMed programme, UNICEF and WHO. A national survey for mapping IDD problem was carried out between 1995 and 1998. A field trial of supplementary feeding to pregnant women with the risk of suffering from chronic energy deficiency (MUAC <23.5 cm) was carried out in two provinces. During the economic crisis, this programme was expanded to seven provinces.

b. Food Consumption Data

35. Changes in food consumption were to be determined by the Food Security Office in co-ordination with the District Health Office. Guidelines produced by the Central Surveillance Unit, were used to determine energy and protein intake and changes in consumption of the households noted. In assessing poverty and choosing vulnerable villages BKKBN criteria were used as data was available at sub-district level whereas BPS produced data at district level.

36. In addition annual cross-sectional nutritional status surveys were intended to be carried out by the district health office using guidelines from the Central Surveillance Unit to determine the prevalence of malnutrition for use in planning. In areas prone to drought or flood, the monitoring of 20 vulnerable villages through an annual survey was undertaken by the Health Office. The village team was requested to assess one in every 20 poor families to determine changes in food consumption, by the sub-district, in response to an increase in the numbers of children falling below the red line on the KMS card, an increase in prices or severe malnutrition. The team examined decreases in the frequency of eating, changes in the staple food or decreases in the quantity consumed and reported back. Some teams were requested to report back changes in social indicators such as increases in the numbers of beggars or illegal migrants living under flyovers.

37. The data module collected in Susenas covered also the detailed data on consumption and household expenditures also the household income. Consumption and expenditures are not limited to the commodity of food materials and ready-made food but also non-food commodities. The sources of income of the household recorded here are from various sources such as agriculture, industry/handicraft, trade etc.

c. Food Production and Distribution Data

38. Information on area under cultivation, irrigated and harvested was assembled by the agricultural extension workers. Since the transfer of responsibility from the Department of Agriculture, BPS has been working to strengthen the system and design of current agricultural surveys to improve the quality of data. As for the Department of Agriculture, it gathers three categories of statistical information on agriculture and livestock. Efforts are also being made to incorporate available statistical information on irrigation, input, credit, price, etc. Primary information is gathered by village-level offices, whose personnel gather the data by making the rounds of their domain interviewing village heads. They also implement crop cutting for estimation of yield of the main crops.

39. For monitoring food production, data on staple food productivity are produced by BPS at provincial level while data on land area harvested and area planted are produced by the Ministry of Agriculture from local reports. Most of the local governments increase the number of crop cutting plots to get data on food productivity indicators at district level. There is no sign yet coming from the autonomous governments if they are willing to have additional data on productivity to get data on food production at sub-district level.

40. Food insecurity in Indonesia is primarily a problem of reduced incomes and erosion of purchasing, but at a cost that increasing numbers of poor people find difficult to afford. A significant proportion of domestic staple food in Indonesia is traded. Functioning markets are therefore essential for food security in both rural and urban areas. In addition there is a high price variation among the various regions, which is principally attributed to political uncertainty, market failures as traders are reluctant to buy, stock and transport rice and the declining role of BULOG.

41. Being the national food staple of Indonesia, the production and supply of rice plays a central role in food policy. The sub-district statistician in the Statistic Office (BPS) was responsible for gathering data on the price of the staple food. Department of Agriculture, for its part, provides also data on retail and wholesale prices and on export and import of agricultural commodities.

d. Socio-economic and Others Related Data

42. **National Socio-Economic Survey (SUSENAS)**. It is the primary GOI monitoring and targeting tool for all national programs that done annually as a nationally representative survey with a core and modules. The core data covered in Susenas are : 1). Characteristics on members of the household that consists name, relationship with head of the household, sex, age, marital status, tour trip, crime victim and school participation; 2). Characteristics of health and education of the household members; 3). Characteristics of economic activities and the workforce of household members over the age of 10 years; 4). Characteristics on fertility of ever married women and information on Family Planning methods used by the married women members of the household; 5). Characteristics on the quality of household buildings, household facilities and

environment; 6). Characteristics on the average household consumption and main source of household income.

43. **Indonesia Demographic and Health Survey (IDHS)**. The IDHS is part of the worldwide Demographic and Health Surveys program, which is designed to collect data on fertility, family planning, and maternal and child health. It is carried out by Badan Pusat Statistik-Statistics Indonesia (BPS). The Government of Indonesia provided most of the survey costs through a loan from the World Bank. The United States Agency for International Development (USAID) provided funding for implementation of the survey in three newly established provinces and for technical assistance from ORC Macro.

44. The 2002-2003 IDHS as a follow-on project to the 1987 National Indonesia Contraceptive Prevalence Survey (NICPS), and the 1991, 1994, and the 1997 IDHS was designed to produce estimates at the national, urban-rural, and provincial levels and specifically designed to meet the following objectives:

a) Provide data concerning fertility, family planning, maternal and child health, maternal mortality, and awareness of AIDS, that can be used by program managers, policymakers, and researchers to evaluate and improve existing programs;
b) Measure changes in fertility and contraceptive prevalence rates and at the same time study factors that affect the changes, such as marriage patterns, education, breastfeeding habits, and the availability of contraception;
c) Measure the development and achievements of programs related to health policy, particularly those concerning the maternal and child health development program;
d) Produce data which can be used to study men's participation in the health care of their families; and
e) Provide an international database which can be used by the program managers, policymakers, and researchers related to fertility, family planning, and health.

3. FNSS Data Utilization

45. The Food Security Council at the province and district/city level became the local organization responsible for the FNSS. Data were collected by the Ministry of Agriculture and Bureau of Statistics (BPS), BKKBN, and Ministry of Health (as in the previous system). Information produced by the Food Security Office on area under cultivation, food consumption changes or increase in the price of food, would act as an early warning and would be interpreted by the Food Security Council. Appropriate responses such as the provision of seed, or rehabilitation of irrigation would be put forward for consideration by the DPRD.

46. At central level, information from the various sources was to be analyzed by the Food Security Office to provide: 1) mapping of the food and nutrition situation; 2) monitoring of food production and distribution and 3) monitoring of food consumption and nutritional status. From the data food and nutrition policies, programmes and activities could be developed by the Food Security

Council to cover interventions such as the provision of seed, irrigation or drainage, job creation schemes, income generating activities or the distribution of subsidized rice to stabilized prices. In implementation high priority was given to poor families and vulnerable groups and to its timely application.

47. The role of Ministry of Health was to deliver posyandu organization, the road to health card, the weighing equipment and support and training for the cadre from the puskesmas. In Indonesia, the UPGK (Upaya Perbaikan Gizi Keluarga) program used a system known as SKDN, where S is the number of children under-five; K is the number with growth charts; D is the number who have attended a weighing session, and been weighed; and N is the number who have gained weight. Each posyandu or community health post examined and reported its coverage at first contact (K/S); participation in weighing (D/S); and outcome (N/S). Monitoring of the participation in weighing (D/S) was considered a measurable indicator of community participation.

4. Formulating and Implementing Intervention Mechanism

48. The second step is food and nutrition policies, programmes and activities must be formulated based on the available and most recent information. Some alternative interventions are as follows:

a) Set a high priority for problem solving for high risk areas based on food and nutrition situation resulted from the FNSS
b) Intensify agriculture programmes such as seed provision, drainage, etc if failure in agricultural production as indicated by smaller area planted, or larger area destroyed.
c) Job creation schemes for low harvest area.
d) Food subsidy, health services if the were changes in community food consumption and nutritional status
e) Income generating activities, and market operation if there were increases in the price of staple food

49. The third step is implementation of food and nutrition intervention with the main consideration as follows: high priority must be given to the poor families especially young children, pregnant and lactating mothers; and intervention should be carried out in a timely manner through the mobilization of available resources.

50. Monthly weighing of children under the age of five at Posyandu has been used as an entry point for many interventions such as diarrhoeal control, vitamin A capsule and iron tablet distribution, family planning, and immunization, which represent the essentials of primary health care for children. Now, in all provinces, every village is close to a Posyandu. Although the concept of Posyandu is community ownership and management for the welfare of the community, the success of the Posyandu depends on involvement of the Puskesmas. The posyandu cadre were to report to the local puskesmas each month on the children not increasing weight for 2 successive months and those children under the red line on the road to health card for referral and treatment. In turn the response of the puskesmas was to clarify the nutritional status of the

children and if the children were severely malnourished to keep them in the puskesmas or transfer to a local hospital.

51. If the percentage of children falling below the red line were to increase, the health staff were to investigate to determine whether the cause was an infectious disease such as measles, insufficient food consumption or an outbreak of diarrhoea. The responses available other than keeping the child in the puskesmas or sending it to hospital, depending on the diagnosis were, the provision of supplementary food, counseling on the improvement of feeding practices or hygiene, or attempts to improve the economy of the family.

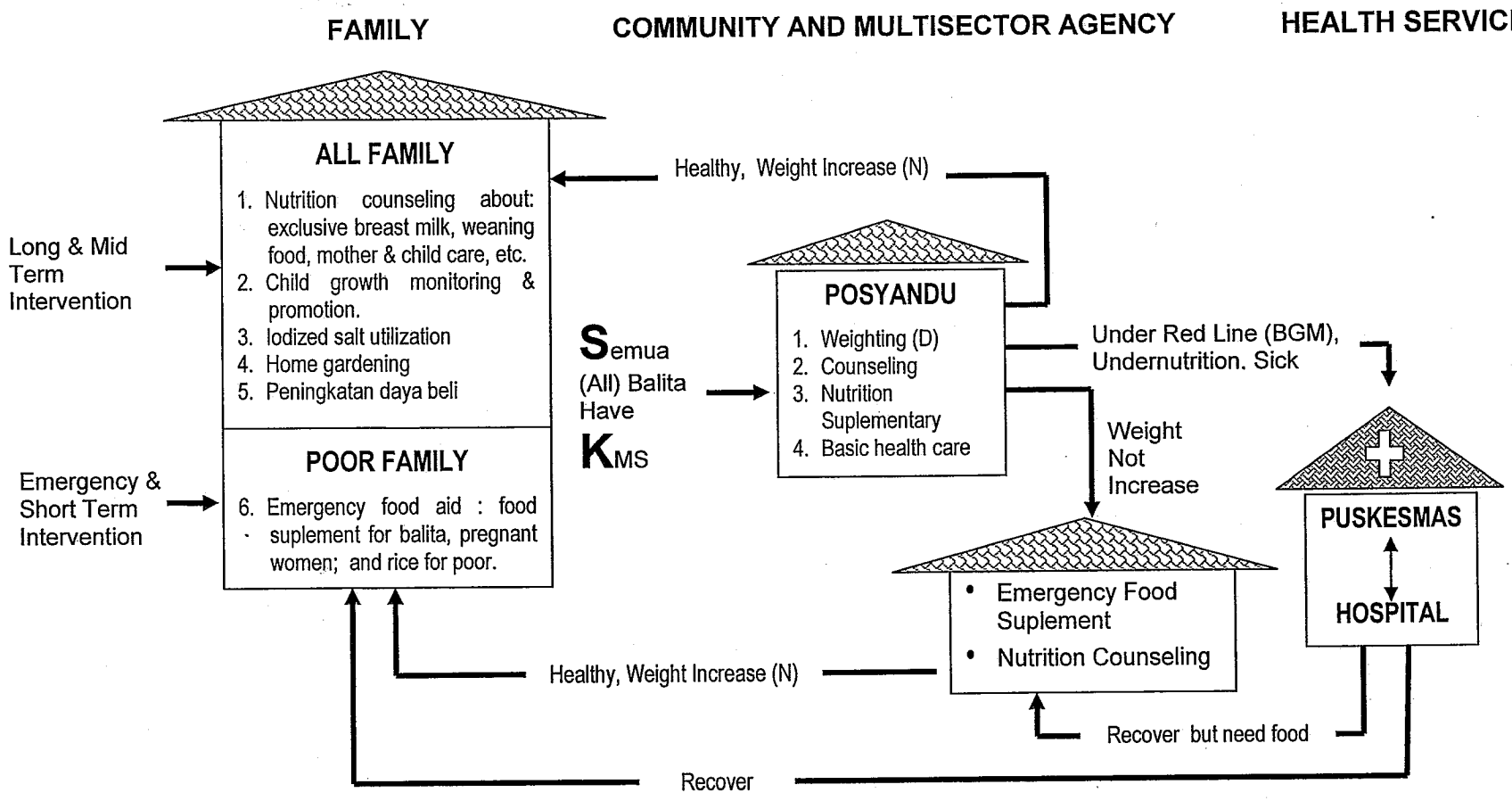
52. At national level, if price of the staple food is unstable and affecting the consumer, food will be distributed by Bulog from an emergency stock held by the government. However in order for the distribution of subsidized rice to lead to price stabilization, the Ministry of Agriculture needs to ask Ministry of Social, the executing agency to distribute to a particular area. Ministry of Social then has the authority to ask Bulog to distribute rice. For improving household access to food, under the ***rice for poor scheme*** the government assigns Bulog to purchase paddy from farmers to stabilize the price during the peak season. Bulog then processes the rice and provides it at a subsidized price to the poor chosen by committee using defined criteria. At regional level, appropriate responses such as the provision of seed, or rehabilitation of irrigation were put forward for consideration by the DPRD.

53. A significant proportion of domestic rice is traded. Functioning markets, therefore, are essential for food security not only for the urban population, but also for about 80 percent of all Indonesians. Market prices remain high and considerably above world market levels, despite a good harvest in prospect and large imports last year. Price variation between regions is also high and even close to mills. The main reasons for high trade margins are:

a) the uncertainty in connection with the upcoming elections that makes traders reluctant to buy larger stocks;
b) the lack of capital that leaves only larger traders in the business resulting in a tendency to price fixing;
c) the removal of Bulog's traditional price stabilizing function that affects the outlying regions with higher marketing costs in particular.

54. In general farmers considered current paddy prices to be good. However, BULOG's floors for medium quality paddy cannot always be maintained, especially where cash strapped farmers need to use collectors to sell quickly and pay labor for harvesting and threshing. Richer farmers store paddy and sell to the mills when prices are promising. BULOG itself does not purchase paddy but buys rice mainly from co-operative mills. Security concerns of traders, the perceived concern with cheaper imports, oligopolistic trade structures and the keeping of larger than usual farm stocks can lead to an artificial shortage of rice on the market and thus lead to high market prices in some regions.

FOOD AND NUTRITION SURVEILLANCE SYSTEM



FOOD AND NUTRITION SURVEILLANCE SYSTEM

I. FNSS GAPS AND MAIN CONSTRAINTS IN INDONESIA

A. Institutional Capacity

55. Institutional development as part of the nutritional surveillance is important for ensuring that information is generated from the data and that it is used in decision making. Past experiences in nutrition surveillance systems in Indonesia indicate that there is a tendency toward using short-term technical assistance in generating data from the field. Even with long-term projects, such as the ones implemented by external agencies, adequate resources have not been devoted to developing institutional and human capacity to sustain surveillance systems. This has resulted in low quality and decreased frequency in outputs from the surveillance systems following the end of the technical assistance.

56. Nutritional surveillance systems in Indonesia have often not placed adequate emphasis on institutional development. Worse situation occurred in the most of the local level due to the decentralization and local autonomy policy. It was fact that most of the local governments give the impression of being nutrition improvement program is not profitable and significantly distribute to the local income. Therefore, institutional development for food and nutrition program, as well as FNSS, was given neglect local development prioritization.

B. FNSS Staff Capacity

57. Many of the civil servants operating in the Food Security Office have inappropriate skills for the tasks which they are required to undertake. Skills unmatched to need and lack of staff have also resulted in poor levels of achievement in most nutritional surveillance activities in health offices. Training of staff is required in the organisation and implementation of surveys of nutritional status, household food security and food consumption. Adequate staff must also be available and trained to enter data, analyse it, and determine its significance. The staff must have skills in how to present the data both to scientific colleagues and for use in advocacy to politicians. Staff in the Food Security Office involved with food and nutrition surveillance should also be trained. Data must be analysed and available at district level in order for policy makers to formulate policy adapted to the local situation and manage programmes and interventions.

58. FNSS units within the regular structure of a ministry often have dedicated staff and make valuable contributions, but they have difficulty providing a full range of research and training as well as advisory services. One reason for this is the problem of achieving the critical mass of staff and the necessary representation of disciplines. Another is that the unit is captive to the severe budgetary constraints that characterize virtually all ministries of health, and to the difficulties of requesting and receiving supplementary funds from other sources occasioned by the constraints of a government bureaucracy.

C. Accuracy of Food and Nutrition Data

59. Multiplicity of systems of data collection and dissemination of information exist even in the same program areas, with no clear-cut and identified demarcation of responsibilities. This has led to the following situations: duplication of information collection and dissemination, dissemination of conflicting information on same items from different official sources, and non-comparability of information on the same items over a period of time, making it impractical to assess changing health situations.

60. Difficulties in identifying and collecting information of a dispersed nature needed for construction of indicators. This weakness applies particularly to specific indicators such as health expenditure, local health care, etc. Health budgeting or expenditure occurs at so many levels and at so many locations that the problem of identifying and enumerating the instances becomes a stupendous task in itself. Similarly, in the absence of a clear understanding and definition of what constitutes "local" food and nutrition services, the construction of this indicator in a uniform and comparable manner becomes difficult.

61. The question of weaknesses in information support is so well recognized and so often repeated that it has become somewhat rhetorical. Also, solutions for improvements to and strengthening of information support systems are too often attempted at the central level, notwithstanding the actual need for information support systems to be built from the most peripheral level in a "bottom up" approach.

D. Utilization of Food and Nutrition Data

62. Although The FNSS exist in Indonesia, they are not invested with sufficient resources. Information support systems are still thought of in a vertical and detached manner even by food and nutrition program managers. No systematic review is done by decision-makers, program managers and health personnel at different levels, to identify the set of information items needed by them.

63. Many of the key elements of FNSS to support national and regional nutrition investment plans are already in place. However, there are no examples of FNSS that effectively cover the range of information needs. In addition, various problems limit the effective use of food and nutrition-related information in the region. Misperception of the malnutrition problem, less utilization of food and nutrition-related information, and lack resources for action are actually constraints to the effective development of FNSS.

64. To date, the utilization of the FNSS data is still limited to budget-related matters but less to programme interventions. It is reasonable since, in the past, they were not used to design, implement and evaluate their own development programmes but followed central government wishes. In addition, there are occasional local parliament members and executives who do not agree with each other regarding the way the performance indicators are measured. This

dispute might be avoidable if the two parties are familiar and agree with the advantage of certain indicators and how to measure them.

65. In addition, the general-purpose data, compiled by BPS as required by the statistics law, are provided through census activities. The population, agricultural and economic censuses are each conducted every 10 years. These, however, are not sufficient because some FNSS indicators are required for annual policy decisions. As far as household data are concerned, basic statistics and indicators related to social, demographic, and employment of the population are available, through the National Socioeconomic Survey (Susenas) which is done annually.

66. Conventional methods of collating and presenting information do not help in identifying areas for collective action The two most important factors contri buting to this weakness are: most information collection and dissemination is done in a retrospective rather than prospective fashion, and most information collation and dissemination is done in a highly aggregated fashion, shutting out the possibility of identifying trouble-giving areas or components.

67. The SKDN system described earlier is compiled and used as a management tool at the district, regional and national levels. This system reports children gaining weight each month or the converse—the number who faltered. This number is used to judge how developed a community has become and is used to target resources and measure achievement. However, due in part to the enormous task of compiling and then interpreting all the data, information is dutifully passed up the system with other reports, aggregated at each level, but never used. One obstacle to its use is that if a growth promotion program does not have good participation rates, the information is difficult to interpret, particularly if participation is thought to be skewed to the better-off families. Because of these difficulties, many programs have chosen not to use monitoring information for decision making but instead to use separate food and nutrition surveys, losing what could be an important warning system of potential problems.

68. We now consider the advantages and disadvantages of existing data on nutritional status for the purpose of monitoring and evaluation of the impact of nutrition program development:

a) Data on wasting from growth promotion at Posyandu is best suited to program intervention at the individual level, because it catches growth faltering, an early sign of health and nutrition problems. However, coverage above 80% is desirable to capture all the important differences for comparing the impact of short-term program interventions. Generally, after the infant reaches 24 months, the attendance at the Posyandu declines dramatically.

b) Data on underweight from the Susenas-module data set is good for comparing the impact of program interventions at national or provincial levels. The information on malnutrition prevalence may be not specific for a certain area because of sample size. Anthropometric information from the Susenas-core-data set is good for the district level.

c) Data on underweight from sub-district nutritional status monitoring is feasible for comparing sub-districts to support government at the district level in prioritizing subdistrict high-risk areas.
d) Data on stunting from first-grade schoolchildren is good for evaluating long-term program development (5 years and above).
e) Anthropometric information from special surveys or studies is good for certain areas with limited sample size, and it is not universal.

69. Past experiences of the FNSS in Indonesia indicate that there is a tendency toward using short-term technical assistance in generating data from the field. Even with long-term projects, such as the ones implemented by external agencies, adequate resources have not been devoted to developing institutional and human capacity to sustain FNSS. This has resulted in low quality and decreased frequency in outputs from the FNSS following the end of the technical assistance.

E. Formulation and Implementation of Food and Nutrition Intervention

70. A fundamental factor that determines the sustainability of FNSS is how user-driven are the objectives for which information is generated. This reflects the nature and the extent of the operational linkages between the surveillance system and its user organizations. Tracking the deviations in implementing FNSS from these criteria helps to reorient activities toward the ultimate goal of informed nutrition decisions. One of the main weaknesses of FNSS in Indonesia is inappropriate nutrition situation report, especially at regional and local level due to inaccurate and out of date nutrition data. Instead of that, lack of knowledge and skill of nutrition staff to analyze and interpret nutrition data is common problem occurred at the most level.

71. Several constraints limit the usefulness of existing results for planning and evaluating food and nutrition policy programs and strategy at national and regional level. First, the FNSS in Indonesia is yet able to regularly and reliably monitor trends in food and nutrition status and other nutritional outcomes. Where attempts have been made to collect two or three surveys over time, survey quality and noncomparability of survey design limit comparisons, whereby three survey rounds showed a pattern of food and nutrition data change that was difficult to interpret. Also, systems of surveys have not yet been institutionalized.

72. Monitoring over time requires that the data be comparable from period to period. This has not historically been the case for anthropometry, because different kinds of children have been sampled, as indicated above. FNSS requires stability in survey design and data collection to ensure data comparability over time. For this reason, data from monitoring the growth of children in the context of primary health care have never been successfully used for national policymaking and planning anywhere in the world. Such data are not collected to help in making decisions for policies and planning but rather for use in patient care. Therefore, the samples are poorly described and usually inadequate, with the result that one cannot be sure who and what kind of

persons were measured. Caution with this approach is therefore urged because of the bad experiences of many countries which have spent a great deal on growth-monitoring data that then could not be put to practical use. Other approaches for the local use of growth-monitoring data are more promising but still are not relevant for making decisions at the national level.

73. Food and Nutrition Action Plan at national level in Indonesia was formulated and established since 2001, including policy and program for nutrition surveillance system. Unfortunately, socialization as well as implementation effort was not optimal, especially at regional and local level. Most of the local government that has not been able to formulate a specific Food and Nutrition Action Plan based on the local food and nutrition situation yet. Even though, there was a particular nutrition policy and program held by food and nutrition related agencies, often time nutritional objectives and strategies were not clearly define and tend to the sectoral regular activities due to the inappropriate nutrition situational analysis report.

74. As a timely warning and intervention system, the FNSS is aimed primarily at government officials who have the authority to mobilize resources to deal with declining household food availability that may arise because of higher food prices, crop failure, a decline in market supplies of food, especially rice and other staples, and high peaks in unemployment. High-level authorities use FNSS information to monitor local food and nutrition problems. Such authorities can be found within the ministries of Internal Affairs, Agriculture, and Health, as well as the Central Logistic Agency, with a coordinating function for supply-side food and nutrition.

75. In Indonesia, these government officials include the village head, who is elected by the people, the subdistrict head, who is an appointed government official at the lowest level, the district head, who is appointed by the central government but elected by the district parliament, the governor as head of the province, and certain ministers and ministries at the central level. For the village head, it is a first-hand information mechanism indicating the people's wellbeing. If data show an immediate problem, the village head may call for an urgent meeting with the village council. The council is a community organization representing the needs and concerns of the people as brought to the attention of the village head or others. The subdistrict head cannot take action alone, having no authority to mobilize resources, but forwards NSS information to the district head with a proposal for solving problems through prompt action. The district head may use FNSS information to instruct various sectoral agencies to take action, with or without authority from the provincial or central levels. These agencies are primarily the local Rice Logistic Agency for local market operation to secure rice market supplies so that prices can be controlled in favour of both the producers and consumers, the Agriculture Agency for agricultural inputs and output information, and the Health Agency for appropriate food and nutrition intervention.

II. FNSS DEVELOPMENT STRATEGY

76. The major goal of FNSS for policy and planning is to make nutrition and nutrition-related information available to decision makers. However, the nutrition of populations cannot be protected adequately if it has not been considered in the policies that affect populations. Analogously, food and nutrition cannot be considered if the information needs of decision makers are not taken into account during the process of information generation. The information should not only enable policy makers to foresee nutrition problems but also provide insights into how to prevent them. Because of the heterogeneous nature of the causes of these problems, all government and non-government sectors that affect economic and physical well-being also affect the nutrition of the population. Decision makers in all these sectors could use information from FNSS to be sure that the impact of their decisions on nutrition is taken into account, even if the action to be taken has non nutrition objectives. However, in order to use surveillance information, the potential users must know that it is available, have it available at the moment they need it, and understand its implications

77. The FNSS for policy and planning should meet the needs of the decision makers. Linking the information directly to the policymaking process is the single most crucial step and also the most obvious difference between this and other data-generating processes. In the future, as more and more autonomy is given to thedistricts, expansion may be necessary to ensure adequate sample sizes for more local information. The timing of information for policy and planning is also important. Policy-making and Programme planning are usually long-range endeavours with predictable cycles. Therefore, the necessary linkages to the policy-making process must be built even before the information is generated so as to be sure the timing is correct. Establishing such links is also a remedy for a common difference in perception between scientists and decision makers about the utility of the information.

78. The information necessary to guide policies and programmes almost always requires data that go beyond those usually considered related to nutrition such as dietary intake and anthropometry, because most decisions have to take into account the economic, sociocultural, and biological determinants of nutrition. Thus the information required often has to cover not only dietary intake and outcome data but also the other important determinants of nutrition status, including income, food prices, sanitation, education, mortality, and morbidity.

79. Another reason why it is important that data from the FNSS be analysed widely is that relevant information will come from various sources, which will make it more likely that relevant issues will be considered at the time decisions are made, especially those decisions that have non nutrition objectives. Different information sources have access to decision makers in different sectors and know how to present the information in the language and format that all of these individuals understand. Releasing the data to a wide range of

qualified information sources will be facilitated by the food and nutrition advisory committee that is presently being formed.

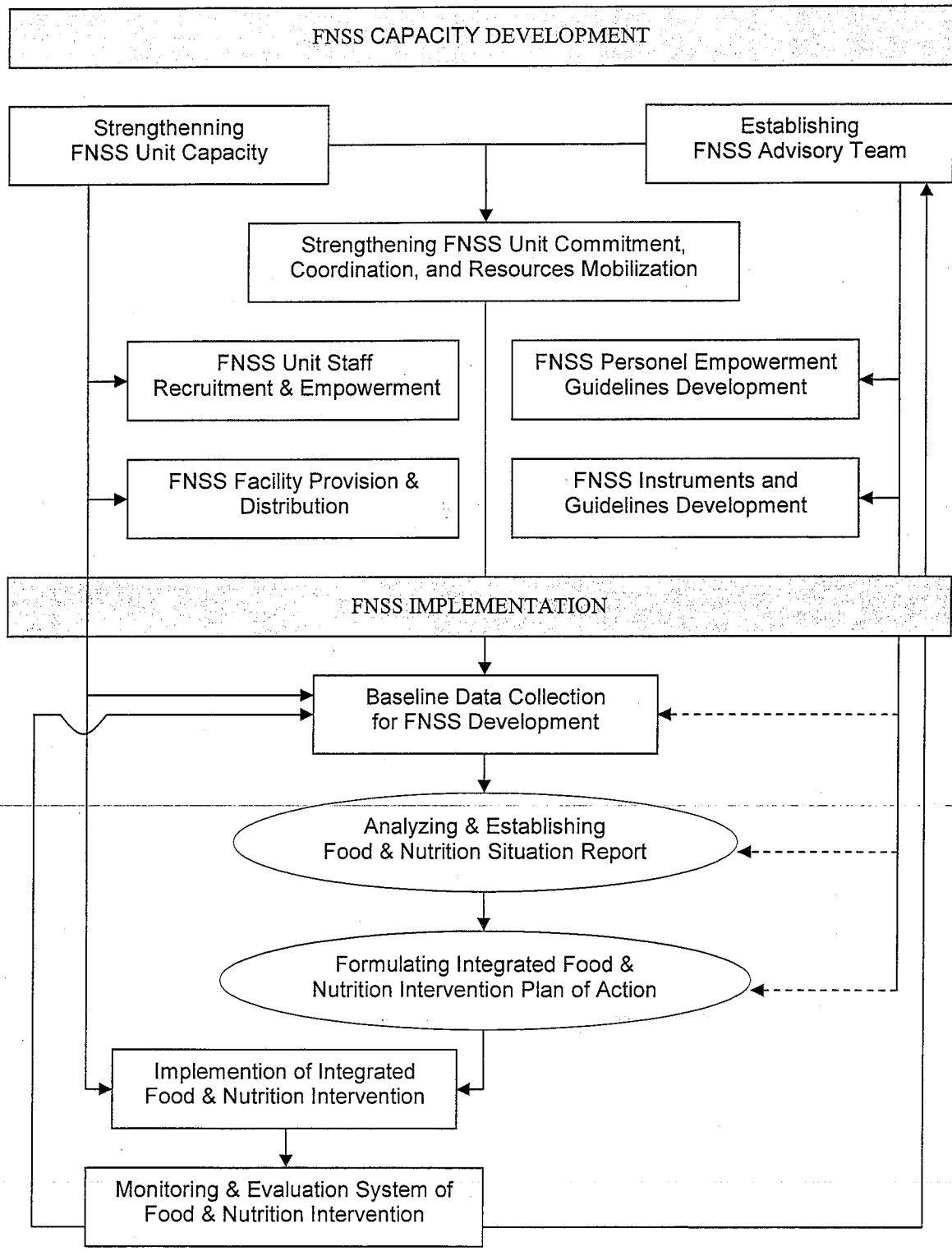


Figure 1. Food and Nutrition Surveillance System Development Framework.

80. Figure 4 presents the framework of FNSS development strategy as part of the institutional development on the project (Component 1). In general, the strategy can be divided into two : (i) FNSS capacity development and (ii) FNSS implementation. A number of essential processes in the development of a FNSS presented in the figure illustrate some of the logical linkages. In practice, the sequence may be varied to fit the actual circumstances; and, in addition, some of the steps will need to be repeated as further information progressively becomes available.

81. **FNSS Capacity Development** is a key strategy and as a main role of the project that has to be undertaken for strengthening and implementing FNSS at the community level. This aims are to strengthen commitment, coordination, resource mobilization, and capacity of the existing FNSS Unit. Staff recruiment and development as well as facility provision & distribution is required to be undertaken by FNSS Unit at respective at respective agencies concerned with FNSS at national, provincial, and district/city levels, as well as at municipal, village and community levels. Expertise will be required from related agencies, universities and non-government institution to conduct the following activities: (i) research on institutional performance assessment; workshop for building commitment, coordination, and resources mobilization; designing system improvement (including database management. Information plans), guidelines and materials; and training and implementation on the collection, analyses, and reporting FNSS data at national, provincial, and district/city level.

82. **FNSS Implementation** is second step on the FNSS development strategy that is an on going process that will be achieved as output of the first strategy. The major purpose of this step are: (i) to optimize and increase coverage, accuracy, and accountability on collecting, analyzing, reporting, and establishing the FNSS data &information; and b) to improve usefulness FNSS data & information on formulating, planning, implementing, monitoring and evaluation of food and nutrition programs.

83. Certain prerequisites for FNSS implementation require careful consideration. First, designing the data collection, implementing it to adequate levels of data and sampling quality, and analyzing the data collected require highly skilled, stable, and well-motivated personnel. The information necessary to guide policies and program almost always requires data that go beyond those usually considered related to nutrition such as dietary intake and anthropometry, because most decisions have to take into account the agro ecological, socio-economic, and socio-cultural determinants of food and nutrition. Thus, the information required often has to cover not only dietary intake and outcome data but also the other important determinants of nutrition status, including income, food prices, sanitation, education, mortality, and morbidity. Second, the skills for all these activities across all the disciplines are rarely found in one institution. The main output of this subcomponent is availability of an FNSS baseline data and information and an integrated food and nutrition action plan as part the development plan at national, provincial and district/city as well as sub district and village level. These food and nutrition action plan that supported by accurate and accountable baseline data will used as foundation on monitoring and evaluation of food and nutrition programs,

Sub Component Output

provision of timely warnings of food shortages, problem identification, advocacy support, and monitoring food and nutrition effects of structural-adjustment policies.

84. The most effective way to ensure timely and appropriate information, all relevant public and private stakeholders as well community should be involved in the design and implementation of FNSS in order that data and reports from the system meet their needs. FNSS is undertaking user surveys as a first step to involve these decision makers and their advisers. The surveys aims: (i) to make decision makers and their advisers aware of the proposed FNSS, (ii) to identify major users of the information, in particular, some of each kind of user with whom the FNSS unit can work more closely to ensure that all users of that kind receive relevant and timely information, and (iii) to ascertain the users' concerns about specific policy issues so as to incorporate their needs into deciding the timing and format of the information presentation.

85. Finally, the system itself should be put under surveillance to be sure that it is associated with a policymaking process and is available for use in policy considerations. The quality of the information delivered by the system and its availability to decision makers should be differentiated from the specific decisions made on the basis of the information. Wise decisions from a food and nutrition point of view may be frustrated because food and nutrition is often not a major consideration in the development of policies that have major impact on nutrition, such as income generation, taxation and subsidies, and even food security.

86. The best way to be sure that users have the right information at the right time is to involve all stakeholders in the design of the FNSS to be sure that the data coming from the system meet their needs. The FNSS is undertaking user surveys as a first step to involve these decision makers and their advisers. The purposes of the surveys are (1) to make decision makers and their advisers aware of the proposed FNSS, (2) to identify major users of the information, in particular, some of each kind of user with whom the FNSS unit can work more closely to ensure that all users of that kind receive relevant and timely information, and (3) to ascertain the users' concerns about specific policy issues so as to incorporate their needs into deciding the timing and format of the information presentation. Certain prerequisites for a national nutrition surveillance system require careful consideration. First, designing the data collection, implementing it to adequate levels of data and sampling quality, and analyzing the data collected require highly skilled, stable, and well-motivated personnel. Second, the skills for all these activities across all the disciplines are rarely found in one institution.

87. Based on the FNSS development framework above, in general, FNSS capacity development is the main task that has to be held by the project. A number of essential processes in the development of a FNSS are outlined here in a linear sequence that illustrates some of the logical connections between the steps. In practice, the sequence may need to be varied to fit the actual circumstances; and, in addition, some of the steps will need to be repeated as further information progressively becomes available.

A. FNSS Capacity Development

1. Strengthening FNSS Unit Capacity

assess feasibility

Rationale

88. Collation of food and nutrition data from existing sources, the management of additional data collection systems, and the processing, analysis, and presentation of surveillance data will be ongoing activities and will require a permanent institution with the financial and administrative responsibility and commitment this implies.

89. A National and Regional level secretariat for FNSS should be set up based in the Food Surveillance Unit of the National Food Security Secretariat but convened by the Nutrition Surveillance Unit in the MOH. It shall consist of representatives from the Ministry of Agriculture, Ministry of Health, BKKBN, BPS, University specialists, NGOs and private concerns. Its function shall be to develop the policies to be adopted, design standard operations and guidelines and training manuals.

90. Without doubt the most difficult tasks facing any effort at institution building of FNSS in Indonesia are the selection and further training of staff. It should be clear that what makes for successful institutions is an ability to develop a core group of well-trained professionals nutrition staff who have high morale and who work with dedication because they have the support, leadership, and freedom to make good use of their knowledge and skill obtained from the training. A fine and well-equipped building without this kind of staff has repeatedly proved to be useless in contributing to the solution of a food and nutrition problem.

91. There is an urgent need to build capacity and develop skills in food and nutrition management in the provincial and district/city FNSS units, especially on health and agriculture departments. This will require further expansion of university graduate courses in food and nutrition with special competency on food and nutrition security program planning and management. Broader training and development in management is also necessary in provincial and local FNSS units, including programme management, human resource management, leadership, training needs analysis, data analysis, and innovative approaches in mobilizing local resources and the private sector.

92. Government staffs who operate the FNSS have to be trained beyond the basic science of nutrition. They must understand professional linkages between FNSS data and other available information such as agro-ecology and socio-economic data. Given a preliminary understanding of nutritional problems and their causes, some assessment of the likely extent to which actions may be modified or initiated to influence the food and nutrition situation must be made from discussions with priority users. This should indicate how FNSS information can contribute to better decisions, with respect to food and nutrition, by user institutions. This will help to define the purpose of the proposed FNSS and lead to clearer specification of the information required.

Objectives

a. Strengthen commitment, coordination, and resources mobilization of the existing FNSS Unit at respective department/agencies on performing FNSS at national, provincial, and district/city levels.

b. Improve capacity of the existing FNSS Unit on performing FNSS according to their respective authority and responsibility at national, provincial, and district/city as well as at municipal, and village levels.

Main Activities

c. Asses & improve institutional performance of the existing FNSS Unit at respective department/agencies on performing FNSS at national, provincial, and district/city levels that consists several activities such as : research for institutional performance assessment; and workshop for building commitment, coordination, and resources mobilization.

d. Empowering FNSS Unit staff of the existing FNSS Unit at respective department/agencies at national, provincial, and district/city as well as municipal, and village levels that consists several activities such as : identification potential existing staff, recruitment new potential staff, establishment authority and responsibility staff decree, conduct regular training and guidance, and generate staff reward system.

e. Provision and distribution of the FNSS resources, instruments and guidelines at respective department/agencies at national, provincial, and district/city as well as municipal, and village levels.

2. Establishing FNSS Advisory Team

Rationale

93. The limitations of the FNSS in the past have been more due to lack of implementation of guidelines, capacity building, communication and involvement of the community than design. In the era autonomy, it is best to support existing structures from the Central Nutrition Surveillance Unit through the surveillance staff in the health offices and the Food Security Council and Offices in the provinces and districts to the puskesmas and posyandu.

94. At national, provincial and district/city level a FNSS Advisory Group consisting of representatives from the same sectors as the National Secretariat will be established to manage implementation, advise Food Security Councils and monitor and evaluate progress towards implementation of central policy. To develop the FNSS beyond being a TWISS, special efforts must be made through more effective communication and education so that good nutrition can be presented in a more attractive way. It is important that the overall concept of the FNSS be relevant to national and regional development priorities. The objectives and the data-collection methodology should be reviewed and updated periodically to be consistently relevant to the needs of development programmes. The system should be designed so that the information could be collected and processed by the local government and the community. In other

words, from the beginning the system should belong to the local authorities at the district, sub district, and village level as well as to the communities. The information should be easy to collect and process and should be available promptly to various levels of government administration and the local community for making policy decisions and developing action programmes.

Objectives

a. Improve effectiveness of the existing FNSS Unit at respective department/agencies on strengthening commitment, coordination, and resources mobilization performing FNSS at national, provincial, and district/city levels.
b. Improve effectiveness capacity of the existing FNSS Unit on performing FNSS according to their respective authority and responsibility at national, provincial, and district/city as well as at municipal, and village levels.

Main Activities

a. Support the existing FNSS Unit at respective department/agencies on conducting several activities such as: research for institutional performance assessment; and workshop for building commitment, coordination, and resources mobilization.
b. Development of the FNSS concerns association that consist several activities such as : identify FNSS potential expertise and personal concerns; establishment FNSS concerns association; and facilitating involvement and participation of association members on the performing of FNSS at national, provincial, and district/city as well as at municipal, and village levels.
c. Develop instruments and guidelines for FNSS staff empowerment and FNSS implementation that consists several activities such as : research on validity and reliability of the FNSS design in connection with the local characteristics; update instruments and guidelines based on the feedback during FNSS implementation; and validate
d. Develop computer software for nutrition database and information system that compatible for performing FNSS at national, provincial, district/city, and municipal levels respectively.
e. Assist the existing FNSS Unit at respective department/agencies at national, provincial, and district/city as well as municipal, and village levels on the FNSS implementation that include several activities, especially on baseline data collection, analyzing and establishing food and nutrition, and formulating integrated food and nutrition intervention plan of action.

B. FNSS Implementation

1. Baseline Data Collection for Food and Nutrition Surveillance System Development

Rationale

95. At this stage, a number of existing sources of data will have been identified and their adequacy for surveillance purposes will have to be assessed, so that a decision can be made as to the need for further development of the system. This may imply the rationalization or expansion of existing systems, where data on the socio-economic conditions of families are being collected by simple additions to the questionnaire already in use by rural health visitors, where anthropometric data are being collected as part of the periodic household sample survey. Additionally, it may be possible to interlink existing data systems so as, for example, to standardize definitions and coding or even entire sampling frames. However, if these modifications will not provide an adequate basis for surveillance, new collection systems may have to be instituted. This process will require a series of dialogues, discussions, and workshops held between agencies and institutions concerned with the use of information as well as its production, and will include desk research and analysis.

96. The existing information may be found inadequate with respect to the assessment of nutritional status or the coverage of some population groups, distinguished by geographic location or socio-economic situation or who may be exposed to particular seasonal or other recurrent risks. It may therefore be necessary to conduct special studies in order to complete a satisfactory initial assess meet. Nutritional status data are the core of nutritional surveillance and are commonly accepted as indicators of social, economic, and health conditions. They can be used as objectives for the improvement of the nutrition of populations and to monitor the progress of social and economic development. However, surveillance need not necessarily be complex or require the routine collection of a very large range of new data.

97. The amount of information required will depend on the nature of the problem and the range of policy alternatives and resources available. In addition, efficient design of the system will ensure the maximum use of all relevant existing sources of data. Commonly, it will be necessary to collect data on nutritional status. These may be, for example, body weight and height measurements that are relatively simple and cheap to obtain. Some of these indicators may not be quantitative but still be reliable, such as farmers' perceptions of the next harvest as being good, average, or poor. Although anthropometry is not always of major use in early-warning systems, these data, especially in a time series, may still prove valuable, particularly when effectively linked in a fast and efficient way to decision-making. All indicators would have to be timely and practical.

98. FNSS is a process of monitoring, analysis, and interpretation of indicators and causal factors in order to make appropriate decisions resulting in improvements in the nutritional status of a population. A general principle of a FNSS is that it should be simple, user-driven, based on existing institutional structures, and have the commitment of relevant decision makers for information use in planning and policy design. The use of computerize system was quite suitable in order to improve accuracy and support functionality of nutrition surveillance system at city, even at municipal and village levels. Simple and compatible computer software can be developed that applicable with institution and staff related nutrition knowledge, skill and capacity.

99. Desirably a common computer programme for data entry and analysis of food and nutrition data should be used by all entities involved in FNSS for ease of transfer of data. The continued use of Gizicom, developed by Nutrition Directorate of Health Department, should only be considered if anomalies with the analysis of nutritional status data and the inability to provide individual consumption data can be ironed out. Since, Food Security Council Secretariat in collaboration with Community Nutrition Department – Bogor Agriculture University also has developed computer software in order to assist food security officer on analyzing and formulating food and nutrition situation and program planning. Therefore, the accuracy and compatibility of these two software in term of data input and output has to be clarified in order to synchronize information produced.

100. The Project Secretariat has to review options and decide on the most appropriate computer programmes and the technique for food consumption survey to be used. It will develop standard operational procedures and guidelines for data collection, analysis, assessment and presentation. It shall select the partner to be involved in training and database development. Another information technology tool that is particularly important to improved information use is Geographic Information Systems (GIS), which can be used for food security mapping, mapping of program implementation and coverage, and analysis of the determinants of malnutrition. Geographic Information Systems skills should be enhanced at the central and local level. The government should establish a digitized georeferenced database that permits information to be mapped down to the village level. Government agencies and NGO's can use mapping and resulting analytical products regularly for program design and management purposes.

Objectives

a. Optimize data collection process for nutrition surveillance system at national, provincial, district/city, municipal, and village level.
b. Increase coverage and availability of nutrition baseline data at national, provincial, district/city, municipal and village levels.
c. Improve accuracy and accountability of nutrition database information system at national, provincial, district/city, municipal and village levels.

d. Improve the usefulness of nutrition database and information system on arrangement of national, provincial, district/city and municipal nutrition situation report.

Main Activities

a. Designing and providing guideline and instrument of nutrition baseline data collection for national, provincial, district/city, municipal, and village levels.
b. Conduct nutrition baseline data collection at national, provincial, district/city, municipal, and village levels respectively.
c. Conduct monitoring and validating data resulted from the nutrition baseline data collection process.
a. Entry data resulted through nutrition baseline data collection activity using special computer software of nutrition database system provided at national, provincial, district/city, and municipal levels respectively.
b. Establish nutrition baseline data and information in order to support arrangement of national, provincial, district/city, and municipal nutrition situation report.

2. Analyzing and Establishing Food and Nutrition Situation Report

Rationale

101. The institution responsible for nutritional surveillance should at all times be sensitive to possibilities for disseminating newly available information in order to stimulate an extension of applications. It is therefore essential that interim results should be produced and made accessible to future users as early as possible. In addition, it is likely that responsiveness to nutrition issues will thereby be successfully promoted and reinforced.

102. Emphasis throughout has been upon the wide range of potential applications and functions of a surveillance system. The outputs of the system will accordingly vary in form and frequency. The precise nature of the outputs relevant to different institutions and uses should be elaborated through the processes of dialogue and discussion that have been referred to. Opportunities should be sought from the earliest stages, for the consideration by the users, of specimen outputs in the form of dummy tabulations, diagrams, maps, etc. This would provide valuable feed-back of responses by the decision-makers, planners, etc., about their own specific needs as the design of the system progresses.

103. The nutrition information system project has to issues a regular bulletin containing articles and discussions about the work of the project and displays of information. Such activities require the use of professional expertise in the area of communication. The sequence and intensity of these various steps and processes will vary widely with particular circumstances. However, the total time required before the regular production of outputs should not be underestimated and will largely depend on available resources.

Objectives

a. Arrange a national, provincial, district/city, municipal, and village nutrition analysis situation report based on the baseline data and information produced by nutrition database and information system.
b. Improve accuracy and accountability of national, provincial, district/city, municipal, and village nutrition analysis situation report.
c. Improve the usefulness of nutrition situation report on formulation of national, provincial, district/city, municipal, and village integrated nutrition action plan.

Main Activities

a. Develop guideline and instrument for analyzing and interpretation of nutrition baseline data and information published as well as for arrangement of nutrition situation report for national, provincial, district/city, municipal, and village levels respectively.
b. Conduct scheduler meeting with focus group discussion approach among special nutrition staff to analyze and interpret nutrition baseline data and information published at national, provincial, district/city, municipal, and village levels respectively.
c. Conduct scheduler meeting with focus group discussion approach among special nutrition staff to arrange accurate and up to date national, provincial, district/city, municipal, and village nutrition situation report.
d. Conduct workshop for presentation and collect constructed opinion, suggestion and advice from all nutrition related stakeholder in order to improve accuracy and quality of national, provincial, district/city, municipal, and village nutrition situation report respectively.

3. Formulation of Integrated Food and Nutrition Action Plan

Rationale

104. For a nutritional surveillance system to provide an early warning system and assist programme planning and management it must in develop in a supportive political and social context. The political and social context will define the resources available and the legislative support to take action. In order to secure this environment and the necessary financial resources the benefits and necessity of the system must be clearly demonstrated to politicians in a language they understand. During times of nutritional crisis the need is obvious but normally advocacy by health officials should be in terms of the cost benefit of a functioning system in preventing malnutrition, particularly in districts subject to food shortage.

105. FNSS has to be developed with regard to the involvement of policy and program planners as well as implementer. An advantage of planners and implementer being involved early in the development of an FNSS is the

assurance that funding and technical support will be available for promptly taking actions indicated by the system and will be implemented.

Objectives

a. Formulate national, provincial and district/city integrated nutrition action plan as part the development plan.
b. Improve accountability as well social and political support of the national, provincial, and district/city integrated nutrition action plan.
c. Improve the usefulness of the national, provincial, and district/city integrated nutrition action plan in aiming nutrition improvement program.

Main Activities

a. Develop guideline and instrument for formulation of national, provincial, district/city, municipal, and village nutrition action plan.
b. Conduct scheduler meeting with focus group discussion approach among special nutrition staff to formulate draft of nutrition action plan based nutrition situation report published at national, provincial, district/city, municipal, and village levels respectively.
c. Conduct workshop for presentation and collect constructed opinion, suggestion and advice from all nutrition related stakeholder in order to improve accuracy and quality support for the national, provincial, district/city, municipal, and village integrated nutrition action plan.
d. Conduct advocacy activity in order to improve accountability as well as social and political support for implementation of the national, provincial, district/city, municipal, and village integrated nutrition action plan.

Basic Assumption

A. Selected Target

1 Sub-district (Model)	:	320	(± 60% of sub-district)
2 Community Group (Com G)	:	1,600	(average 5 each central)
3 Puskesmas	:	792	(100% coverage)
4 Posyandu	:	16,000	(only 60% is functioning)

B. Financial

1 Exchange rate	:	US$1 = Rp9.900
2 Inflation	:	5 - 6,0%
3 Interest rate	:	1% for the 1st and 2nd year 2,23 % for the rest
4 ADB : GOI proportion	:	70 : 30

URBAN NUTRITION PROJECT
District Data

No	Name of Prov/Dist	Category Kota/Kab	Actual				Target			
			Sub-district	Puskesmas	Village	Posyandu	Centrals	ComG	Puskesmas	Posyandu
A	**Sumatera Utara**									
1	Medan	Kota	21	21	151	1,382	13	65	21	815
2	Mandailing Natal	Kabupaten	17	21	327	434	10	50	21	256
3	Tapanuli Tengah	Kabupaten	15	14	152	364	9	45	14	215
4	Dairi	Kabupaten	14	17	126	463	9	45	17	273
B	**Sumatera Selatan**									
5	Palembang	Kota	14	36	510	634	9	45	36	374
6	Musi Rawas	Kabupaten	17	22	247	499	10	50	22	294
7	Lahat	Kabupaten	18	29	538	607	11	55	29	358
8	Ogan Komering Ilir	Kabupaten	12	12	160	695	7	35	12	410
C	**Banten**									
9	Tangerang	Kota	13	25	104	842	8	40	25	496
10	Pandeglang	Kabupaten	30	30	335	1,453	18	90	30	857
11	Lebak	Kabupaten	23	33	157	1,539	14	70	33	907
12	Serang	Kabupaten	32	36	382	1,804	19	95	36	1,064
D	**Jawa Barat**									
13	Bandung	Kota	26	70	139	1,835	15	75	70	1,082
14	Garut	Kabupaten	42	62	419	3,097	25	125	62	1,826
15	Majalengka	Kabupaten	23	29	331	1,306	14	70	29	770
16	Subang	Kabupaten	22	39	250	1,605	13	65	39	946
E	**Kalimantan Barat**									
17	Pontianak	Kota	5	22	25	187	3	15	22	110
18	Landak	Kabupaten	10	14	156	309	6	30	14	182
19	Ketapang	Kabupaten	19	26	159	471	11	55	26	278
20	Sintang	Kabupaten	14	16	189	350	8	40	16	206
F	**Sulawesi Selatan**									
21	Makassar	Kota	14	36	139	921	8	40	36	543
22	Jeneponto	Kabupaten	10	15	111	386	6	30	15	228
23	Pangkep	Kabupaten	12	18	100	300	7	35	18	177
24	Maros	Kabupaten	14	14	103	358	8	40	14	211
G	**Nusa Tenggara Barat**									
25	Mataram	Kota	3	8	23	292	2	10	8	172
26	Lombok Barat	Kabupaten	15	19	117	817	9	45	19	482
27	Lombok Tengah	Kabupaten	12	21	119	1,188	7	35	21	700
28	Lombok Timur	Kabupaten	20	27	109	1,124	12	60	27	663
H	**Nusa Tenggara Timur**									
29	Kupang	Kota	4	6	45	218	2	10	6	129
30	Kupang	Kabupaten	22	23	175	674	13	65	23	397
31	Sumba Barat	Kabupaten	15	16	192	572	9	45	16	337
32	Timor Tengah Utara	Kabupaten	9	15	159	413	5	25	15	243
Total 8 Provinces and 32 Districts			**537**	**792**	**6,249**	**27,139**	**320**	**1,600**	**792**	**16,000**

Project Cost Estimates by Components and Category of Expenditure
Base Costs (in US$)

Category of Expenditure	Integrated Community Nutrition Program	Food Fortification	Institutional Streng-thening	Project Mana-gement	Total	% of Total
A. Investment Cost						
1. Civil works	1,584,000	-	-	-	1,584,000	2.6%
2. Equipment	6,395,200	378,000	614,000	311,500	7,698,700	12.9%
3. Consultant services						
a. International	440,000	90,000	540,000	40,000	1,110,000	1.9%
b. Domestic	490,000	100,000	460,000	90,000	1,140,000	1.9%
Subtotal	930,000	190,000	1,000,000	130,000	2,250,000	3.8%
4. Fellowship, training and workshop						
a. Fellowship	-	-	1,760,000	-	1,760,000	2.9%
b. Training	2,259,520	252,000	369,000	45,000	2,925,520	4.9%
c. Workshop	-	117,000	861,000	150,000	1,128,000	1.9%
Subtotal	2,259,520	369,000	2,990,000	195,000	5,813,520	9.7%
5. System development	-	232,500	1,130,000	50,000	1,412,500	2.4%
6. Research and studies	-	425,000	2,500,000	-	2,925,000	4.9%
7. Materials and supplies	2,480,000	695,000	364,500	169,200	3,708,700	6.2%
8. Community-based integrated nutrition (CBIN)						
a. Package	23,200,000	-	-	-	23,200,000	38.7%
b. Community facilitator team (CFT)	4,608,000	-	-	-	4,608,000	7.7%
Subtotal	27,808,000	-	-	-	27,808,000	46.4%
9. Project management	-	-	-	4,426,400	4,426,400	7.4%
Total Investment Cost	**41,456,720**	**2,289,500**	**8,598,500**	**5,282,100**	**57,626,820**	96.2%
B. Recurrent Costs	**1,188,000**	**94,000**	**469,440**	**518,400**	**2,269,840**	3.8%
Total Project Cost	**42,644,720**	**2,383,500**	**9,067,940**	**5,800,500**	**59,896,660**	**100%**
% of Total	71.2%	4.0%	15.1%	9.7%	**100%**	

Cost Estimates by Project Component
(in US$)

Project Component (in % Total Base Cost)	Total Cost			Central			Province			District		
	Foreign currency	Local currency	Total cost	Foreign currency	Local currency	Total cost	Foreign currency	Local currency	Total cost	Foreign currency	Local currency	Total cost
A. Base Cost												
Comp. 1: Integrated Community Nutrition Program	10,583,040	32,061,680	42,644,720	440,000	522,000	962,000	-	48,000	48,000	10,143,040	31,491,680	41,634,720
% to Total Base Cost	77.4%	69.4%	71.2%	16.0%	6.5%	8.9%	0.0%	2.4%	2.3%	94.2%	87.1%	88.7%
Comp. 2: Food Fortification	667,500	1,841,000	2,508,500	667,500	1,841,000	2,508,500	-	-	-	-	-	-
% to Total Base Cost	4.9%	4.0%	4.2%	24.3%	22.8%	23.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Comp. 3: Institutional Strengthening	2,111,100	6,831,840	8,942,940	1,537,500	4,726,400	6,263,900	112,800	527,200	640,000	460,800	1,578,240	2,039,040
% to Total Base Cost	15.4%	14.8%	14.9%	55.9%	58.5%	57.8%	71.2%	26.8%	30.1%	4.3%	4.4%	4.3%
Comp. 4: Project Management	316,200	5,484,300	5,800,500	107,400	993,100	1,100,500	45,600	1,393,600	1,439,200	163,200	3,097,600	3,260,800
% to Total Base Cost	2.3%	11.9%	9.7%	3.9%	12.3%	10.2%	28.8%	70.8%	67.7%	1.5%	8.6%	6.9%
Total Base Cost	**13,677,840**	**46,218,820**	**59,896,660**	**2,752,400**	**8,082,500**	**10,834,900**	**158,400**	**1,968,800**	**2,127,200**	**10,767,040**	**36,167,520**	**46,934,560**
%	22.8%	77.2%	100.0%	25.4%	74.6%	100.0%	7.4%	92.6%	100%	22.9%	77.1%	100%
Percentage Central and Local to Total				20.1%	17.5%	**18.1%**	1.2%	4.3%	**3.6%**	78.7%	78.3%	**78.4%**

Project Component	Total Cost			Central			Province			District		
	Foreign currency	Local currency	Total cost	Foreign currency	Local currency	Total cost	Foreign currency	Local currency	Total cost	Foreign currency	Local currency	Total cost
A. Base Cost												
Comp. 1: Integrated Community Nutrition Program	10,583,040	32,061,680	42,644,720	440,000	522,000	962,000	-	48,000	48,000	10,143,040	31,491,680	41,634,720
Comp. 2: Food Fortification	667,500	1,841,000	2,508,500	667,500	1,841,000	2,508,500	-	-	-	-	-	-
Comp. 3: Institutional Strengthening	2,111,100	6,831,840	8,942,940	1,537,500	4,726,400	6,263,900	112,800	527,200	640,000	460,800	1,578,240	2,039,040
Comp. 4: Project Management	316,200	5,484,300	5,800,500	107,400	993,100	1,100,500	45,600	1,393,600	1,439,200	163,200	3,097,600	3,260,800
Total Base Cost	**13,677,840**	**46,218,820**	**59,896,660**	**2,752,400**	**8,082,500**	**10,834,900**	**158,400**	**1,968,800**	**2,127,200**	**10,767,040**	**36,167,520**	**46,934,560**
B. Contingencies												
1. Physical Contingency	180,877	283,258	464,135	14,245	7,330	21,575	7,920	2,880	10,800	158,712	273,048	431,760
2. Price Contingency	-	7,268,019	7,268,019	-	1,538,964	1,538,964	-	336,626	336,626	-	5,392,429	5,392,429
Subtotal	**180,877**	**7,551,277**	**7,732,154**	**14,245**	**1,546,294**	**1,560,539**	**7,920**	**339,506**	**347,426**	**158,712**	**5,665,477**	**5,824,189**
C. Interest and Commitment Charges	**3,772,104**	**-**	**3,772,104**	**3,772,104**	**-**	**3,772,104**	-	-	-	-	-	-
Total Project Cost	**17,630,821**	**53,770,097**	**71,400,918**	**6,538,749**	**9,628,794**	**16,167,543**	**166,320**	**2,308,306**	**2,474,626**	**10,925,752**	**41,832,997**	**52,758,749**
Percentage	24.7%	75.3%				**22.6%**			**3.5%**			**73.9%**

Project Component by Year
(in US$)

Project Component	Year						Total	% of Total
	2006	2007	2008	2009	2010	2011		
A. Base Cost	**4,965,537**	**14,217,106**	**22,297,601**	**13,405,042**	**3,015,931**	**1,995,444**	**59,896,660**	**100%**
1. Integrated Community Nutrition Program	**2,005,453**	**11,305,667**	**18,140,800**	**10,141,600**	**525,600**	**525,600**	**42,644,720**	**71.2%**
Improving nutrition service delivery	725,453	5,753,667	3,948,800	871,200	237,600	237,600	11,774,320	19.7%
Community-based integrated nutrition package	1,280,000	5,552,000	14,192,000	9,270,400	288,000	288,000	30,870,400	51.5%
2. Food Fortification	**50,000**	**511,500**	**1,056,500**	**224,500**	**519,500**	**146,500**	**2,508,500**	**4.2%**
Complimentary food and sprinkles	-	-	-	169,500	267,000	94,000	530,500	0.9%
Vitamin A fortification of palm oil	-	20,000	1,021,500	-	-	-	1,041,500	1.7%
Monitoring the quality of fortified wheat flour	50,000	491,500	35,000	-	-	-	576,500	1.0%
Pilot testing of rice fortification	-	-	-	55,000	252,500	52,500	360,000	0.6%
3. Institutional Strengthening	**1,640,000**	**1,517,606**	**2,217,967**	**2,037,858**	**1,088,497**	**441,011**	**8,942,940**	**14.9%**
Organization analysis and development	805,000	-	57,000	57,000	-	-	919,000	1.5%
Improved food and nutrition information management	180,000	582,620	630,120	471,400	144,900	144,900	2,153,940	3.6%
Strengthening capacity in program implementation	-	204,986	570,847	656,958	291,097	36,111	1,760,000	2.9%
Comprehensive communication program	335,000	210,000	440,000	332,500	132,500	-	1,450,000	2.4%
Strengthening research and development	320,000	520,000	520,000	520,000	520,000	260,000	2,660,000	4.4%
4. Project Management	**1,270,083**	**882,333**	**882,333**	**1,001,083**	**882,333**	**882,333**	**5,800,500**	**9.7%**
Project management equipment	192,750	-	-	118,750	-	-	311,500	0.5%
Management support	797,333	797,333	797,333	797,333	797,333	797,333	4,784,000	8.0%
Financial management and governance	173,000	48,000	48,000	48,000	48,000	48,000	413,000	0.7%
Project performance monitoring	21,000	21,000	21,000	21,000	21,000	21,000	126,000	0.2%
Quality assurance and supervision	86,000	16,000	16,000	16,000	16,000	16,000	166,000	0.3%
B. Contingencies	**180,732**	**1,118,782**	**2,795,385**	**2,392,149**	**756,845**	**488,260**	**7,732,154**	
1. Physical Contingency	90,388	129,820	149,160	65,968	14,400	14,400	464,135	
2. Price Contingency	90,345	988,962	2,646,225	2,326,182	742,445	473,860	7,268,019	
C. Interest and Commitment Charges	**37,563**	**172,781**	**340,453**	**919,798**	**1,094,225**	**1,207,286**	**3,772,104**	
Total Project Cost	**5,183,831**	**15,508,669**	**25,433,438**	**16,716,988**	**4,867,001**	**3,690,991**	**71,400,918**	
Percentage	**7.3%**	**21.7%**	**35.6%**	**23.4%**	**6.8%**	**5.2%**	**100%**	

Category of Expenditures by Project Component and Financiers
(in US$)

Description	Total Cost			ADB Financing			Government Financing		
	Foreign Currency	Local Currency	Total	Foreign Currency	Local Currency	Total	Foreign Currency	Local Currency	Total
A. Base Cost	**13,677,840**	**46,218,820**	**59,896,660**	**13,677,840**	**27,823,794**	**41,501,634**	**-**	**18,395,026**	**18,395,026**
1. Integrated Community Nutrition Program	**10,583,040**	**32,061,680**	**42,644,720**	**10,583,040**	**17,449,904**	**28,032,944**	**-**	**14,611,776**	**14,611,776**
Civil works	633,600	950,400	1,584,000	633,600	475,200	1,108,800	-	475,200	475,200
Equipment	2,060,640	4,334,560	6,395,200	2,060,640	3,695,040	5,755,680	-	639,520	639,520
Consultant services	440,000	490,000	930,000	440,000	490,000	930,000	-	-	-
Fellowship, training and workshop	-	2,259,520	2,259,520	-	1,581,664	1,581,664	-	677,856	677,856
Materials and supplies	496,000	1,984,000	2,480,000	496,000	1,240,000	1,736,000	-	744,000	744,000
Community-based integrated nutrition	6,240,000	21,568,000	27,808,000	6,240,000	9,968,000	16,208,000	-	11,600,000	11,600,000
Recurrent costs	712,800	475,200	1,188,000	712,800	-	712,800	-	475,200	475,200
2. Food Fortification	**667,500**	**1,841,000**	**2,508,500**	**667,500**	**1,155,250**	**1,822,750**	**-**	**685,750**	**685,750**
Equipment	245,000	133,000	378,000	245,000	95,200	340,200	-	37,800	37,800
Consultant services	90,000	100,000	190,000	90,000	100,000	190,000	-	-	-
Fellowship, training and workshop	-	369,000	369,000	-	258,300	258,300	-	110,700	110,700
System development	-	357,500	357,500	-	250,250	250,250	-	107,250	107,250
Research and studies	-	425,000	425,000	-	297,500	297,500	-	127,500	127,500
Materials, and supplies	332,500	362,500	695,000	332,500	154,000	486,500	-	208,500	208,500
Recurrent costs	-	94,000	94,000	-	-	-	-	94,000	94,000
3. Institutional Strengthening	**2,111,100**	**6,831,840**	**8,942,940**	**2,111,100**	**4,393,150**	**6,504,250**	**-**	**2,438,690**	**2,438,690**
Equipment	452,100	161,900	614,000	452,100	100,500	552,600	-	61,400	61,400
Consultant services	540,000	460,000	1,000,000	540,000	460,000	1,000,000	-	-	-
Fellowship, training and workshop	725,000	2,265,000	2,990,000	725,000	1,368,000	2,093,000	-	897,000	897,000
System development	250,000	755,000	1,005,000	250,000	603,500	853,500	-	151,500	151,500
Research and studies	-	2,500,000	2,500,000	-	1,750,000	1,750,000	-	750,000	750,000
Materials, and supplies	144,000	220,500	364,500	144,000	111,150	255,150	-	109,350	109,350
Recurrent cost	-	469,440	469,440	-	-	-	-	469,440	469,440
4. Project Management	**316,200**	**5,484,300**	**5,800,500**	**316,200**	**4,825,490**	**5,141,690**	**-**	**658,810**	**658,810**
Equipment	226,200	85,300	311,500	226,200	54,150	280,350	-	31,150	31,150
Consultant services	40,000	90,000	130,000	40,000	90,000	130,000	-	-	-
Fellowship, training and workshop	-	195,000	195,000	-	136,500	136,500	-	58,500	58,500
System development	50,000	-	50,000	50,000	-	50,000	-	-	-
Materials, and supplies	-	169,200	169,200	-	118,440	118,440	-	50,760	50,760
Project Management	-	4,426,400	4,426,400	-	4,426,400	4,426,400	-	-	-
Recurrent cost	-	518,400	518,400	-	-	-	-	518,400	518,400
B. Contingencies	**180,877**	**7,551,277**	**7,732,154**	**180,877**	**4,545,385**	**4,726,262**	**-**	**3,005,892**	**3,005,892**
1. Physical contingencies	180,877	283,258	464,135	180,877	-	180,877	-	283,258	283,258
2. Price contingencies	-	7,268,019	7,268,019	-	4,545,385	4,545,385	-	2,722,634	2,722,634
C. Interest Charges	**3,772,104**	**-**	**3,772,104**	**3,772,104**	**-**	**3,772,104**	**-**	**-**	**-**
TOTAL COST	**17,630,821**	**53,770,097**	**71,400,918**	**17,630,821**	**32,369,179**	**50,000,000**	**-**	**21,400,918**	**21,400,918**
Percentage			**100%**			**70.0%**			**30.0%**

Description	Total Cost			ADB Financing			Government Financing			Percent Total
	Foreign Currency	Local Currency	Total	Foreign Currency	Local Currency	Total	Foreign Currency	Local Currency	Total	
A. Investment Cost										
1. Civil Works	**633,600**	**950,400**	**1,584,000**	**633,600**	**475,200**	**1,108,800**	**-**	**475,200**	**475,200**	**2.6%**
2. Equipment	**2,983,940**	**4,714,760**	**7,698,700**	**2,983,940**	**3,944,890**	**6,928,830**	**-**	**769,870**	**769,870**	**12.9%**
a. Puskesmas equipment	332,640	142,560	475,200	332,640	95,040	427,680	-	47,520	47,520	
b. Posyandu equipment	960,000	2,240,000	3,200,000	960,000	1,920,000	2,880,000	-	320,000	320,000	
c. Laboratory equipment	196,000	112,000	308,000	196,000	81,200	277,200	-	30,800	30,800	
d. Equipment for cooking oil fortification	49,000	21,000	70,000	49,000	14,000	63,000	-	7,000	7,000	
e. BCC equipment	969,000	2,086,000	3,055,000	969,000	1,780,500	2,749,500	-	305,500	305,500	
f. FNSS equipment	251,100	27,900	279,000	251,100	-	251,100	-	27,900	27,900	
g. Project management equipment	226,200	85,300	311,500	226,200	54,150	280,350	-	31,150	31,150	
3. Consultant Services	**1,110,000**	**1,140,000**	**2,250,000**	**1,110,000**	**1,140,000**	**2,250,000**	**-**	**-**	**-**	**3.8%**
a. International consultants	1,110,000	-	1,110,000	1,110,000	-	1,110,000	-	-	-	
b. Domestic consultants	-	1,140,000	1,140,000	-	1,140,000	1,140,000	-	-	-	
4. Fellowships, Trainings and Workshops	**725,000**	**5,088,520**	**5,813,520**	**725,000**	**3,344,464**	**4,069,464**	**-**	**1,744,056**	**1,744,056**	**9.7%**
a. Fellowships	725,000	1,035,000	1,760,000	725,000	507,000	1,232,000	-	528,000	528,000	
b. Training	-	2,925,520	2,925,520	-	2,047,864	2,047,864	-	877,656	877,656	
c. Workshop	-	1,128,000	1,128,000	-	789,600	789,600	-	338,400	338,400	
5. System Development	**300,000**	**1,112,500**	**1,412,500**	**300,000**	**853,750**	**1,153,750**	**-**	**258,750**	**258,750**	**2.4%**
a. Software development	300,000	250,000	550,000	300,000	250,000	550,000	-	-	-	
b. Advocacy and socialization	-	497,500	497,500	-	348,250	348,250	-	149,250	149,250	
c. Nutrition education and communication	-	365,000	365,000	-	255,500	255,500	-	109,500	109,500	
6. Reseach and Studies	**-**	**2,925,000**	**2,925,000**	**-**	**2,047,500**	**2,047,500**	**-**	**877,500**	**877,500**	**4.9%**
7. Materials and Supplies	**972,500**	**2,736,200**	**3,708,700**	**972,500**	**1,623,590**	**2,596,090**	**-**	**1,112,610**	**1,112,610**	**6.2%**
8. Community-Based Integrated Nutrition	**6,240,000**	**21,568,000**	**27,808,000**	**6,240,000**	**9,968,000**	**16,208,000**	**-**	**11,600,000**	**11,600,000**	**46.4%**
a. Package	6,240,000	16,960,000	23,200,000	6,240,000	5,360,000	11,600,000	-	11,600,000	11,600,000	
b. Community facilitator teams (CFTs)	-	4,608,000	4,608,000	-	4,608,000	4,608,000	-	-	-	
9. Project Management	**-**	**4,426,400**	**4,426,400**	**-**	**4,426,400**	**4,426,400**	**-**	**-**	**-**	**7.4%**
Total Investment Cost	**12,965,040**	**44,661,780**	**57,626,820**	**12,965,040**	**27,823,794**	**40,788,834**	**-**	**16,837,986**	**16,837,986**	**96.2%**
B. Recurrent Cost	**712,800**	**1,557,040**	**2,269,840**	**712,800**	**-**	**712,800**	**-**	**1,557,040**	**1,557,040**	**3.8%**
C. Total Base Cost	**13,677,840**	**46,218,820**	**59,896,660**	**13,677,840**	**27,823,794**	**41,501,634**	**-**	**18,395,026**	**18,395,026**	**100.0%**
D. Contingencies	**180,877**	**7,551,277**	**7,732,154**	**180,877**	**4,545,385**	**4,726,262**	**-**	**3,005,892**	**3,005,892**	
a. Physical contingencies	180,877	283,258	464,135	180,877	-	180,877	-	283,258	283,258	
b. Price contingencies	-	7,268,019	7,268,019	-	4,545,385	4,545,385	-	2,722,634	2,722,634	
E. Interest and Commitment Charges	**3,772,104**	**-**	**3,772,104**	**3,772,104**	**-**	**3,772,104**	**-**	**-**	**-**	
Total Cost	**17,630,821**	**53,770,097**	**71,400,918**	**17,630,821**	**32,369,179**	**50,000,000**	**-**	**21,400,918**	**21,400,918**	
Percentage			**100%**			**70.0%**			**30.0%**	

Component 1: Integrated Community Nutrition Program

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
1 Improving Nutrition Service Delivery								
1. Improvement of puskesmas function in nutrition								
Provision of nutrition counseling room	Puskesmas	Lumpsum	792		2,000	633,600	950,400	1,584,000
Provision of equipment	Puskesmas	Package	792		600	332,640	142,560	475,200
Support for outreach (for motor boat, car or motor cycle)	Puskesmas	Lumpsum	792		1,500	712,800	475,200	1,188,000
Subtotal						**1,679,040**	**1,568,160**	**3,247,200**
2. Revitalization of posyandu								
Provision of equipment, including anthropometry	Posyandu	Package	16,000		200	960,000	2,240,000	3,200,000
Provision of manual, handbook etc								
Growth monitoring chart /MCH	Posyandu	Package	16,000		90	288,000	1,152,000	1,440,000
Cadre handbook	Posyandu	Package	16,000		20	64,000	256,000	320,000
Posters, flip charts, leaflets	Posyandu	Package	16,000		20	64,000	256,000	320,000
Posyandu operational guidelines	Posyandu	Package	16,000		25	80,000	320,000	400,000
Subtotal						**1,456,000**	**4,224,000**	**5,680,000**
3. Skills development of service providers								
Training of trainers	Central	Lumpsum	2		16,000	-	32,000	32,000
Training of puskesmas staffs (doctor, nutrition staffs and other staffs)	District	Per puskes/ 5 year	792		360	-	285,120	285,120
Training of posyandu cadres	District	Per posy/5 year	16,000		100	-	1,600,000	1,600,000
Subtotal						**-**	**1,917,120**	**1,917,120**
4. Consultant services								
Community driven development specialist	Central	International	1	12	20,000	240,000	-	240,000
		Domestic	2	36	5,000	-	180,000	180,000
Community-based food and nutrition planning specialist	Central	International	1	6	20,000	120,000	-	120,000
		Domestic	2	32	5,000	-	160,000	160,000
Nutrition service management specialist	Central	International	1	4	20,000	80,000	-	80,000
		Domestic	2	24	5,000	-	120,000	120,000
Food hygiene and sanitation specialist	Central	Domestic	1	6	5,000	-	30,000	30,000
Subtotal						**440,000**	**490,000**	**930,000**
Subtotal Improving Nutrition Service Delivery						**3,575,040**	**8,199,280**	**11,774,320**

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
2 Community-Based Integrated Nutrition Package (CBINP)								
Provision of facilities/other schemes of CBINP Center	Subdistrict	Lumpsum	320		25,000	3,200,000	4,800,000	8,000,000
Provision of facilities/other schemes of CBINP Competitive	Com Group	Lumpsum	1,600		9,500	3,040,000	12,160,000	15,200,000
Provision of community facilitator team	District	Lumpsum	640	12	600	-	4,608,000	4,608,000
Developing radio community station for nutrition campaign								
Radio community station equipment	District	Package	320		4,000	768,000	512,000	1,280,000
Maintenance costs	District	Lumpsum	320		4,500	-	1,440,000	1,440,000
Training on operating radio community station	District	Lumpsum	32		2,700	-	86,400	86,400
Training:								
Community facilitators	Provinces	Lumpsum	640		75	-	48,000	48,000
Centers	Districts	Lumpsum	320		150	-	48,000	48,000
Community groups	Districts	Lumpsum	1,600		100	-	160,000	160,000
Subtotal						**7,008,000**	**23,862,400**	**30,870,400**
Total Component 1						**10,583,040**	**32,061,680**	**42,644,720**

Component 2: Food Fortification

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
1 Complementary Food and Sprinkles								
Consulting services								
Fortification policy and standard specialist	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	2	5,000	-	10,000	10,000
Food Fortification	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	3	5,000	-	15,000	15,000
Training and workshop								
Training on marketing and compliance	Province	Lumpsum	7		6,000	-	42,000	42,000
Workshops	Central	Lumpsum	2		10,000	-	20,000	20,000
	Province	Lumpsum	14		3,000	-	42,000	42,000
Advocacy and social marketing								
Advocacy	Central	Lumpsum	1		10,000	-	10,000	10,000
	Province	Lumpsum	7		7,500	-	52,500	52,500
Communication and marketing	Central	Lumpsum	2		10,000	-	20,000	20,000
	Province	Lumpsum	14		7,500	-	105,000	105,000
Study on acceptability, consumption, biochemical test	Central	Lumpsum	1		100,000	-	100,000	100,000
Monitoring on marketing/distribution	Central	Lumpsum	1		10,000	-	10,000	10,000
	Province	Lumpsum	7		12,000	-	84,000	84,000
Subtotal						**20,000**	**510,500**	**530,500**
2 Vitamin A Fortification of Palm Oil								
Consulting services								
Policy and standard specialist	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	2	5,000	-	10,000	10,000
Food Fortification	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	3	5,000	-	15,000	15,000
Training and workshop								
Training for the laboratory (QC) staffs	Province	Lumpsum	7		5,000	-	35,000	35,000
Training for QA	Province	Lumpsum	7		5,000	-	35,000	35,000
Workshop on vitamin A fortification	Central	Lumpsum	1		15,000	-	15,000	15,000
Advocacy and social marketing								
Advocacy / social marketing	Central	Lumpsum	1		10,000	-	10,000	10,000
	Province	Lumpsum	7		7,500	-	52,500	52,500
Development of social marketing materials	Central	Lumpsum/year	1		10,000	-	10,000	10,000
Strengthening laboratory facilities								
Improvement of BPOM laboratory equipment	Province	Package	7		20,000	98,000	42,000	140,000
Maintenance	Province	Lumpsum	7		2,000	-	14,000	14,000
Production of fortified cooking oil								
Equipment for fortification	Province	Package	7		10,000	49,000	21,000	70,000
Fortificant	Province	Lumpsum/year	7		60,000	210,000	210,000	420,000
Study on acceptability, consumption, biochemical impact	Central	Lumpsum	1		125,000	-	125,000	125,000
Control and monitoring - product testing	Province	Lumpsum	7		10,000	35,000	35,000	70,000
Subtotal						**412,000**	**629,500**	**1,041,500**

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
3 Monitoring the Quality of Fortified Wheat Flour								
Consulting Services								
Policy and standard specialist	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	2	5,000	-	10,000	10,000
Food Fortification	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	3	5,000	-	15,000	15,000
Training and workshop								
Training for the laboratory (QC) staffs	Province	Lumpsum	7		7,500	-	52,500	52,500
Training for QA at industry	Province	Lumpsum	7		7,500	-	52,500	52,500
Workshop on wheat flour quality standard	Central	Lumpsum	1		15,000	-	15,000	15,000
Workshop on wheat flour fortification	Central	Lumpsum	1		15,000	-	15,000	15,000
Advocacy and social marketing								
Advocacy	Central	Lumpsum	1		10,000	-	10,000	10,000
	Province	Lumpsum	7		7,500	-	52,500	52,500
Development of social marketing materials	Central	Lumpsum	1		10,000	-	10,000	10,000
Strengthening the laboratory facilities								
Improvement of laboratory for iron, vit. B, and folic acid	Province	Package	7		20,000	98,000	42,000	140,000
Maintenance	Province	Lumpsum	7		2,000	-	14,000	14,000
Study on acceptability, consumption, biochemical impact	Central	Lumpsum	1		100,000	-	100,000	100,000
Control and monitoring - product testing	Province	Lumpsum/year	7		10,000	35,000	35,000	70,000
Subtotal						**153,000**	**423,500**	**576,500**
4 Pilot Testing of Rice Fortification								
Consulting services								
Policy and standard specialist	Central	International	1	0.5	20,000	20,000	-	20,000
	Central	Domestic	1	2	5,000	-	10,000	10,000
Food Fortification	Central	International	1	0.5	20,000	10,000	-	10,000
	Central	Domestic	1	3	5,000	-	15,000	15,000
Training and workshop								
Training for the laboratory (QC) staffs	Province	Lumpsum	7		5,000	-	35,000	35,000
Workshop on fortified rice (RASKIN) standardization	Central	Lumpsum	1		10,000	-	10,000	10,000
Advocacy and social marketing								
Development of IEC materials for advocacy	Central	Lumpsum	1		10,000	-	10,000	10,000
Advocacy/social marketing	Central	Lumpsum	1		10,000	-	10,000	10,000
	Province	Lumpsum	7		5,000	-	35,000	35,000
Study on acceptability, consumption, biochemical impact	Central	Lumpsum	1		100,000	-	100,000	100,000
Control and monitoring - product testing	Province	Lumpsum	7		15,000	52,500	52,500	105,000
Subtotal						**82,500**	**277,500**	**360,000**
Total Component 2						**667,500**	**1,841,000**	**2,508,500**

Component 3: Institutional Strengthening

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
1 Organizational Analysis and Improvement								
Institutional assessment and development								
Provision of institutional development specialist								
International consultant	Central	International	1	5	20,000	100,000		100,000
Domestic consultant	Central	Domestic	1	10	5,000		50,000	50,000
Provision of OD and change specialist								
International consultant	Central	International	1	2	-	-		-
Domestic consultant	Central	Domestic	2	8	-		-	-
Provision of public sector management specialist								
International consultant	Central	International	1	2	20,000	40,000		40,000
Domestic consultant	Central	Domestic	1	6	5,000		30,000	30,000
Provision of nutrition financial economist								
International consultant	Central	International	1	3	20,000	60,000		60,000
Domestic consultant	Central	Domestic	1	12	5,000		60,000	60,000
Meeting/workshop	Central	Package	5		25,000		125,000	125,000
Manpower assessment								
Provison of nutrtion training specialist								
International consultant	Central	International	1	3	20,000	60,000		60,000
Domestic consultant	Central	Domestic	2	12	5,000		60,000	60,000
Provison of nutrition policy advisor								
International consultant	Central	International	1	3	20,000	60,000		60,000
Domestic consultant	Central	Domestic	2	12	5,000		60,000	60,000
Provision of training on food and nutrition policy								
Training of the central food and nutrition council	Central	Lumpsum	1		10,000	-	10,000	10,000
Training the provinces food and nutrition council	Province	Lumpsum	8		5,000	-	40,000	40,000
Training the district food and nutrition council	District	Lumpsum	32		2,000	-	64,000	64,000
Meeting/workshop	Central	Package	5		20,000	-	100,000	100,000
Subtotal						**320,000**	**599,000**	**919,000**

Component 3: Institutional Strengthening

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
2 Improved Food and Nutrition Information Man.								
Provision of nutrition information management specialist								
International consultant	Central	International	1	3	20,000	60,000	-	60,000
Domestic consultant	Central	Domestic	2	24	5,000	-	120,000	120,000
Information plan								
Building commitment, coordination and resource mob.								
Intersectoral meeting								
Central	Central	Lumpsum	10		5,000	-	50,000	50,000
Province	Province	Lumpsum	40		3,000	-	120,000	120,000
Districts	District	Lumpsum	96		1,000	-	96,000	96,000
Subdistrict meeting	Subdistricts	Lumpsum	320		500	-	160,000	160,000
Consolidate the Nutrition and Food Team	District	Lumpsum	32		2,500	-	80,000	80,000
Design of system improvement								
Software development/upgrading	Central	Lumpsum	1		500,000	250,000	250,000	500,000
Human resource development of FNSS								
Training the FNSS unit staffs - central	Central	Lumpsum	1		15,000	-	15,000	15,000
Training the FNSS unit staffs - province & district	Province	Lumpsum	8		10,000	-	80,000	80,000
Information plan implementation								
Optimize and increase coverage								
Provision of computers and peripherals								
For central level	Central	Package	10		1,500	13,500	1,500	15,000
For province level	Province	Package	48		1,500	64,800	7,200	72,000
For district level	District	Package	128		1,500	172,800	19,200	192,000
Materials and supplies for FNSS								
For central level	Central	Lumpsum	1		4,500		4,500	4,500
For province level	Province	Lumpsum	8		3,000		24,000	24,000
For district level	District	Lumpsum	32		3,000		96,000	96,000
Operational cost								
For central level	Central	Lumpsum for 6	1		14,400		14,400	14,400
For province level	Province	Lumpsum for 6	8		10,800		86,400	86,400
For district level	District	Lumpsum for 6	32		5,400		172,800	172,800
Improve the usefullness of FNSS data								
Provison of analyst team								
For province level	Provincial	Lumpsum	8		7,200		57,600	57,600
For district level	District	Lumpsum	32		4,320		138,240	138,240
Subtotal						**561,100**	**1,592,840**	**2,153,940**

Component 3: Institutional Strengthening

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
3 Strengthening Capacity in Program Implementation								
Human resources development								
Overseas Fellowship								
Doctoral Degree (S2 to S3) - overseas	Central	3 years	3		75,000	225,000		225,000
Masters Degree (S1 to S2) - overseas	Central/Prov	2 years	7		50,000	350,000		350,000
Short courses - overseas	Central/Prov	1 - 3 months	15		10,000	150,000		150,000
Domestic								
Doctoral Degree (S2 to S3) - domestic	Central	3 years	5		20,000		100,000	100,000
Masters Degree (S1 to S2) - domestic	Central/Prov/Dist	2 years	8		10,000		80,000	80,000
Bachelor Degree (D3 to S1) - domestic	Prov/Dist	2 years	94		7,500		705,000	705,000
Short courses - domestic	Prov/Dist	1 - 3 months	100		1,500		150,000	150,000
Subtotal						**725,000**	**1,035,000**	**1,760,000**
4 Comprehensive Communication Program								
a. Behavior Change Communication								
Provision of BCC/Social Marketing Specialist								
International consultant	Central	International	1	6	20,000	120,000		120,000
Domestic consultant	Central	Domestic	1	12	5,000		60,000	60,000
Subtotal						**120,000**	**60,000**	**180,000**

Component 3: Institutional Strengthening

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
b. Implementing the Communication Program								
Provision of multimedia equipment	Central	Package	1		15,000	9,000	6,000	15,000
	Province	Package	8		10,000	48,000	32,000	80,000
	District	Package	32		7,500	144,000	96,000	240,000
Provision of IEC materials	District	Package	32		7,500	144,000	96,000	240,000
Advocacy to the policy makers, society, & NGO	Central	Lumpsum	1		25,000	-	25,000	25,000
	Province	Lumpsum	8		10,000	-	80,000	80,000
	District	Lumpsum	32		5,000	-	160,000	160,000
Meeting/workshop	Central	Lumpsum	2		15,000		30,000	30,000
Training medical doctors of puskesmas, midwives, cadres of Posyandu & PKK, and UKS teacher	District	Lumpsum	32		5,000	-	160,000	160,000
Nutrition education at puskesmas, posyandu, PKK, dasawisma activities, and school (UKS)	District	Lumpsum	32		7,500	-	240,000	240,000
Subtotal						**345,000**	**925,000**	**1,270,000**
Subtotal						**465,000**	**985,000**	**1,450,000**
5 Strengthening Researh and Development								
Provision of nutrition research specialist								
International consultant	Central	International	1	2	20,000	40,000		40,000
Domestic consultant	Central	Domestic	1	4	5,000	-	20,000	20,000
FNSS baseline study	Central	Lumpsum	1		1,000,000	-	1,000,000	1,000,000
Research on other nutrition related topic	Central	Lumpsum	1		1,500,000	-	1,500,000	1,500,000
Meeting/workshop	Central	Lumpsum	5		20,000	-	100,000	100,000
Subtotal						**40,000**	**2,620,000**	**2,660,000**
Total Component 3						**2,111,100**	**6,831,840**	**8,942,940**

Component 4: Project Management

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
1 Equipment and Furniture								
a. Central								
Computers set	Central	Package	1		6,000	5,400	600	6,000
Photocopiers	Central	Package	1		5,000	4,500	500	5,000
Office equipment	Central	Package	1		7,500	4,500	3,000	7,500
Furniture	Central	Package	1		5,000	3,000	2,000	5,000
Subtotal						17,400	6,100	23,500
b. Provincial								
Computers set	Province	Package	8		3,000	21,600	2,400	24,000
Office equipment	Province	Package	8		3,000	14,400	9,600	24,000
Furniture	Province	Package	8		2,000	9,600	6,400	16,000
Subtotal						45,600	18,400	64,000
c. District								
Computers set	District	Package	32		3,000	86,400	9,600	96,000
Office equipment	District	Package	32		2,500	48,000	32,000	80,000
Furniture	District	Package	32		1,500	28,800	19,200	48,000
Subtotal						163,200	60,800	224,000
Subtotal						**226,200**	**85,300**	**311,500**
2 Management Support								
a. Remuneration								
Central								
Executive Secretary	Central	Domestic	1	72	1,400	-	100,800	100,800
Staffs (Fin., Procurement, Planning, MoNev)	Central	Domestic	4	66	700	-	184,800	184,800
Secretary of ES	Central	Domestic	1	71	400	-	28,400	28,400
Administrative Support	Central	Domestic	2	71	200	-	28,400	28,400
Subtotal						-	342,400	342,400

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
Provincial								
Executive Secretary	Provincial	Domestic	8	72	700	-	403,200	403,200
Senior staff	Provincial	Domestic	16	71	400	-	454,400	454,400
Support	Provincial	Domestic	16	71	150	-	170,400	170,400
Subtotal						-	1,028,000	1,028,000
District								
Executve Secretary	District	Domestic	32	72	500	-	1,152,000	1,152,000
Staff (Finance, Administrative)	District	Domestic	64	71	250	-	1,136,000	1,136,000
Subtotal						-	2,288,000	2,288,000
Subtotal						**-**	**3,658,400**	**3,658,400**
b. Meeting SC/TT								
a. Central	Central	Lumpsum/year	1	6	5,000	-	30,000	30,000
b. Provincial	Provincial	Lumpsum/year	8	6	2,500	-	120,000	120,000
c. District	District	Lumpsum/year	32	6	1,500	-	288,000	288,000
Subtotal						-	438,000	438,000
c. Operational cost								
a. Central	Central	Lumpsum/year	1	6	4,800	-	28,800	28,800
b. Provincial	Provincial	Lumpsum/year	8	6	3,000	-	144,000	144,000
c. District	District	Lumpsum/year	32	6	1,800	-	345,600	345,600
Subtotal						-	518,400	518,400
c. Materials and supplies								
a. Central	Central	Lumpsum/year	1	6	1,800	-	10,800	10,800
b. Provincial	Provincial	Lumpsum/year	8	6	900	-	43,200	43,200
c. District	District	Lumpsum/year	32	6	600	-	115,200	115,200
Subtotal						-	169,200	169,200
Subtotal						**-**	**4,784,000**	**4,784,000**

Subcomponent/Activities/Input	Location	Specification	Quantity	Person month	Unit Cost $	Total Cost		
						Foreign Cost $	Local Cost $	Total Cost $
3 Financial Management and Governance								
Consultant Services								
Management and system development	Central	International	1	2	-	-	-	-
Management and system development	Central	Domestic	1	6	5,000	-	30,000	30,000
Meeting/workshop	All levels	Lumpsum	6		5,000	-	30,000	30,000
Implementation	All levels	Lumpsum	6		3,000	-	18,000	18,000
Project management system (software)	Central	Lumpsum	1		50,000	50,000	-	50,000
Training for project management unit								
Officer and Staff - Central	Central	Lumpsum	1		5,000	-	5,000	5,000
Officer and Staff - Province and District	Province	Lumpsum	8		5,000	-	40,000	40,000
Annual audit	Central	Lumpsum	6		40,000	-	240,000	240,000
Subtotal						**50,000**	**363,000**	**413,000**
4 Project Performance Monitoring								
Consultant Services								
Benefit monitoring evaluation	Central	International	1	2	-	-	-	-
Benefit monitoring evaluation	Central	Domestic	1	6	5,000	-	30,000	30,000
Meeting/workshop	All levels	Lumpsum	6		10,000	-	60,000	60,000
Implementation	All levels	Lumpsum	6		6,000	-	36,000	36,000
Subtotal						**-**	**126,000**	**126,000**
5 Quality Assurance and Supervision								
Consultant Services								
Nutrition quality assurance	Central	International	1	2	20,000	40,000		40,000
Nutrition quality assurance	Central	Domestic	1	6	5,000		30,000	30,000
Meeting/workshop	All levels	Lumpsum	6		10,000		60,000	60,000
Implementation	All levels	Lumpsum	6		6,000		36,000	36,000
Subtotal						**40,000**	**126,000**	**166,000**
Total Component 4						**316,200**	**5,484,300**	**5,800,500**

Category 1: Civil Works

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
Upgrading Puskesmas	District	Lumpsum	792	2,000	633,600	950,400	1,584,000
Total Category 1					**633,600**	**950,400**	**1,584,000**

Category 2: Equipment

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
1 Integrated Community Nutrition Program							
Puskesmas equipment including athropometry measurement	Puskesmas	Package	792	600	332,640	142,560	475,200
Posyandu equipment including athropometry measurement	Posyandu	Package	16,000	200	960,000	2,240,000	3,200,000
Radio community station equipment	District	Package	320	8,500	768,000	1,952,000	2,720,000
Subtotal					**2,060,640**	**4,334,560**	**6,395,200**
2 Food Fortification							
Laboratory equipment - nutrient & fortificant analyzer	Province	Package	14	22,000	196,000	112,000	308,000
Equipment for cookng oil fortification - mixer, dosifier	Province	Package	7	10,000	49,000	21,000	70,000
Subtotal					**245,000**	**133,000**	**378,000**
3 Institutional Strengthening							
Computers for FNSS	Central	Package	10	1,500	13,500	1,500	15,000
	Province	Package	48	1,500	64,800	7,200	72,000
	Districts	Package	128	1,500	172,800	19,200	192,000
Multimedia (laptop, LCD, etc)	Cent/Prov/Dist	Package	41	15,000	201,000	134,000	335,000
Subtotal					**452,100**	**161,900**	**614,000**
4 Project Management							
Project management equipment and furniture	Central	Package	1	23,500	17,400	6,100	23,500
	Province	Package	8	8,000	45,600	18,400	64,000
	Districts	Package	32	7,000	163,200	60,800	224,000
Subtotal					**226,200**	**85,300**	**311,500**
Total Category 2					**2,983,940**	**4,714,760**	**7,698,700**

Category 3: Consultant Services

Description	Location	Spec	Quantity	Person month	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
1 Integrated Community Nutrition Program								
Community driven development specialist	Central	International	1	12	20,000	240,000	-	240,000
		Domestic	2	36	5,000	-	180,000	180,000
Community-based food and nutrition planning specialist	Central	International	1	6	20,000	120,000	-	120,000
		Domestic	2	32	5,000	-	160,000	160,000
Nutrition service management specialist	Central	International	1	4	20,000	80,000	-	80,000
		Domestic	2	24	5,000	-	120,000	120,000
Food sanitation specialist	Central	Domestic	1	6	5,000	-	30,000	30,000
Subtotal			**10**	**120**		**440,000**	**490,000**	**930,000**
2 Food Fortification								
Policy and standard on fortification	Central	International	4	2	20,000	50,000	-	50,000
	Central	Domestic	4	8	5,000	-	40,000	40,000
Food fortification specialist	Central	International	4	2	20,000	40,000	-	40,000
		Domestic	4	12	5,000	-	60,000	60,000
Subtotal			**16**	**24**		**90,000**	**100,000**	**190,000**
3 Institutional Strengthening								
Institutional development specialist	Central	International	1	5	20,000	100,000	-	100,000
		Domestic	1	10	5,000	-	50,000	50,000
Organization change specialist	Central	International	1	2	-	-	-	-
		Domestic	2	8	-	-	-	-
Public administration	Central	International	1	2	20,000	40,000	-	40,000
		Domestic	1	6	5,000	-	30,000	30,000
Financial economist	Central	International	1	3	20,000	60,000	-	60,000
		Domestic	1	12	5,000	-	60,000	60,000
Information management specialist	Central	International	1	3	20,000	60,000	-	60,000
		Domestic	2	24	5,000	-	120,000	120,000
Nutrition training specialist	Central	International	1	3	20,000	60,000	-	60,000
		Domestic	2	12	5,000	-	60,000	60,000
Nutrition policy advisor	Central	International	1	3	20,000	60,000	-	60,000
		Domestic	2	12	5,000	-	60,000	60,000
Social marketing specialist	Central	International	1	6	20,000	120,000	-	120,000
		Domestic	1	12	5,000	-	60,000	60,000
Nutrition education specialist	Central	International	-	2	20,000	-	-	-
		Domestic	-	6	5,000	-	-	-
Nutrition research specialist	Central	International	1	2	20,000	40,000	-	40,000
		Domestic	1	4	5,000	-	20,000	20,000
Subtotal			**22**	**137**		**540,000**	**460,000**	**1,000,000**
4 Project Management								
Financial management and governance	Central	International	1	2	-	-	-	-
		Domestic	1	6	5,000	-	30,000	30,000
Benefit monitoring evaluation	Central	International	1	2	-	-	-	-
		Domestic	1	6	5,000	-	30,000	30,000
Nutrition quality assurance	Central	International	1	2	20,000	40,000	-	40,000
		Domestic	1	6	5,000	-	30,000	30,000
Subtotal			**6**	**24**		**40,000**	**90,000**	**130,000**
Subtotal Consultant		**International**	**23**	**63**		**1,110,000**	**-**	**1,110,000**
		Domestic	**31**	**242**		**-**	**1,140,000**	**1,140,000**
			54	**305**		**1,110,000**	**1,140,000**	**2,250,000**
Total Category 3			**54**	**305**		**1,110,000**	**1,140,000**	**2,250,000**

Category 4: Fellowships and Training

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
1 Fellowships							
Overseas							
Doctoral Degree (S2 to S3) - overseas	Central	3 years	3	75,000	225,000	-	225,000
Masters Degree (S1 to S2) - overseas	Central/Prov	2 years	7	50,000	350,000	-	350,000
Short Courses - overseas	Central/Prov	1 - 3 months	15	10,000	150,000	-	150,000
Subtotal					**725,000**	**-**	**725,000**
Domestic							
Doctoral Degree (S2 to S3) - domestic	Central	3 years	5	20,000	-	100,000	100,000
Masters Degree (S1 to S2) - domestic	Central/Prov/Dist	2 years	8	10,000	-	80,000	80,000
Bachelor Degree (D3 to S1) - domestic	Prov/Dist	2 years	94	7,500	-	705,000	705,000
Short courses - domestic	Prov/Dist	1 - 3 months	100	1,500	-	150,000	150,000
Subtotal					**-**	**1,035,000**	**1,035,000**
Subtotal Fellowship					**725,000**	**1,035,000**	**1,760,000**
2 Training							
a. Training on Community-based Integrated Nutrition Program							
Skill development for service providers							
Training of trainers	Central	Lumpsum	2	16,000	-	32,000	32,000
Training of puskesmas staff	District	Per puskes/ 5 year	792	360	-	285,120	285,120
Training of posyandu cadres	District	Per posy/5 year	16,000	100	-	1,600,000	1,600,000
Training for CBNIP							
Training for community facilitators	Puskesmas	Lumpsum	640	75	-	48,000	48,000
Training for centers	District	Lumpsum	320	150	-	48,000	48,000
Training for community groups	District	Lumpsum	1,600	100	-	160,000	160,000
Training on operating radio community station	District	Lumpsum	32	2,700	-	86,400	86,400
Subtotal					**-**	**2,259,520**	**2,259,520**
b. Training on Food Fortification							
Training for complementary food	Province	Lumpsum	7	6,000	-	42,000	42,000
Training for the laboratory	Province	Lumpsum	21	5,000	-	122,500	122,500
Training for the quality asurance	Province	Lumpsum	14	5,000	-	87,500	87,500
Subtotal					**-**	**252,000**	**252,000**

Category 4: Fellowships and Training

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
c. Training on Institutional Strengthening							
Training for Food and Nutrition Policy and Program							
Training of Food & Nutrition policy and program at central level	Central	Lumpsum	1	10,000	-	10,000	10,000
Training of Food & Nutrition policy and program at province level	Province	Lumpsum	8	5,000	-	40,000	40,000
Training of Food & Nutrition policy and program at district level	District	Lumpsum	32	2,000	-	64,000	64,000
Subtotal					-	**114,000**	**114,000**
Training for FNSS staffs							
Training of FNSS staffs at central level	Central	Lumpsum	1	15,000	-	15,000	15,000
Training of FNSS staffs at province and didtrict level	Province	Lumpsum	8	10,000	-	80,000	80,000
Subtotal					-	**95,000**	**95,000**
Training on Comprehensive Communication Program							
Training medical doctors of puskesmas, midwives, cadres of Posyandu & PKK, and UKS teacher	District	Lumpsum	32	5,000	-	160,000	160,000
Subtotal					-	**160,000**	**160,000**
d. Training for Project Management Unit							
Central management unit	Central	Lumpsum	1	5,000	-	5,000	5,000
Provincial management unit	Province	Lumpsum	8	5,000	-	40,000	40,000
District management unit	District	Lumpsum	-	2,500	-	-	-
Subtotal					-	**45,000**	**45,000**
Subtotal Training					-	**2,925,520**	**2,925,520**
3 Workshop							
a. Food Fortification							
Workshoop on complementary food	Central	Lumpsum	2	10,000	-	20,000	20,000
	Province	Lumpsum	14	3,000	-	42,000	42,000
Workshop on vitamin A fortification	Central	Lumpsum	1	15,000	-	15,000	15,000
Workshop on wheat flour quality standardization	Central	Lumpsum	1	15,000	-	15,000	15,000
Workshop on wheat flour fortification	Central	Lumpsum	1	15,000	-	15,000	15,000
Workshop on fortified rice standardization	Central	Lumpsum	1	10,000	-	10,000	10,000
Subtotal					-	**117,000**	**117,000**
b. Institutional Strengthening							
Institutional development and organization change	Central	Lumpsum	5	25,000	-	125,000	125,000
Manpower planning assessment	Central	Lumpsum	5	20,000	-	100,000	100,000
Institutional restructuring	Central	Lumpsum	10	5,000	-	50,000	50,000
Province	Province	Lumpsum	40	3,000	-	120,000	120,000

Category 4: Fellowships and Training

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
Districts	District	Lumpsum	96	1,000	-	96,000	96,000
Subdistrict meeting	District	Lumpsum	320	500	-	160,000	160,000
Consolidate the Nutrition and Food Team	District	Lumpsum	32	2,500	-	80,000	80,000
Workshop comprehensive communication	Central	Lumpsum	2	15,000	-	30,000	30,000
Research and development	Central	Package	5	20,000	-	100,000	100,000
Subtotal					**-**	**861,000**	**861,000**
c. Project Implementation							
Financial management , governance, and project management	All levels	Lumpsum	6	5,000	-	30,000	30,000
Project performance monitoring	All levels	Lumpsum	6	10,000	-	60,000	60,000
Quality assurance and supervision	All levels	Lumpsum	6	10,000	-	60,000	60,000
Procurement and civil works	All levels	Lumpsum	-	10,000	-	-	-
Subtotal					**-**	**150,000**	**150,000**
Subtotal Workshop					**-**	**1,128,000**	**1,128,000**
Total Category 4					**725,000**	**5,088,520**	**5,813,520**

Category 5: System Development, Workshops and Advocacy & Socialization

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
1 System Development							
Software development for FNSS	Central	Lumpsum	1	500,000	250,000	250,000	500,000
Project management system software development	Central	Lumpsum	1	50,000	50,000	-	50,000
Subtotal System Development					**300,000**	**250,000**	**550,000**
2 Advocacy and Socialization							
a. Food Fortification							
Advocacy on complementary food and sprinkle	All level	Lumpsum	8	10,000	-	62,500	62,500
Advocacy on vitamin A fortification	All level	Lumpsum	8	10,000	-	62,500	62,500
Advocacy on wheat fortification	All level	Lumpsum	8	10,000	-	62,500	62,500
Advocacy and social marketing on rice fortification	All level	Lumpsum	8	10,000	-	45,000	45,000
Subtotal					**-**	**232,500**	**232,500**
b. Comprehensive Communication							
Advocacy and socialization to the policy makers, society, and NGO	Central	Package	1	25,000	-	25,000	25,000
	Province	Package	8	10,000	-	80,000	80,000
	District	Package	32	5,000	-	160,000	160,000
Subtotal					**-**	**265,000**	**265,000**
Subtotal Advocacy and Socialization					**-**	**497,500**	**497,500**
3 Nutrition Education and Communication							
Communication and marketing for comp. food and sprinkle	Central	Lumpsum	2	10,000	-	20,000	20,000
	Province	Lumpsum	14	7,500	-	105,000	105,000
Nutrition education at puskesmas, posyandu, PKK, dasawisma activities, and school (UKS)	District	Lumpsum	32	7,500	-	240,000	240,000
Subtotal					**-**	**365,000**	**365,000**
Total Category 5					**300,000**	**1,112,500**	**1,412,500**

Description	Location	Specification	Quantity	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
Category 6: Research and Studies							
Study on effectiveness of food fortification	Central	Lumpsum	4	100,000	-	425,000	425,000
FNSS baseline study	Central	Lumpsum	1	1,000,000	-	1,000,000	1,000,000
Research on other nutrition related	Central	Lumpsum	1	1,500,000	-	1,500,000	1,500,000
Total Category 6					-	**2,925,000**	**2,925,000**

Category 10: Project Management

Description	Location	Specification	Quantity	Person Month	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
Remuneration for staff - project management								
Technical Advisory	Central	Domestic	-	70	1,600	-	-	-
Executive Secretary	Central	Domestic	1	72	1,400	-	100,800	100,800
Staffs (Fin., Procurement, Planning, MoNev)	Central	Domestic	4	66	700	-	184,800	184,800
Junior staff	Central	Domestic	1	71	400	-	28,400	28,400
Administrative Support	Central	Domestic	2	71	200	-	28,400	28,400
Project Manager	Provincial	Domestic	-	72	1,000	-	-	-
Executive Secretary	Provincial	Domestic	8	72	700	-	403,200	403,200
Senior staff	Provincial	Domestic	16	71	400	-	454,400	454,400
Support	Provincial	Domestic	16	71	150	-	170,400	170,400
Project Manager	District	Domestic	-	72	500	-	-	-
Executve Secretary	District	Domestic	32	72	500	-	1,152,000	1,152,000
Staff (Finance, Administrative)	District	Domestic	64	71	250	-	1,136,000	1,136,000
Subtotal						-	**3,658,400**	**3,658,400**
Honoraria								
Central	Central	SC/TT	1	6	5,000	-	30,000	30,000
Provincial	Provincial	SC/TT	8	6	2,500	-	120,000	120,000
District	District	SC/TT	32	6	1,500	-	288,000	288,000
Subtotal						-	**438,000**	**438,000**
Implementation								
Financial management and governance	All levels	Lumpsum	6	-	3,000	-	18,000	18,000
Project performance monitoring	All levels	Lumpsum	6	-	6,000	-	36,000	36,000
Quality assurance and supervision	All levels	Lumpsum	6	-	6,000	-	36,000	36,000
Supervision of construction	District	Lumpsum	-	-	500	-	-	-
Annual audit	Central	Lumpsum	6	-	40,000	-	240,000	240,000
Subtotal						-	**330,000**	**330,000**
Total Category 10						-	**4,426,400**	**4,426,400**

Category 11: Recurrent Cost

Description	Location	Specification	Quantity	Person Month	Unit Cost $	Foreign Cost $	Local Cost $	Total Cost $
Improving Nutrition Service Delivery								
Support for outreach	Puskesmas	Lumpsum	792	-	1,500	712,800	475,200	1,188,000
Subtotal						**712,800**	**475,200**	**1,188,000**
Food Fortification								
Monitoring complementary food	All level	Lumpsum	8		10,000	-	94,000	94,000
Subtotal						**-**	**94,000**	**94,000**
Food and Nutrition Surveillance System								
Operational cost for central level	Central	Lumpsum	1	-	14,400	-	14,400	14,400
Operational cost for provincial level	Province	Lumpsum	8	-	10,800	-	86,400	86,400
Operational cost for district level	District	Lumpsum	32	-	5,400	-	172,800	172,800
Provision of analyst team								
For province level	Provincial	Lumpsum	8	-	7,200	-	57,600	57,600
For district level	District	Lumpsum	32	-	4,320	-	138,240	138,240
Subtotal						**-**	**469,440**	**469,440**
Project Management								
Operational cost for central level	Central	International	1		4,800	-	28,800	28,800
Operational cost for provincial level	Province	International	8		3,000	-	144,000	144,000
Operational cost for district level	District	International	32		1,800	-	345,600	345,600
Subtotal						**-**	**518,400**	**518,400**
Total Category 11						**712,800**	**1,557,040**	**2,269,840**

PRICE ESCALATION MATRIX (LOCAL COST)

Pd of implementation	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	TOTAL
Total base cost	3,011,487	10,773,006	17,127,781	10,817,792	2,692,121	1,796,634	46,218,820
Price rise index for the year.(A)	6.0%	6.0%	5.5%	5.0%	5.0%	5.0%	
Rate of price rise in PR Yrs	1.060	1.060	1.055	1.050	1.050	1.050	
(A) divided by 2	1.0300	1.0300	1.0275	1.0250	1.0250	1.0250	
Factor	1.0300	1.0918	1.1545	1.2150	1.2758	1.2637	
cumulative	3,101,831	11,761,968	19,774,006	13,143,973	3,434,566	2,270,495	
For Respective Years	**90,345**	**988,962**	**2,646,225**	**2,326,182**	**742,445**	**473,860**	**7,268,019**

COMMITMENT CHARGE

First 12 months :	15%	of total loan amount less cum disburs.
Second 12 months	45%	
Third 12 months:	85%	
Thereafter	100%	

LOAN AMOUNT =	50.00	
IMPLEMENTATION PERIOD =	6	
INTEREST RATE =	1.00%	2.32%
COMMITMENT CHARGE =	0.00%	

DISBURSEMENT SCHEDULE

Construction Period = 6 Years 12 periods

Semi-annual	Loan Amt	Disbursement	Undisbursed Balance	Loan Outstanding ***	Interest	(A),(B),(C),and ****	(d)*TLA *** less **** Z	Commitment Charge If Z>***	YEARLY IDC
	50.00	47.50							
Year 1									
Pd 1		2.50	47.50	2.50	0.01	0.00	0.00	0.00	0.01
Pd 2		2.50	44.99	5.01	0.03	7.13	2.11	0.00	0.03
Year 2									
Pd 1		5.00	39.99	10.04	0.05	0.00	0.00	0.00	0.05
Pd 2		5.00	34.99	15.09	0.08	21.38	6.29	0.05	0.12
Year 3									
Pd 1		6.25	28.74	21.41	0.11	0.00	0.00	0.00	0.11
Pd 2		6.25	22.49	27.77	0.14	40.38	12.60	0.09	0.23
Year 4									
Pd 1		6.25	16.24	34.16	0.40	0.00	0.00	0.00	0.40
Pd 2		6.25	9.99	40.81	0.47	47.50	6.69	0.05	0.52
Year 5									
Pd 1		3.75	6.24	45.03	0.52	0.00	0.00	0.00	0.52
Pd 2		3.75	2.49	49.30	0.57	47.50	0.00	0.00	0.57
Year 6									
Pd 1		1.25	1.24	51.12	0.59	0.00	0.00	0.00	0.59
Pd 2		1.24	-0.00	52.95	0.61	0.00	0.00	0.00	0.61
				IDC:	3.58			0.19	3.77
				IDC:	3.77				

TOTAL INTEREST CHARGES: 3.964004218

Indicative Contract Packages

Activities	Location	Number of Contracts	Mode of Procurement	Aggregate Amount ($)
A Civil Works				
1 Upgrading of Puskesmas	D	32	LCB	1,584,000
2 Provision of facilities/other schemes	D	32	LCB	8,000,000
B Equipment				
1 Training equipment	P/D	8	LCB	#REF!
2 Computers	C/P/D	1	LCB	614,000
3 Puskesmas equipment	D	32	LCB	15,397,400
4 Posyandu equipment	D	32	LCB	14,922,200
5 Food laboratory equipment	P	7	LCB	448,000
C Software Development				
1 FNSS software	C	1	ICB	500,000
D Fortificants, Materials and Supplies				
1 Vitamin A premix	P	7	LCB	420,000
2 Consumable goods for fortification	P	7	LCB	245,000
3 Posyandu materials	D	32	LCB	2,480,000
4 IEC materials	C/D	36	LCB	260,000

C = Central; P = Province; D = District
ICB = International Competitive Biddding; IS = International Shopping;
LCB = Local Competitive Bidding

IMPLEMENTATION SCHEDULE

Activities	2006				2007				2008				2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A Advance Actions																								
1 Establishment of CPMU, PPMU, DPMU																								
2 Staff selection for CPMU, PPMU, DPMU																								
3 Selection of consultant firms																								
B Component 1: Integrated Community Nutrion Program																								
1 Improving nutrition service delivery																								
2 Community-based integrated nutrition package																								
C Component 2: Food Fortification																								
1 Monitoring the quality of fortified wheat flour																								
2 Vitamin A fortification of palm oil																								
3 Complimentary food and sprinkles																								
4 Pilot testing of rice fortification																								
D Component 3: Comprehensive Communication Program																								
1 #REF!																								
2 #REF!																								
E Component 4: Institutional Development																								
1 Organization analysis and development																								
2 Improved food and nutrition information management																								
3 Strengthening capacity in program implementation																								
4 Strengthening research and development																								
F Component 5: Project Management																								
1 Project management equipment																								
2 Financial management and governance																								
3 Project performance monitoring																								
4 Quality assurance and supervision																								
5 Construction supervision																								

UNIT COSTS

Description	Level	Unit		Unit Cost Rp	USD
A. Revitalization of Posyandu					
Preparation at District Level					
1 Training of trainers	District	week		1,000,000	104
2 Local transport for 12 visits per year		trip		25,000	3
3 Per diem for 12 visits per year		trip		50,000	5
4 Data analyst		monthly		300,000	31
5 Public health nurse		monthly		500,000	52
6 Nutrionist		monthly		600,000	63
Puskesmas Level					
1 Computer	Puskesmas	unit	1	6,000,000	625
2 Training of trainers		week		500,000	52
3 Local transport for xx visits per year		trip		10,000	1
4 Per diem for xx visits per year		trip		25,000	3
5 Data analyst		man month		300,000	31
6 Public health nurse		women month		500,000	52
Polindes Level					
1 Supervision of cadres by midwife	Polindes	days/year	3	500,000	52
Posyandu Level					
1 Weight/height scales	Posyandu	unit		700,000	73
2 Kitchen set		unit		100,000	10
3 Training all cadres					
Refreshers training		3 days		150,000	16
Full training		week		300,000	31
4 Transport cost (home - office)		cadre/month		10,000	1
5 Transport cost (outreach)		cadre/month		25,000	3
6 Food for cooking demonstration		demonstration		500	0
7 Educational material for women		lump sum		100,000	10
8 Growth chart		infant		3,000	0
9 Office expenses		lump sum		100,000	10
B. Micronutritient Interventions					
Iron supplementation for pregnant women					
1 Training of midwife	Polindes	0,5 day		25,000.00	3
2 Refreshment training of midwife		0,5 day		25,000.00	3
3 IEC materials		lump sum		17,000.00	2
4 Data registration form		lump sum		2,500.00	0
5 Iron tablets (270 tablets/pregnant women)		tablets		30.00	0
Iron supplementation for children (6 - 59 mo)					
1 Training of midwife	Posyandu	0,5 day		25,000.00	3
2 Media promotional		lump sum		17,000.00	2
3 Data registration form		lump sum		2,500.00	0
4 Iron syrop, x times per year		syrup/child		1,500.00	0
Iron supplementation at workplace					
1 Mass media material	District	Employer		17,000.00	2
2 Data collection forms (5 per employer)		Employer		17,000.00	2
3 Transportation cost		Days	34	25,000.00	3
4 Iron tablet 365 days		Worker		30.00	0

Description	Level	Unit		Unit Cost Rp	USD
Vitamin A supplementation for post partum					
1 Training of midwife	Polindes	1 day		25,000.00	3
2 Refreshment training of midwife		0,5 day		25,000.00	3
3 IEC materials		lump sum		17,000.00	2
4 Data registration form		lump sum		2,500.00	0
5 Vitamin A tablet (????		tablets		140.00	0
Vitamin A supplementation for children					
1 Training of midwife	Polindes	0,5 day		25,000.00	3
2 Training of cadre	Posyandu	0,5 day		25,000.00	3
3 Media promotional	Posyandu	lump sum		34,000.00	4
4 Data registration form	Posyandu	lump sum		2,500.00	0
5 Vitamin A capsules	Posyandu	capsules		136.00	0
C. Feeding Programs					
1 Complementary feeding for malnourished under two (120 days at 100 gram)	Posyandu	day/baby		150.00	0
2 Food supplementation to malnourished pregnant women	Posyandu	woman/year		112,500.00	12
D. Social and Law Enforcement					
1 Workshop, twice a year	District	workshop		325,000.00	34
2 Mass media campaign	District	lump sum/year		63,835,000.00	6649
3 Food inspector	District	monthly salary		500,000.00	52
4 Food sampling	District	cost per sample	360	850.00	0.1
5 Industry cost for food fortification	District	cost per beneficiary		46.48	0

APPENDIX H

ECONOMIC ANALYSIS

I. INTRODUCTION

A. Rationale

1. Undernutrition involves serious economic costs, which make investments in nutrition an urgent priority. These losses are conservatively 2-3 percent of GDP in low-income countries. Malnutrition in Indonesia remains a significant public health problem for both urban and rural populations. Wide disparities exist in health and nutrition outcomes across Indonesia, with rural-urban, geographical and socio-economic differentials. The Eastern provinces of Indonesia, including Nusa Tenggara Timur, Nusa Tenggara Barat, Gorontalo, and Papua, are the poorest and a greater proportion of the children there are underweight. The disparity in the proportion of underweight children under five years of age between provinces is striking, ranging from 17.9% in Bali to levels as high as 42% in Gorontalo and 39% in East Nusa Tenggara. In 2005, a nutrition crisis, characterized by severe malnutrition and mortality in these provinces attracted national attention. The proportion of severely underweight children under the age of 5 years exceeded 10%.

2. Government recognizes the urgent need to address the high prevalence of malnutrition in children and the current nutrition crisis. In 2005, MOH has developed a National Action Plan (NAP) for the Prevention of Malnutrition (2005-2009). The NAP aims at reducing the prevalence of underweight children under 5 years of age to below 20%, and severe underweight to below 5% between 2005 and 2009. Key components of the plan include strengthening (i) family nutrition awareness (kardazi); (ii) community-based growth monitoring and counseling; (iii) prevention of nutrition-related diseases such as malaria, tuberculosis, and HIV/SIDS); (iv) healthy life-style behavior; (v) food fortification, and (vi) nutrition education.

3. Among MDGs, the child underweight indicator is one of the most important non-income poverty targets because of its impact on other MDGs, such as infant mortality and school attendance. The economic costs of malnutrition are substantial. Increased public expenditures are required to reduce malnutrition through strengthening programs, which directly influence nutritional status such as food security, education, water and sanitation, and the prevention of malaria, tuberculosis, and HIV/AIDS. Enhancing the coordination, especially between the Ministry of Health (MOH), Ministry of Agriculture (MOA) and the Ministry of National Education (MONE) will be essential to address the underlying causes of malnutrition. Progress with overcoming malnutrition in Indonesia requires that nutrition goals are explicitly incorporated into the activities of national and local economic and social development. The nature of programs for overcoming malnutrition requires collaborative efforts among sectors, notably agriculture, social welfare, health, and education with explicit nutrition objectives. These efforts should be supported by macro development objectives of Ministry of Industry and Trade, Ministry of Finance, Ministry of Marine and Fishery, Ministry of Home Affairs, and Central

Bureau Statistics (CBS). A concerted effort should be pursued to strengthen the information base for nutrition, and to build capacity of policy makers, program planners and implementers to act effectively the best practice programs at national and local levels based on the strategy framework to achieve nutrition goals.

4. In July 2004, the Asian Development Bank (ADB) approved a project preparatory assistance (PPTA) for the Urban Nutrition Project for $400,000. The PPTA started in June 2005 and is expected to be completed by November 2005. The Government, represented by the Directorate for Community Health of the Ministry of Health (MOH), agreed to a national investment project given the nutrition crisis in the country in early 2005 and the need to support the implementation of the National Action Plan for the Prevention of Malnutrition (2005-2009). The Project will be designed to cover nine provinces and 8 cities and 24 districts in North Sumatra, South Sumatra, West Java, Banten, West Kalimantan, South Sulawesi, West Nusa Tenggara, and East Nusa Tenggara.

B. Objectives

5. General objective of the report is to analyze cost effectiveness and economic return of the project based on the economic valued of the benefits and costs of the project. Special objectives of the report are: a) to identify and estimate number of the project beneficiaries, b) to estimate economic value of potential benefit and cost of the project, c) to analyze project cost effectiveness, d) to calculate economic benefit cost ratio (BCR) and economic internal rate of return (EIRR) of the project, and e) to perform sensitivity analysis to the project EIRR.

II. PROJECT JUSTIFICATION AND KEY ASSUMPTIONS

6. ADB's priorities for health sector projects are the poor, women, and indigenous peoples, according to the Handbook for the Economic Analysis of Health Sector Projects (ADB 2000). The proposed project will improve the nutrition status, especially of poor children under five years of age and pregnant and lactating women. The project aims to reduce underweight prevalence of children under five years of age; iron deficiency anemia of children, pregnant and lactating women; and chronic energy deficiency among women at reproductive age. The project will help support the Government in achieving the objectives of the National Action Plan and in meeting the MDGs with regard to MDG 1 Eradicating Extreme Poverty and Hunger. The proposed Project will consist of five components: (i) institutional development; (ii) integrated nutrition packages; (iii) food fortification; (iv) behavioral change communication (BCC); and (v) project management.

7. The analysis was aimed to assess the costs and impacts of an optimal design of food and nutrition services through integrated food and nutrition package as main component of the project. While optimal implementation of the intervention package is a priority, actual implementation and coverage of programs may differ greatly from framework stated in the project planning documents. Because of the paucity of

information on program effectiveness, the effectiveness estimates based on judgments and opinions of health professionals, using supporting information from pilot studies. Some of the figures refer to efficacy rates under ideal conditions, whereas, others take into account community effectiveness[1].

8. Factors beyond the health and nutrition sector can influence the incidence and case fatality rates of diseases. Some of these factors are specific to the individual, such as the initial health endowment, while other factors are related to the overall socioeconomic conditions of a community, such as the level of household income and education. In addition, the effectiveness of nutrition intervention may be positively or negatively influenced by underlying factors, such as environmental conditions. Since the relationship between risk factors and disease is nonlinear and not well-defined, the assumption that a nutrition intervention influences health outcomes directly is optimistic.

9. The approach to an economic analysis of a food and nutrition project does not differ greatly from an economic analysis of projects in other sectors. The approach, the data requirements, and the complexities of the analysis are similar. An economic analysis should therefore be a standard requirement in the documentation and justification of the project proposal. Some important assumption and justification used in this project economic analysis presented in Table 1.

Table 1. The Main Assumptions Used on The Economic Analysis of The Project

Parameters	Value and Notes
Tradable Good Cost (%)	27 %
Shadow Exchange Rate Factor (SERF)	1.11
Maintenance Cost	0.5 % of Civil Work and 2% of Equipment
Pro-Poor Project Covered	15-30 %, based at the poperty rate at the respective province with minimum coverage 15% if poverty rate below 15%
Average Clinic Attendance	1.90 times/person/year (A. Gani, 2005).
Cost of A Clinic Attendance	$1.56 per Attendance (A. Gani, 2005).
Average Hospital Admission	0.03 Times/Person/Year (A. Gani, 2005).
Average Duration of Hospitalization	4.7 – 6.5 days per times, assumed as Average Duration of Illness (Human Development Report of Indonesia,2004)
Cost of Hospitalization	$15.63 per One-Day (A. Gani, 2005).
Project Efficacy	Year 1 (0%), Year 2 (10-30%), Year 3 (20-40%), Year 4 (40-70%), Year 5 (60-90%), Year 6 (55-80%, Year 7-20 (50-75%)

1 Community effectiveness represents how well an intervention improves nutritional status within the beneficiaries, which is a function of participation rate of the project beneficiaries. For this analysis, effectiveness of this food nutrition intervention will be derived in the following manner: percent impact targeted = efficacy rate x participation rate.

Project Participation Rate	Year 1 (0%), Year 2 (10-30%), Year 3 (20-50%), Year 4 (40-70%), Year 5 (70-90%), Year 6 (60-80%), Year 7-20 (40-70%)

10. This economic analysis report encourage formulation of health and nutrition interventions founded on the best possible practice standards specific to a particular region or province. Because health planning is an on-going process, it is envisioned that the characteristics of the best possible standard of health services will approximate an optimal delivery system over time. While there are no hard and fast rules for identifying the best possible practice and delivery standards in the health sector, one approach is to examine and compare output indicators from a sample of different health facilities, such as the number of visits per month, the length of stay or number of bed-days for hospital services, or coverage of the population.

11. Another factor influencing the cost effectiveness and economic return of food and nutrition interventions is the time horizon under which programs are expected to be implemented. Planning tends to be performed with a short time horizon in mind, as it is politically expedient for national and local governments and donor organizations to see the results of health investments. However, short-term planning based on cost-effectiveness analysis may preclude implementation of programs which have lasting benefits and which save costs in the long run.

12. Although the project will be implemented only for six years, in the economic analysis assumed that the project will maintains health benefits up to 20 years in the future[2]. Consequently, it will require extensive infrastructure development which is not available or cost-ineffective compared to other strategies requiring fewer inputs at the present time.

A. Project Benefits

13. A key question regarding the economic benefits of a project, especially one that provides public goods such as some health and nutrition services, is who will gain the benefits from the project and what kind of benefits will be resulted from the project. On a general level, this question may be answered by assessing the project's impact on the nutrition status of people in the targeted region and subsequently estimating the proportion of the project benefits that accrue to the different beneficiary groups.

1. Project Beneficiaries

14. The primary objective of the ADB's assistance to the health sector, including nutrition programs, will be to improve the health status of the poor and other vulnerable groups. Therefore, the Project was designed to direct a disproportionate amount of the benefits to the poor segment population. By strengthening nutrition services, the project

[2] The literature provides some guidance on the size and duration of investments required. Since the investments have greatest effect on infants and young children, the main payoffs in productivity benefits will take 15-20 years to appear, although the benefits in decreased mortality should be seen within the first few years (Susan Horton, 1999).

is expected to improve access to quality nutrition service for undernourished children under-five belong to the poor family in the project area. The approach utilized began with an assessment of number of undernourished children under-five in all city/district covered by project at each province. The undernourished prevalence of under-five children data was obtained from the SUSENAS 2003 data published by the Central Bureau of Statistic.

15. Based on the project impact stated on the project policy frame work, at least there are three groups of project beneficiaries that are: under-five children, pregnant and lactating mothers, adolescent girls, and schoolchildren. However, the project economic analysis was assumed that children under-five suffering from underweight nutrition status and belong to poor group of population as main project beneficiaries.

Table 2. Estimation Number of Undernourished Children Under Five Targeted as Main Project Beneficiaries.

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Popula-tion	314,585	296,343	583,250	667,184	189,866	200,629	315,323	166,204	2,733,386
Under-nourished	98,874	91,244	158,002	160,258	74,314	62,095	107,620	64,487	816,894
Benefi-ciaries	16,366	20,347	26,152	26,526	12,300	10,278	29,918	19,798	161,685

16. The number of project beneficiaries as presented in Table 2 will vary among provinces and will be increases annually based on the population growth rate of the respective province. It is estimated that by 2006, the project will be reach around 2.7 million under five children population in the participating districts/cities[3]. It is estimated that this will include around 161.7 thousand children suffering from undernourished status and belong to the poor category as targeted project beneficiaries at the first year project implementation[4]. The largest number of under five children belong to the poor and undernourished category among province that will covered by project is in West Nusa Tenggara that is only around 29.9 thousand beneficiaries, while the smallest number is in South Sulawesi Province that is around 10.3 thousand beneficiaries.

17. These targets make the overall project marginally pro-poor as would be expected given the high levels of overall service that are expected to be achieved. However, the targeting strategy is designed to maximize chances of reaching the poor and vulnerable,

[3] Estimates are based on parameters used in provincial projections of population from 2000 by the Central Statistics Board (BPS) that are applied to baseline 2004 populations from the 2004 SUSENAS in the participation districts.

[4] Undernourished prevalence of underfive children and poverty rates at respective districts/cities based on the data published in the Human Development Report 2004.

and project components are designed to ensure that tangible benefits (e.g. access to subsidized fortified foods and free access to other nutrition-related services) accrue mainly to the poor and near poor. In this regard a significant poverty impact is expected from the project.

2. Health Impact of Nutrition

18. The Project will support the Indonesian health system's efforts to improve the nutrition status of the population. Some evidence as presented in Table 3 and 4 suggest that protein energy malnutrition (PEM) and micronutrient deficiency are all associated with higher infant and child death rates. Efforts to promote even modest nutritional improvements such as small changes in feeding behavior will have a beneficial impact on mortality rates over time. The quantitative relationship between malnutrition, mortality, and morbidity is remarkably consistent across various populations representing diverse ecologic, disease, and cultural environments.

Table 3. Linking Consumption, Nutrition, Health, and Productivity to Improvements in Protein-Energy Malnutrition in Children

Relationship	Evidence	Source
Calorie consumption → height & weight in children	Transfer of 100,000 calories to malnourished children during early childhood increased height by 2 cm (range 0.8–5.0) and weight by 0.5 kg (range 0.05–0.79 kg)	Pinstrup-Andersen, et al, 1993
Malnutrition in children (6–59 months old) → child mortality	Relative Risk (RR) of under-nutrition Based on Weight for Age = Severe (8.4), Mild (4.6), and Moderate (2.5)	Pelletier, et al, 1994
Malnutrition in preschool children → morbidity	Under-nutrition associated with an increase of 10–45% in incidence and 30–35% in duration of diarrhea.	McGuire and Austin, 1987
Malnutrition in children → poor cognition	Better growth is associated with better preschool and school-age IQ, learning and school performance. Psychosocial stimulation can compensate.	McGuire and Austin, 1987
Stunted children → stunted adults	Stunting in childhood translates into equal height deficiencies in adulthood.	Martorell, 1990
Stunting in adults → reduction in productivity	Elasticity of labor productivity (measured by wage) with respect to height of 1.38.	Haddad and Bouis, 1990
Stunted mothers → low birth weight (LBW) babies	Birth weight coefficient for maternal height: 7.8 to 10 grams per cm of mother's height.	Pinstrup-Andersen, et al, 1993
LBW babies → child mortality	Decrease of 9 per 1000 in child mortality rate for each 100 grams weight increase.	Walsh, et al, 1993

Source : Margaret Phillips & Tina G. Sanghvi. 1996. The Economic Analysis of Nutrition Projects : Guiding Principles and Examples. Human Development Department . The World Bank.

19. Because malnutrition increases a child's risk of dying from many diseases—most prominently measles, pneumonia, and diarrhea—programs to prevent malnutrition can

reduce mortality from several diseases simultaneously. The child deaths synergistically attributable to malnutrition can be estimated with representative weight-for-age data. The number of under-five children deaths due to under-nutrition can be estimated by multiplying Population Attributable at Risk (PAR) of under-nutrition with total number of under-five children death.[5]

Table 4. Linking Between Consumption, Nutrition, Health, and Productivity to Improvements in Micronutrient Status

Relationship	Evidence	Source
VITAMIN A deficiency in children → mortality	85% coverage with supplements or adequately fortified foods leads to a mortality reduction in children 1 to 6 years of age of :	WHO, 1994
	34% in areas of clinical deficiency;	West, et al, 1991; Rahmathullah, et al, 1990.
	23% in areas of moderate/high prevalence of sub-clinical deficiency;	Beaton, et al, 1993
	10% in areas of marginal/low prevalence of sub-clinical deficiency.	Klemm and West, 1995
IRON deficiency in pregnant women → mortality	Anemic pregnant women (hemoglobin < 8 g/dl) are four times as likely to die in childbirth as non-anemic women	Walsh, et al, 1993
IRON deficiency in working adults → reduced output	Elasticity of work output with respect to increases in hemoglobin levels (in deficient populations) of around 1 - 2.	Levin, 1986
IRON deficiency in children → reduced cognition	Reductions in cognitive and psychomotor skills	Levin, et al, 1993; McGuire, 1996
IODINE deficient pregnant women → mortality, birth defects, reduced productivity	Stillbirths, spontaneous abortions, congenital abnormalities. Largest single cause of preventable brain damage & mental retardation	Levin, et al, 1993; McGuire, 1996

Source : Margaret Phillips & Tina G. Sanghvi. 1996. The Economic Analysis of Nutrition Projects : Guiding Principles and Examples. Human Development Department . The World Bank.

20. Beyond the issue of increased mortality, malnutrition increases the risk of illnesses that impair the welfare of survivors. This relationship between nutrition and

[5] Compared to normal children, the relative risks (RR) are 2.5 for children who are 70-79 percent of median weight-for-age, 4.6 for children who are 60-69 percent of the median, and 8.4 for children who are less than 60 percent of the median. Based on the relative risk of each degree of under-nutrition, Population Attributable at Risk (PAR) can be estimated based on the following formula: PAR = 0.87 + 1.42 x Prevalence – 0.0075 x Prevalence^2, where Prevalence is undernourished prevalence of under five children (Pelletier et al, 1994 at Horton Susan, 1999).

both infections and chronic diseases can be traced through different parts of the lifecycle. Morbidity estimates refer to the cause-specific episodes of illness attributable to under nutrition. Similarly to mortality, the attributable fractions for morbidity due to malaria, acute respiratory infections and diarrhea can be translated into burden estimates.[6]

3. Economic Benefit

21. Regarding impacts of nutrition intervention we have turn to micro-evidence of about productivity impacts of improved nutrition – from conception through infancy and childhood and into adolescence and adulthood. Table 3 shows the many channels through which these gains may operate are grouped as follows: direct gains arising from improvements in physical stature and strength as result of nutrition status improvement as well as saving of resources that are currently directed to dealing with diseases and other problems related to malnutrition; and indirect gains arising from links between nutritional status and schooling, nutritional status and cognitive development and subsequent links between schooling, cognitive ability and adult productivities.

22. Some studies suggest that protein-energy malnutrition has high economic impact due to productivity losses. Economic benefits in term of productivity gains are the result of the future live lost of children that would have otherwise been utilized in some economic activity. Future productivity losses occur due to the death of a potential worker. Malnutrition is also associated with lost productivity in adults. Adults who are stunted or anemic have lower productivity, most noticeably in manual work. Even with conservative assumptions, the productivity losses associated with protein-energy malnutrition are very high. A One percent deficit in adult height was found to be associated with a 1.38 percent reduction in agricultural wages in the Philippines (Haddad and Bouis 1991), and with a 0.3 percent decrease in rural wages in Pakistan (Alderman et al. 1996). This implies that adult who were moderately malnourished as children would be 2-6 percent less productive, and those who were severely malnourished 2-9 percent less productive, than their counterparts who were not malnourished. Iron deficiency anemia is associated with a 17 percent loss of productivity in heavy manual labor, and 5 percent in light blue-collar work (studies cited in Ross and Horton, 1998). Some economic benefits related to impacts of nutrition interventions are presented in Table 5.

23. Cognitive losses associated with protein-energy malnutrition in childhood, with childhood iron-deficiency anemia, and with being born to a mother with goiter, are more or less irreversible by the time a child reaches school. These cognitive losses are associated with lower productivity in adulthood. Poorly nourished children tend to start school later, progress through school less rapidly, have lower schooling attainment and

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6 The preliminary estimates provided by WHO, used in the example for Nepal, malnutrition is also associated with 16.6% of the total morbidity. Based on this assumption, the project assumed that morbidity relative risk (RR) of under nutrition is around 1.16 times in comparison to normal nutrition status off under five children (Blössner et al, 2005). Therefore, total morbidity Population Attributable At Risk (PAR) can be calculated using the following formula : PAR = Prevalence x (RR-1)/1+(Prevalence x (RR-1), where Prevalence is undernourished prevalence of under five children.

perform less well on cognitive achievement tests when older, including into adulthood. These associations appear to reflect significant and substantial effects in poor populations even when statistical methods such as instrumental variables are used to control for the behavioral determinants of pre-school malnutrition. In productivity terms, the magnitudes of these effects are likely to be substantial, easily exceeding the effects of height on productivity even if the indirect effect of height on wages mediated by the relationship between height and schooling is included.

Table 5. Economic Benefits Related to Impacts of Nutrition Interventions

Outcome	Benefits	Economic Value
Reduced mortality	Production and consumption benefits	Discounted present value of per capita income over the years of life lost from premature death
Reduced morbidity	Reduction in health care (depending on patterns of care)	Expenditure on health care, associated travel and drugs
	Reduction in days of work lost by sufferer or career (depending on employment status)	Real wage adjusted to more accurately reflect marginal productivity of labor
	Reduction in days worked less productively by sufferer (depending on type of work & employment status)	Real wage adjusted to more accurately reflect marginal productivity of labor
	Improvement in school attendance, concentration and performance (depending on school enrollment)	Reduction in wasted education expenditure
	Improved school performance possibly leading to spending more years in schooling (depending on school enrollment)	Relationship between years of schooling and earnings well-documented (Psacharapoulos 1994)
	Loss of consumption benefits such as leisure time, quality of life	Measurement of value not practicable
Increased physical work capacity	Increased work output (depending on availability of work and complementary factors of production; job type; skill and intelligence of worker)	Real wage adjusted to more accurately reflect marginal productivity of labor
Improved cognitive effects	Greater efficiency of school system; Increased future productivity	Reduction in education expenditure wasted; Real wage adjusted to reflect marginal productivity of labor

Source : Margaret Phillips & Tina G. Sanghvi. 1996. The Economic Analysis of Nutrition Projects : Guiding Principles and Examples. Human Development Department . The World Bank.

24. The losses due to cognitive impairments resulting from childhood malnutrition are more pervasive but more difficult to quantify. Estimates suggest that protein energy malnutrition in childhood is associated with a 15 point decrease in IQ, which in turn is associated with a 10 percent drop in earnings and hence productivity (Selowsky and Taylor 1973). Similarly, childhood anemia is associated with a decrease in score on

cognitive tests of about one half of one standard deviation, which in turn is associated with a 4 percent decrease in hourly earnings (Ross and Horton 1998). The average productivity loss per child born to a mother with goiter is estimated as 10 percent (Ross 1997, based on a 3.4 percent chance that the child is a cretin with zero economic productivity, a 10.2 percent chance that the child has a severe cognitive impairment, associated with a 25 percent loss of productivity, and an 86.4 percent chance of mild cognitive impairment with a 5 percent loss of productivity).

25. Malnutrition also entails wasted resources in the health and education systems. Children who are malnourished have greater needs for health care, and are more likely to repeat school years or to drop out of school. Children with underweight use outpatient services more frequently than do children with normal weights. For young children, in general, malnutrition, leads to a vicious cycle, with impaired immunity leading to infection with attendant loss of appetite and increased catabolism and, thus, increased likelihood of additional malnutrition. Increased morbidity has direct resource costs in terms of health care services as well as lost employment or schooling for the care givers. The magnitudes of these costs differ according to the country's medical system, markets and policies. Children with underweight use outpatient services more frequently than do children with normal weights.

26. Such increased morbidity has direct and immediate costs, as well as indirect costs due to the associated malnutrition. However, the analysis was not able to find estimates of all resource costs of such illnesses and related medical care. The cost of illness in term of clinical attendance and hospitalization was only estimated based on Ascobat (2003) calculation, but these are likely to be substantial understatements of resource costs because in that most developing economies medical care is subsidized and such costs do not include the opportunity costs of care givers who are likely to be diverted from other activities because of childrens' illnesses. For the basic estimates, therefore, we estimate that the average cost of health one time clinic attendance is around $1.56 and $15.63 for one day hospitalization.

27. Numerous studies have shown that improvements in nutrition have a significant effect on the population's productivity. This is true for people working, both within and outside the home, and studying. However, there have been few studies done in Indonesia on the relationship between health and nutrition status and productivity. Therefore, this analysis does not attempt to quantify all economic gains and only provides conservative estimates based on benefit streams that can be quantified. For the purpose of cost-benefit analysis, some of the economic benefits of the Project, which are quantifiable in economic terms, might be divided into two categories: productivity gains and resource cost savings. Productivity gains are the result of the future lives lost of children that would have otherwise been utilized in some economic activity. Future productivity losses occur due to the death of a potential worker. Beyond the issue of increased mortality, malnutrition increases the risk of illnesses that impair the welfare of survivors. This relationship between nutrition and both infections and chronic diseases can be traced through different parts of the lifecycle. Children with underweight use outpatient services more frequently than do children with normal weights.

B. Project Costs

28. As mentioned before the analysis was carried out in constant 2005 prices, with domestic priced uses as numeraire. Economic value of the project benefits and costs were calculated based on the annual project cost disbursement. Incremental recurrent cost was estimated at about 0.5% of civil work costs and 2% of component costs. Tradable good of capital was adjusted by a shadow exchange rate factor (SERF) of 1.11 with proportion of tradable good are about 27% of project costs. Data presented in the Table 6 give the estimated economic value of the project costs.

Tabel 6. Estimated Financial and Economic Value of the Project Costs over Life Span of the Project Impact (in Thousand Dollars)

Indicator	Year							Total
	1	2	3	4	5	6	7-20	
A. Financial Costs								
1. Investment Costs	5,777	14,443	17,331	11,554	5,777	2,889	0	57,771
2. Recurrent Costs	393	982	1,178	786	393	196	3,534	7,462
3. Physical Contingencies	66	164	197	131	66	33	0	657
4. Interest & Commitment	38	173	339	920	1,093	1,207	0	3,770
Total Financial Costs	6,273	15,762	19,046	13,391	7,329	4,324	3,534	69,660
B. Economic Costs								
1. Tradable Goods								
a. Financial Value	1,882	4,729	5,714	4,017	2,199	1,297	0	19,838
b. Economic Value	2,089	5,249	6,342	4,459	2,441	1,440	0	22,020
c. Non Tradable Goods	4,391	11,034	13,332	9,374	5,130	3,027	3,534	49,822
Total Economic Costs	6,480	16,282	19,674	13,833	7,571	4,467	3,534	71,842

29. Public funds used for investment come at a premium because of the distortionary effects of the taxes needed to collect them. Public investment will not induce distortionary tax effects if the investment is financed through borrowing and the project output is priced to achieve full cost recovery. However, such is not the case with the project. Although the capital investment is financed through borrowing, project output will be heavily subsidized and full cost recovery is not planned. Therefore, debt servicing will be financed through incremental taxation and this taxation will introduce incremental distortions at some future date. The economic cost of the distortionary effects of the taxes is not included in the economic analysis because of the lack of data to quantify it. However, the economic cost is likely not substantial because borrowings to finance the project are concessional with a grace period. Thus, any distortionary effects that may occur are heavily discounted and did not have a significant impact on the economic analysis.

30. The Project will require additional resources to cover operating and maintenance costs. It is assumed that for each dollar spent on investment, an additional per year is

spent on maintenance and providing basic supplies to new facilities. Recurrent costs associated with the purchase of new supplies are also included. Training leads to an increase in wages and subsequently to higher recurrent costs. Contracting is essentially a recurrent cost and it is assumed that the cost will remain constant in real terms after the Project is completed. The cost of administration of the Project, including the Ministry of Health's cost in administering the loan, the cost of consultants, and monitoring and evaluation of the Project are also included as components of the recurrent cost.

III. COST EFFECTIVENESS ANALYSIS

31. Cost-Effectiveness Analysis (CEA) is one of the economic methods which can be used to evaluate health and nutrition services. Other approaches rely on different measures of health intervention effectiveness. For CEA, health effects are measured in physical units, such as the number of children fully immunized, the number of cases of disease prevented or treated, and the number of deaths averted. These output measures may or may not correspond directly with actual health benefits.

32. Current best estimates for the cost-effectiveness of nutrition programmes confirm previous findings as presented on the Table 5 bellow. The cost-effectiveness of various key nutrition interventions has been assessed. Costs per death averted by breastfeeding promotion and IEC (PEM) are estimated as US$100-$300 in the poorest countries (Bangladesh, Cambodia, India, Viet Nam) and are also in the same range in Pakistan, which has surprisingly high levels of under nutrition given its higher per capita income. Supplementation is about ten times more costly than fortification, and hence is most appropriate when the target group is less than 10% of the population; e.g., under 2-year-olds who are the target for vitamin A supplements. Supplementation is also the intervention of choice for population groups who cannot be reached by fortification. Estimated costs per death averted for vitamin A mega dosing are in the same range for all countries except for Sri Lanka, which has by far the lowest infant mortality rate in this group of countries (comparing across countries, costs per death averted are inversely related to levels of mortality). The estimated costs per death averted for iron supplementation are markedly higher than for other interventions, because maternal death rates are lower than infant mortality rates. Note, however, that iron supplementation also has effects on productivity.

33. The results again suggest that nutrition interventions in low income Asia are a high priority in terms of high benefit-cost ratios, and low costs per death averted as presented at Table 7. If programme costs are identical across countries, then the countries where interventions are of the highest priority are those with highest current death rates and prevalence's of nutrition deficiency: Bangladesh, Cambodia and Viet Nam, the poorest countries; and Pakistan, which also has surprisingly poor human resource indicators given its level of income. Indonesia is also a country of high priority, although the prevalence figures for micronutrient deficiencies appear to be underestimates.

34. Nutrition interventions are those program strategies and actions that are required to change behaviors in the household and community. Those interventions that target the six primary nutrition behaviors have been called the Minimum Package of nutrition interventions and are the core actions that should be implemented by all primary health care programs. Other nutrition behaviors and interventions, such as iron supplementation for young children, improved maternal diets during pregnancy, zinc supplementation, wheat fortification, and deworming, were reviewed for inclusion in the Minimum Package. These were not included either because of limited information on their efficacy in reducing infant and child morbidity and mortality universally, or because of limited data on feasibility and cost-effectiveness in most program settings. Other program activities such as growth monitoring and integrated management of childhood illness (IMCI) are considered delivery mechanisms that can be used to implement one or more of the Minimum Package interventions.

Table 7. Cost Effectiveness of Nutrition Interventions Based on The Type of Interventions.

Deficiency and Type of Interventions	Cost (US$)/Beneficiary/Year	Cost (US$)/Death Averted
Iron deficiency :		
- Supplementation of pregnant women	1.70 (per pregnancy)	800
- Fortification	0.09	2,000
Iodine deficiency :		
- Supplementation (reproductive age only)	0.50	1,250
- Supplementation (all)	0.50	4,650
- Fortification	0.05	1,000
Vitamin A deficiency		
- Supplementation <5	0.20	325
- Fortification	0.05-0.15	1,000
- Nutrition education	5.00	238

Source : Institute of Medicine (1998) *Prevention of Micronutrient Deficiencies*. Washington DC: National Academy Press.

35. The interventions in the Minimum Package are not new. Evidence of positive impact that has accumulated over the past two to three decades has led to a global commitment to implement them. These interventions are included in the World Summit for Children goals, International Conference of Nutrition (ICN) targets, and ICN follow-up activities by countries developing their own action plans. They have been demonstrated to be among the most cost-effective in reducing the global burden of disease (Horton et al. 1996; Jamison et al. 1993; Sanghvi 1993; World Bank 1993). For example, breastfeeding and vitamin A supplementation cost less per disability adjusted life year (DALY) gained than almost any other intervention (they appear close to the uppermost sloping line) and are low cost and therefore more affordable.

36. In the context of this cost-effectiveness analysis, the total present value of both costs and benefits of the project have been calculated and discounted the future at 3 percent, which is the usual rate for investments in the social sector. The analysis demonstrates how an economic analysis of an integrated nutrition program may be undertaken. The analysis began with establishing a sound rationale for the proposed project, then confirmed the cost effectiveness of the approach taken to achieve the objectives of the project. Cost effectiveness of the project was estimated based on a cost per death averted in which project was examined and it was further examined in terms of the returns it was expected to generate with respect to the economic resources invested.

Table 8. Total Cost, Death Averted and Cost-Effectiveness (CE) of the Project.

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Cost ('000 U$)	7,621	6,956	13,367	15,828	4,470	4,836	7,527	3,988	64,594
Death Averted	4,892	5,903	13,612	11,424	3,955	3,975	9,168	3,923	57,571
CE ($)	1,558	1,178	982	1,386	1,130	1,217	821	1,017	1,122

37. As presented in the Table 8 above, the project cost effectiveness of the total project areas was estimated around $1.122 per death averted ranging from $821 to $1.558 per death averted at project province level. Based on the data above, the project in West Nusa Tenggara Province was estimated as the most cost effectiveness intervention in term of cost per death averted. In general, in comparison to the current best estimates for the cost-effectiveness, based on these results of the project cost effectiveness analysis in term of cost per death averted, the project still appropriate to be considered as cost-effectively nutrition intervention.

38. Having discussed both the efficacy and effectiveness of different interventions, we conclude by considering processes for choosing and prioritizing actions to combat under nutrition in different situations. The choice will depend on the nature and distribution of the under nutrition problem, its causes and the type of resources which are available or mobilizable. In practice, no single intervention or mix of interventions should ever be prescribed in isolation from a participatory process of problem assessment, causal and capacity analysis and programme design. As mentioned in the project assumption that the analysis was aimed to assess the costs and impacts of an optimal design of food and nutrition services through integrated food and nutrition package as main component of the project. Therefore, it is important to state that the analysis of the cost-effectiveness of nutrition interventions is not as straightforward as is portrayed here. Context is important and so the nature of the problem, the ability to target and to minimize leakage, the level of capacity to implement the intervention, and the bundling together of interventions in the field, make it very difficult to make generic

statements about the cost-effectiveness of different types of intervention. All of these factors need to be taken into account more fully in the next wave of cost-effectiveness estimates.

IV. BENEFIT COST ANALYSIS AND ECONOMIC RATE OF RETURN

39. The economic benefits of the project as a health and nutrition project can be identified and valued, so it is possible to subject the project to a full cost-benefit analysis in which the values of health benefits are compared with project costs. Three criteria are commonly used to aggregate and compare benefits and costs: 1) economic net present value (NPV), 2) economic benefit-cost ratio (BCR), and 3) economic internal rate of return (EIRR). How ever, It has been the standard practice for ADB to use the EIRR criterion because not all investment opportunities are evaluated together and compared in terms of economic net present value. Thus, EIRR ensures that at least the project creates net benefits in excess of a discount rate representing the next best alternative project in the economy.

40. The general framework for calculating the EIRR of the project are as follows : a) determination of the appropriate price numeraire, where the domestic price is used as numeraire if most benefits and costs are non-tradable; b) identification and valuation of economic benefits of the project in terms of productivity gains and health care costs savings that are expected to be realized as well as economic costs to be invested and spent over the life of the project benefits; c) calculation of the net economic benefits and benefit cost ratio for each year; and d) calculation of the economic internal rate of return (EIRR) from the net economic benefit stream.

41. The economic benefits of the project were focused on productivity gains and resource cost savings. There may be other positive externalities that could be valued and included in the analysis as well. In order to estimate economic rate of return, the total present value of both the costs and the benefits have been calculated and discounted the future at 12 percent. The analysis covers so 20 years potential benefits and was carried out in constant 2005 prices, with domestic priced uses as numeraire.

Table 9. The Project Benefit Cost Ratio (BCR) and Economic Internal of Return (EIRR).

Indicator	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
Benefit ('000 $)	14,954	15,185	24,437	31,500	9,505	8,968	21,877	9,056	135,482
Cost ('000 $)	5,777	5,273	10,134	11,999	3,389	3,666	5,706	3,024	48,968
NPV	9,176	9,911	14,304	19,502	6,116	5,302	16,171	6,032	86,514
BCR	2.6	2.9	2.4	2.6	2.8	2.4	3.8	3.0	2.8
EIRR	24.5	27.3	21.1	25.8	26.4	22.2	39.3	29.0	26.6

42. The average net benefit cost ratio (BCR) of the project estimated around 3.0 at the total project areas ranging from 2.4 to 3.8 at project province level. Sequently, The average EIRR of the project was calculated of about 26.0 at project province level ranging from 21.1 to 39.3 percent at province level. In term of BCR, the lowest BCR will be achieved in Banten Province and South Sulawesi Province. The Project in Banten Province also was estimated has a lowest EIRR in comparison to other provinces.

V. SENSITIVITY ANALYSIS

43. The major benefits from the Project are in terms of productivity gained and health care cost saved. Even with these relatively conservative assumptions based on the best practises food and nutrition program at particular project area, the project yields a real EIRR of 26.0 percent. The EIRR is likely higher as future potential healthier workers are able to work more productively and earn a higher wage.

Table 10. Economic Internal Rate of Return (EIRR) of The Project Under Various Scenarios.

Scenario	Province								Total
	North Sumatra	East Sumatra	Banten	West Java	West Kaliman-tan	South Sulawesi	West Nusa Tenggara	East Nusa Tenggara	
I	24.5	27.3	21.1	25.8	26.4	22.2	39.3	29.0	26.6
II	20.9	13.9	17.8	21.8	22.7	18.8	15.9	7.1	18.2
III	13.0	15.4	6.2	8.5	14.6	11.4	39.3	29.0	15.3
IV	16.2	18.6	9.6	12.1	17.9	14.6	39.3	29.0	17.8

44. Table 10 presents the results of the alternative scenarios to test the sensitivity of the project to less optimistic assumptions. **Scenario I** is the standard scenario where formulation and implementation food and nutrition interventions of the project founded on the best possible practice standards specific to a particular province or district. In order to perform sensitivity of the project, the EIRR has been recalculated under 3 scenarios assumed that the uptake of the project is lower than expected. **Scenario II** assumes that the project coverage as basic assumption of the pro poor intervention is lower than expected that is around 15 % as average poverty rate of the nine project provinces. **Scenario III** assumes that the project efficacy at all province is similar with project efficacy in West Nusa Tenggara Province as the lowest project efficacy assumption, **Scenario IV** assumes that the project participation rate at all province will be similar with the lowest project participation assumption. Province as lowest project efficacy among provinces.

45. Base on the sensitivity of the project EIRR to the changing on project coverage, efficacy, and participation rate, even with the most pessimistic scenario assumption, the project still has a positive total economic rate of return of about 15.3 percent under the