



Grant Assistance Report

Project Number: 41059
February 2009

Proposed Grant Assistance Republic of Indonesia: Rice Fortification for the Poor (Financed by the Japan Fund for Poverty Reduction)

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 31 January 2009)

Currency Unit	–	rupiah (Rp)
Rp1.00	=	\$0.0000850
\$1.00	=	Rp11,770.00

ABBREVIATIONS

ADB	–	Asian Development Bank
BAPPENAS	–	Badan Perencanaan dan Pembangunan Nasional (National Development Planning Agency)
BPOM	–	Badan Pengawas Obat dan Makanan (National Agency for Drug and Food Control)
DHCN	–	Directorate of Health and Community Nutrition, Ministry of Health
DOLOG	–	PERUM BULOG Logistics Agency at Provincial level
EA	–	executing agency
EAR	–	estimated average requirement
IA	–	implementing agency
IDA	–	iron-deficiency anemia
IPB	–	Institut Pertanian Bogor (Bogor Agricultural University)
JFPR	–	Japan Fund for Poverty Reduction
KFI	–	Koalisi Fortifikasi Indonesia (Coalition for Fortification in Indonesia)
kg	–	kilogram
MOA	–	Ministry of Agriculture
MOH	–	Ministry of Health
MOHA	–	Ministry of Home Affairs
NGO	–	nongovernment organization
PERUM	–	Perusahaan Umum Badan Urusan Logistik (National Procurement Corporation)
BULOG	–	
PIU	–	project implementation unit
PMU	–	project management unit
RASKIN	–	Beras Untuk Keluarga Miskin (subsidized rice program for the poor)
SEAMEO	–	Southeast Asian Ministers of Education Organization
SUSENAS	–	National Social Economic Survey
TA	–	Technical Assistance
WHO	–	World Health Organization

NOTE

In this report, "\$" refers to US dollars.

Vice-President	C. Lawrence Greenwood, Jr., Operations 2
Director General	A. Thapan, Southeast Asia Department (SERD)
Director	S. Lateef, Social Sectors Division, SERD
Team leader	B. Lochmann, Senior Social Sector Specialist, SERD

JAPAN FUND FOR POVERTY REDUCTION (JFPR)

JFPR Grant Proposal

I. Basic Data

Name of Proposed Activity	Rice Fortification for the Poor
Country	Indonesia
Grant Amount Requested	\$2,000,000
Project Duration	3 years
Regional Grant	<input type="radio"/> Yes / <input checked="" type="radio"/> No
Grant Type	<input checked="" type="radio"/> Project / <input type="radio"/> Capacity building

II. Grant Development Objective(s) and Expected Key Performance Indicators

Grant Development Objectives:

The Project has for its goal the prevention and reduction of iron-deficiency anemia (IDA) among the poor in Indonesia. Its purpose is to assess the feasibility, cost, and impact of providing iron-fortified rice under the world's largest subsidized rice program for the poor (RASKIN). The specific objectives are to (i) identify the most-acceptable and cost-effective rice fortification technologies; (ii) build the capacity of rice mills contracted by the National Procurement Corporation (PERUM BULOG) to blend fortified rice concentrate with RASKIN rice; (iii) advocate support for the program with decision makers and raise awareness of the benefits of fortified rice among RASKIN recipients, local government, national decision makers, and the private sector; (iv) evaluate the impact of rice fortification; and (v) identify strategies for the sustainable expansion of rice fortification under the RASKIN program.

Expected Key Performance Indicators:

- (i) capacity to produce fortified rice built at six rice mills;
- (ii) 24,000 metric tons of quality-assured iron-fortified rice delivered to 800,000 people in two project areas over 12 months;
- (iii) daily intake of iron increased to 30%–50% of the World Health Organization (WHO) estimated average requirement (EAR) in the project areas;
- (iv) reduction of anemia prevalence (hemoglobin and serum ferritin levels) among RASKIN recipients in the project areas evaluated; and
- (v) financing and policy recommendations prepared for the expansion of rice fortification.

III. Grant Categories of Expenditure, Amounts, and Percentage of Expenditures

Category	Amount of Grant Allocated (\$)	Percentage of Expenditures
1. Equipment and Supplies	713,200	36
2. Training, Workshops, Seminars	241,200	12
3. Consulting Services	330,000	16
4. Management, Monitoring and Evaluation	173,400	9
5. Other Project Inputs	318,000	16
6. Contingencies	224,200	11
TOTAL	2,000,000	100
Incremental Cost	60,000	

JAPAN FUND FOR POVERTY REDUCTION

**JFPR Grant Proposal
Background Information**

A. Other Data	
Date of Submission of Application	1 September 2008
Project Officer	Barbara Lochmann, Senior Social Sector Specialist
Project Officer's Division, E-mail, Phone	Southeast Asia Social Sectors Division, blochmann@adb.org +63 2 632 5801
Other Staff Who Will Need Access to Edit/Review the Report	Joji Bautista, Administrative Assistant
Sector	Health and social protection
Subsector(s)	Nutrition
Theme	Social development
Subtheme(s)	Human development, other vulnerable groups
Targeting Classification	Targeted intervention—Millennium Development Goal 1
Was JFPR Seed Money used to prepare this grant proposal?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Have SRC comments been reflected in the proposal?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>]
Name of Associated ADB Financed Operation(s)	Loan 2348: Nutrition Improvement through Community Empowerment Project JFPR 9065: Enriching Lives of the Urban Poor through Food Fortification
Executing Agency	National Development Planning Agency (BAPPENAS)
Grant Implementing Agency(ies)	Directorate of Health and Community Nutrition of the National Development Planning Agency (BAPPENAS), in cooperation with the National Procurement Corporation (PERUM BULOG), PERUM BULOG Logistics Agency at Provincial level (DOLOG) in two project provinces, the Ministry of Agriculture (MOA), the National Agency for Drug and Food Control (BPOM), and the Ministry of Health (MOH)

B. Details of the Proposed Grant

1. Description of the Components, Monitorable Deliverables/Outcomes, and Implementation Timetable

Component A	
Component Name	Identify Appropriate Technology for Rice Fortification
Cost (\$)	300,000 (including contingencies)
Component Description	Over the first 10 months of project implementation, the aim is to develop detailed technical guidelines for rice fortification for the RASKIN program, a subsidized rice program for the poor. Activities in this component will define and build stakeholder consensus on the most appropriate fortification technologies. Specifically, they will (i) evaluate options for an iron fortificant compound including projected costs, efficacy, and consumer acceptance; (ii) define a proposed fortification level for RASKIN rice, sufficient to provide 30%–50% of the World Health Organization's (WHO's) estimated

	average requirement (EAR) for iron to RASKIN recipients; (iii) identify the capacity-building needs for the most cost-effective domestic production of fortified rice premix or concentrate; (iv) assess the training and equipment needs of rice mills supplying the RASKIN program; (v) reach a formal agreement for technical support with a technology partner experienced in the new extrusion technology for rice fortification; (vi) build awareness and consensus among partners for rice fortification including PERUM BULOG, MOA, BPOM, and MOH; (vii) establish the regulatory basis for iron fortification in the RASKIN program; and (viii) publish and disseminate technical guidelines for rice fortification in Indonesia. A major focus of these activities will be assessing the consumer acceptability of ferrous sulfate as an iron-fortificant compound. Ferrous sulfate offers superior bioavailability and is available at about half the cost of alternative iron compounds used in rice fortification.
Monitorable Deliverables/Outputs	(i) Appropriate rice fortification technology identified; (ii) Capacity-building needs assessed and training plan developed for rice mills supplying RASKIN rice in the project areas; and (iii) Technical guidelines developed for rice fortification.
Implementation of Major Activities: Number of months for grant activities	10 months

Component B	
Component Name	Capacity Building, Production and Distribution of Fortified Rice
Cost (\$)	815,200 (including contingencies)
Component Description	<p>The aim of this component is to build domestic capacity to produce fortified rice concentrate (premix) and provide equipment and training to six mills supplying the RASKIN program in the two pilot areas over the next 20 months of project implementation. There will be three main activities in this component.</p> <p>First, the Project will work with a local food company or institution experienced in extrusion processing such as in pasta, infant food, or snack food production. In cooperation with the identified technology partner, the Project will provide appropriate equipment, training, and quality assurance guidelines. An estimated 120–160 metric tons of fortified rice concentrate (the volume will depend on the specific technology selected in component A) will be produced. Second, six mills (four owned by PERUM BULOG and two contracted rice mills) in the pilot areas supplying rice to the RASKIN program will be equipped to fortify rice and their staff trained in the fortification technology. PERUM BULOG will offer these mills contract incentives to compensate for their added production costs and opportunity costs in supplying the pilot program and to guarantee timely milling, blending, and delivery of about 24,000 metric tons of fortified rice for 12 months. While incremental operational costs will be provided by the Project, incentives to guarantee the supply of fortified rice will be considered government counterpart contribution. The production of iron-fortified rice in these mills will be subjected to quality</p>

	assurance procedures at the district level by DOLOG and relevant agencies including BPOM. Third, in the two project areas rice warehouses will identify appropriate inventory, storage, and delivery processes including special tags for fortified-rice bags. DOLOG will oversee the delivery of about 14,000 metric tons of fortified rice to 12 villages covering an estimated 117,000 households in the rice-producing areas. An additional 10,000 metric tons of fortified rice will be shipped from the mills in the pilot area to a nonproducing district with 8–10 villages and a projected 83,000 households. Transport costs incurred will be considered part of the government counterpart contribution. Because transport costs will be borne by the RASKIN program, which does not own or operate its own vehicles, it will be important to identify a non-rice-producing district that is now being supplied from mills in the pilot area so that the transport costs do not add significantly to current transport costs. The villages selected must meet the following criteria: (i) committed local governments, (ii) large number of RASKIN recipients, and (iii) history of regular and full RASKIN distributions.
Monitorable Deliverables/Outputs	(i) Feasibility of rice fortification assessed; (ii) Costs and benefits of rice fortification assessed; (iii) Production of rice fortification established; and (iv) Quality assurance guidelines developed for rice fortification.
Implementation of Major Activities: Number of months for grant activities	20 months

Component C	
Component Name	Advocacy, Monitoring and Evaluation
Cost (\$)	487,100 (including contingencies)
Component Description	The aim of this component is to create awareness of the benefits of iron-fortified rice among decision makers in the national and local governments, and among RASKIN recipient households in the project areas. Throughout project implementation, advocacy will be carried out with the national and local governments, and the public and private sectors. Advocacy will be directed at village leaders in about 20 villages supplied with iron-fortified rice to ensure their participation in the program. RASKIN recipients will be informed through public education about the adverse affects of iron-deficiency anemia and the benefits of consuming iron-fortified rice. Through extensive monitoring and evaluation, data on health impact, cost-effectiveness, and consumer awareness and perception will be collected and analyzed. This process will include baseline and post-intervention biological assessment as well as consumer research and behavior change communication. The data will be used in analyzing costs and benefits, assessing sustainability, and determining evidence-based regulatory changes needed to facilitate the adoption of iron-fortified rice. Further, specific recommendations for expanding rice fortification in the RASKIN program will be prepared with the stakeholders. The results will be discussed and disseminated at workshops and consultation meetings with the public and private sectors, and two national roundtable meetings on rice fortification.

Monitorable Deliverables/Outputs	(i) Public awareness and information on the benefits of consuming fortified rice increased; (ii) Effectiveness data identified for policy development; (iii) Strategy developed for the expansion of rice fortification; and (iv) Two national roundtable meetings conducted.
Implementation of Major Activities: Number of months for grant activities	30 months

Component D	
Component Name	Grant Management, Monitoring and Audit
Cost (\$)	397,700 (including contingencies)
Component Description	This component will support the operations of a project management unit (PMU) and two project implementation units (PIUs) in each project area. The PMU will be established in the Directorate of Health and Community Nutrition of BAPPENAS and will be responsible for (i) overseeing planning, administration, financing, procurement, training activities and coordinating with relevant stakeholders and the Asian Development Bank (ADB); and (ii) coordinating activities among local implementing partners including the rice mills, the PERUM BULOG warehouse, local governments, village leaders, community-based organizations, and other relevant project partners in the districts. Two PIUs will be based in DOLOG. This component will include inception and midterm reviews, consultations, and a national roundtable to discuss and disseminate the findings, analyses, and recommendations of the Project.
Monitorable Deliverables/Outputs	(i) Baseline and endline survey and evaluation conducted; (ii) Biological impact assessed; (iii) Midterm and final evaluation reports prepared; (iv) Three external audits conducted; and (v) At least one operations research activity carried out.
Implementation of Major Activities: Number of months for grant activities	36 months

2. Financing Plan for Proposed Grant to be Supported by JFPR

Funding Source	Amount (\$)
Japan Fund for Poverty Reduction	2,000,000
Government	220,440
Other Sources (Please identify)	0
Total	2,220,440

3. Background

1. Rising food prices in Asia are a concern in relation to income distribution, inflation, poverty, and malnutrition. Higher prices for rice in particular, the main staple food of the poor, will not only adversely affect the food and nutrition security¹ of poor households but may

¹ Food security is concerned with physical and economic access to food of sufficient quality and quantity in a culturally acceptable manner. Nutrition security is an outcome of good health, a healthy environment, and household food security. A family may be food-secure while some its members are nutritionally insecure.

increase poverty in the medium term.² More and more unable to purchase nutritious food that contains animal proteins and essential micronutrients, poor households are becoming increasingly malnourished. Adding iron, folic acid, vitamin A, and other micronutrients to commonly consumed foods such as rice is one of the most sustainable and cost-effective strategies for delivering key micronutrients to large populations of low-income and nutritionally at-risk groups.

2. Iron-deficiency anemia (IDA) is the most widely prevalent nutritional deficiency in the world. It can increase morbidity, stunt physical growth, impair cognitive maturation, and delay psychomotor development. IDA has a direct impact on poverty, especially through its impact on school participation and learning. Therefore, it is a key indicator of the intergenerational transmission of poverty. In Indonesia, more than 55% of children below 24 months have IDA. This trend correlates with the low quality of complementary foods consumed by young children in poor families. IDA prevalence has been estimated at 50% among adult women—38% to 72% among those who are pregnant—and at 20% among adult men. The national average prevalence is 63.5%; in children 12–23 months, it varies between 65% and 85%.

3. The main causes of anemia in Indonesia are inadequate iron intake and low bioavailability of dietary iron. Reduced intake of dietary iron has been correlated with an increased prevalence of anemia among children aged 0–35 months and women of reproductive age. Indonesians eat only small amounts of iron-rich foods such as animal proteins, which only the better-off can afford to buy. For more than 22 million children, anemia is associated with a loss of 5–15 IQ points, poor school performance, and a 2.5% loss in discounted future earnings.

4. **Current Interventions to Combat Iron-Deficiency Anemia.** Several interventions, such as iron supplementation and iron fortification of wheat flour, are in place. But, to combat IDA, a number of challenges must be met. Iron in wheat flour reaches only a small segment of consumers with relatively low daily consumption. Financial, logistic, and compliance barriers stand in the way of national nutrition programs working to reach tens of millions of those nutritionally at risk with daily or weekly supplementation that will provide proper iron nutrition and protection against anemia.

5. **The Government's Rice Program for the Poor (RASKIN).** At the onset of the Asian financial crisis in 1997, the central Government launched a targeted national rice subsidy program for the poor, RASKIN, to cushion the effects of rising prices and declining employment. The National Procurement Corporation (PERUM BULOG) procures rice and hands it over to local governments for delivery to poor families. The RASKIN program complements other PERUM BULOG operations to stabilize the price of rice. In April 2008, the Government expanded the RASKIN program to cover 19.1 million families with a subsidized rice allocation of 15 kilograms (kg) each per month, up from a monthly allocation of 10 kg per family for 15.8 million families.

6. **Iron Fortification of Food in Indonesia.** Indonesia has been producing iron-fortified wheat flour since 2000. Although consumption has not been studied on a large scale, wheat flour fortification is assumed to be inadequate for improving the iron status of the poor, since only 30% of them eat wheat flour-based products and consumption is generally thought to be less than 1 kg per month. Rice is the most widely consumed staple food in Indonesia: about

² The overall impact of rising food prices on poverty depends on several factors such as the extent to which world market prices make themselves felt through domestic prices and the effect of food price increases on real wages among the poor. But urban households are likely to be hit harder than rural households.

98% of the people eat rice and they consume more than 100 kg on average per year. Poor households consume less animal proteins and are more prone to anemia as a result (National Social Economic Survey (SUSENAS) 1996, 1999, 2002). Therefore, rice is a suitable vehicle for iron fortification to combat anemia.

7. **New Technologies for Rice Fortification.** Strategies appropriate for Asia have been explored for more than a decade, but the attempts have not succeeded because of several constraints. First, rice milling and distribution is decentralized in most countries in the region. Hence, fortification technology is expensive and difficult to disseminate, and quality assurance poses problems. Second, the standard technology used in rice fortification, mixing fortificant powder with or spray-coating the rice,³ is not effective because people wash rice before cooking. Analyses have shown that almost all fortificants are lost during washing and cooking. Other technologies using solvents to coat the premix onto the rice kernel protect against some of these losses but cause discoloration and consumer rejection. Besides, the chemicals used are thought to be harmful to health and are banned in many countries. Third, commonly used water-soluble compounds such as ferrous sulfate are more bioavailable but are also highly reactive, often producing oxidation and unacceptable color changes in the rice.

8. New technologies developed over the past decade show promising results for application in Asia. An extrusion process allows low-cost broken rice to be milled into rice flour, enriched with vitamins and minerals, and recomposed into fortified “faux rice kernels” with physical properties and characteristics almost identical to those of natural rice. The extruded fortified rice kernels offer a rice premix, or “concentrate,” which is mixed with ordinary rice to compose 0.5%–1% of the final product. The added vitamins and minerals encapsulated within the extruded rice kernels are stable in a range of conditions: less than 3% are lost during washing and cooking. In extensive testing the fortified rice has done very well, both in the physical stability of the kernels during the extrusion process as well as the stability of the nutrients during distribution, storage, and cooking. This product has also been shown to be effective in reducing anemia and is accepted by consumers. A recent trial in India showed about 50% less anemia among young children fed rice meals fortified with ground micronized ferric orthophosphate.⁴ The results of a recent efficacy trial⁵ in the Philippines revealed that iron-fortified rice, using either micronized ferric orthophosphate or ferrous sulfate, reduced anemia by about 50%. A number of nongovernment organizations (NGOs) and private companies are working to disseminate this extrusion-based rice fortification technology in Brazil, the People’s Republic of China (PRC), Colombia, India, and the Philippines. However, these activities are based on commercial business models targeting consumers who are well informed and willing to pay 5%–15% more for nutritious rice. The poor, who are most at risk of anemia, have yet to be comprehensively reached with this promising new technology.

9. The combination of record oil and commodity prices in January 2007 have excessively raised food prices and constrained expenditures among vulnerable groups, further endangering the food security of the poor. New strategies are needed to address the household food security of the poor and help put a stop to the vicious cycle of malnutrition and poverty. Rice fortification under RASKIN, one of the world’s largest public food programs, is an innovative new model that

³ This technology is widely used in the Philippines, where rice fortification is mandatory.

⁴ Moretti, Diego, Michael B. Zimmermann, Sumithra Muthayya, Prashanth Thankachan, Tung-Ching Lee, Anura V. Kurpad, and Richard F Hurrell. 2006. Extruded Rice Fortified with Micronized Ground Ferric Pyrophosphate Reduces Iron Deficiency in Indian Schoolchildren: A Double-Blind Randomized Controlled Trial. *The American Journal of Clinical Nutrition* 84 (4):822–829.

⁵ I. Angeles-Agdeppa et al. 2004. *Consumption of Rice Fortified with Selected Iron Fortificants Reduces Anemia Prevalence among Schoolchildren*. Manila: Food and Nutrition Research Institute.

holds the promise of preventing poverty and significantly reducing the burden of anemia among low-income groups.

4. Innovation

10. **A New Model for Improving the Food Security of Poor Households.** The Project will develop a new model for applying rice fortification technology to public health and nutrition programs. Current rice fortification initiatives are based on commercial, and hence profit-oriented, business models targeting high- and middle-income consumers, who are informed and willing to pay a premium for more nutritious rice. The poor, who are most dependent on rice and most at risk of anemia, have yet to be comprehensively reached. In the context of a subsidized rice distribution program such as RASKIN, the costs of fortification are not passed to the consumer and are borne by the Government. The Project will therefore develop lower-cost applications of rice fortification technologies, for example, through fortificant-compound premix production and packaging. In addition, the Project will develop cost-benefit evidence to demonstrate the potential returns on public investment in rice fortification.

11. **First Effectiveness Trial of Fortified Rice.** A number of NGOs and private companies have pilot-tested extrusion-based rice fortification technology in Brazil, the PRC, Colombia, India, and the Philippines. The pilot interventions have shown that fortified rice is acceptable to consumers and small efficacy trials have demonstrated significant reduction of anemia, but no large-scale effectiveness trial has been implemented so far. The Project will undertake an effectiveness trial among populations of about 800,000 people—the first time such operational data on the large-scale production, distribution, and consumption of fortified rice will be developed.

5. Sustainability

12. The Government has pursued a policy of rice price stabilization since the late 1960s, when price volatility on the international rice markets pushed local prices beyond world market prices (even after transportation costs were taken into account). The country has imposed trade barriers and tariffs and subsidized agricultural inputs to protect Indonesian rice production, the cornerstone of food security. To shield farmers from falling prices at harvest time, the Government sets a floor price and buys rice from farmers to keep the market afloat. At the same time, to protect consumers from local price surges, the Government releases rice onto the market at an established ceiling price. By lowering the import tariff, building up rice stocks, and banning exports, the Government has managed to protect domestic consumers against the food price surges experienced elsewhere in Asia. Indonesian rice production has become globally competitive because of rising world market rice prices. The Government nonetheless remains committed to domestic rice security and will continue to ban exports until a domestic production surplus of 3 million tons is achieved. With a combination of good weather and increased productivity, this target was achieved in 2008. At the same time, the RASKIN program enables the Government to meet its other priority objective of providing social protection for the poor.

13. The Project will address IDA in poor populations, thereby helping to improve the health and learning ability of children. Component 1 will test and identify the most cost-effective technology and appropriate partners for rice fortification. Component 2 will build government capacity to create and maintain an enabling environment for the nationwide expansion of rice fortification. Component 3 will focus on advocacy with decision makers and the creation of

consumer awareness of the benefits of iron-fortified rice, policy development, and the setting of standards to create a sustainable basis for rice fortification in Indonesia.

6. Participatory Approach

14. The Project will emphasize close cooperation between the National Development Planning Agency (BAPPENAS) and PERUM BULOG, the Ministry of Agriculture (MOA), the Ministry of Health (MOH), the National Agency for Drug and Food Control (BPOM), research institutions, the food industry, and civil society. The involvement of the Ministry of Trade will be crucial as the ministry is responsible for technology approval, licensing, fortificant authorization, standard setting, and monitoring. The relevant agencies, local government, NGOs, and local religious leaders will participate in the development of locally relevant advocacy programs. Rice fortification will succeed only if women are willing to feed fortified rice to their families and especially their children. Consumer acceptance trials and advocacy are at the core of the program. The trials are needed to develop a product suited to local rice preparation methods and taste. Women who are RASKIN recipients will be involved in the trials so that the most acceptable and appealing style is developed. The fortification advocacy program must be easily understood and informative, and must address women’s concerns about product safety and adherence to religious dietary laws.

Primary Beneficiaries and Other Affected Groups	Other Key Stakeholders
The Project will benefit poor households, the main beneficiaries of the RASKIN program in West Java.	The Project will strengthen collaboration between the public and private sectors. The support of district governments and district parliaments will also be critical in ensuring adequate future financing by local governments. The understanding and support of influential local leaders and grassroots organizations will be required to facilitate acceptance of the iron-fortified rice. The Project will collaborate with various institutions and universities such as the Bogor Agricultural University and the University of Indonesia–Southeast Asia Ministers of Education Organization. It is proposed that an independent impact evaluation be undertaken by an institution.

7. Coordination

15. The World Bank has no project in the nutrition or food fortification sector at present but supports the MOH in sector work on decentralization including nutrition. Neither the Japan International Cooperation Agency (JICA) nor the Japan Bank for International Cooperation (JBIC) is involved in the sector. The World Food Program (WFP) is very interested in the results of the pilot project, since it provides rice as part of its “food for work” programs. In the area of food fortification, the United Nations Children’s Fund (UNICEF) is directing its efforts at salt iodization. The scope and implementation of the proposed Project was discussed with the Embassy of Japan in Jakarta. As requested by the embassy, the mission leader confirmed on behalf of the Asian Development Bank (ADB) that no other organizations in Indonesia were financing such a pilot project. The signed memorandum of understanding was shared with the embassy.

8. Detailed Cost Table

16. The detailed cost estimates can be found in Appendix 1, and the funds flow arrangement in Appendix 2.

C. Link to ADB Strategy and ADB-Financed Operations

1. Link to ADB Strategy

17. ADB's country strategy and program 2006–2009 for Indonesia draws attention to the importance of investments to accelerate the attainment of the Millennium Development Goals (MDGs). The Project will deliver long-term gains in addressing iron deficiency, thus improving the nutrition and learning ability of children.

Document	Document Number	Date of Last Discussion	Objective
Country Strategy and Program (2006–2009): Indonesia		2006	Indonesia's principal challenge is still that of reducing poverty and eliminating the vulnerability of large sections of the population. ADB assists the Government in speeding up the achievement of the MDGs by giving priority to public expenditures on health, education, and water supply and sanitation, among others, and improving the quality, efficiency, and effectiveness of social service delivery.

2. Link to Specific ADB-Financed Operation

Project Name	Nutrition Improvement through Community Empowerment (NICE) Project
Project Number	38117
Date of Board Approval	31 August 2007
Loan Amount (\$ million)	50

3. Development Objective of the Associated ADB-Financed Operation

18. NICE is aimed at reducing malnutrition among children below 5 years and among pregnant and lactating women by strengthening the capacity of the central and local governments to manage nutrition services better. An output of NICE is the expansion and institutionalization of national food fortification programs including new ones like the vitamin A fortification of palm oil and in-home food fortification with multi-micronutrient fortificants for children 6–59 months. These new fortification methods are being pilot-tested under the Enriching Lives of the Urban Poor through Food Fortification project, the recipient of a grant from the Japan Fund for Poverty Reduction (JFPR).⁶

4. Main Components of the Associated ADB-Financed Operation

⁶ ADB. 2005. Proposed Grant Assistance to the Republic of Indonesia for Enriching Lives of the Urban Poor through Food Fortification. Manila (JFPR 9065, approved 14 March).

No.	Component Name	Brief Description
1	Institutional Development for Nutrition Policy and Programs	1.1 Improvement of institutional capacity to support the development of policies, protocols, and guidelines for food security, food safety, nutrition emergencies, and dietary guidelines 1.2 Nutrition surveillance
2	Integrated Nutrition Services	2.1 Strengthening of local nutrition services and referral 2.2 Community-based nutrition services
3	Community Empowerment for Nutrition	3.1 Mobilization of community facilitators 3.2 Provision of community nutrition packages
4	Food Fortification and Communication	4.1 Expansion and institutionalization of national food fortification programs 4.2 Expansion of new food fortification methods

5. Rationale for Grant Funding versus ADB Lending

19. While NICE has a food fortification component, its aim is to scale-up food fortification especially in areas of palm oil fortification and the utilization of local multi-micronutrient fortificants. The proposed project, on the other hand, will identify a cost-effective technology for the iron fortification of rice and will undertake the first effectiveness trial under large-scale production and distribution. The Government cannot finance pilot interventions with loan proceeds.

D. Implementation of the Proposed Grant

<p>1. Implementing Agency</p>	<p>Directorate of Health and Community Nutrition, BAPPENAS</p>
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20. The Executing Agency (EA) will be BAPPENAS, as it is responsible for national food and nutrition policies. It will provide overall strategy and policy guidance to the Project. The Implementing Agency (IA) will be the Directorate of Health and Community Nutrition (DHCN) of BAPPENAS. DHCN will administer and oversee project activities, facilitate coordination with the local government, and coordinate between the Project and ADB. The deputy for human resources and cultural affairs of BAPPENAS will be the project director. DHCN will work in close cooperation with BULOG and DOLOG, MOH, and MOA. A number of technical and research institutes and NGOs will provide technical assistance and guidance to the Project; among these will be the Coalition for Fortification in Indonesia (KFI), the Bogor Agricultural University (IPB), and the Southeast Asian Ministers of Education Organization (SEAMEO) Regional Center for Community Nutrition.

21. A central steering committee, co chaired by the BAPPENAS deputies for human resources and cultural affairs and for natural resources and environmental affairs and consisting of representatives from BULOG, DOLOGs, MOA, MOH, KFI, and the private sector food industry, will oversee project implementation. The steering committee will meet twice each year to discuss the progress of the Project. The technical committee, co chaired by the BAPPENAS directors for health and community nutrition and for food and agriculture, and composed of representatives from BULOG, Ministry of Home Affairs (MOHA), MOH, BPOM, MOA, and the private sector, will provide technical guidance to the project manager and the

project management unit (PMU). This committee will meet at least once each quarter.

22. The PMU, to be established in the DHCN, BAPPENAS, will oversee the technical and administrative aspects of project management. It will be responsible for overall planning, administration, financing, procurement, training, accounting, and disbursement, and will coordinate between the central and local governments and between the Government, the contractors, and ADB. The PMU will have a full-time project manager and a full-time executive secretary. The project manager will be supported by at least four qualified technical staff with expertise in finance and grant administration, procurement, and monitoring and evaluation. International and national experts in rice fortification and milling, quality assurance, legislation and regulation, social mobilization, and communication, among others, will provide technical support to the PMU. These consultants will be supervised closely by the project director. The PMU will compile quarterly progress reports on the basis of inputs from the project implementation unit (PIUs) and submit comprehensive semiannual progress reports to ADB. The PMU will also prepare and submit an annual project review report, including a poverty impact assessment. A final report will be submitted within 2 months of project completion. The PIU, with the head of the district DOLOG as project coordinator, will be responsible for day-to-day project administration and project implementation, including advocacy and social mobilization, at the district level. The PIU will be composed of one full-time project officer, and two qualified part-time staff with expertise in procurement, quality assurance, and capacity building. The PIU staff will assist the national and international consultants and facilitate the implementation of components 2 and 3.

23. The Technical Assistance (TA) will require 5 person-months of international and 5 person-months of national consulting services. The consultants, with expertise in food fortification, legislation, and social marketing, will be hired individually by ADB according to its *Guidelines on the Use of Consultants* (2007, as amended from time to time).

24. KFI will provide overall technical advice to the Project and will be responsible for the development of technical guidelines. Operations research will be contracted to universities like IPB and University of Indonesia–SEAMEO.⁷ The Micronutrient Initiative has confirmed its readiness to support the pilot project with \$60,000, especially for technology transfer and advocacy.⁸ For the implementation of component 1, the EA and IA will jointly select an appropriate technology partner at project inception. The following technology partners have indicated an interest in participating in the pilot project: the Food and Nutrition Research Institute (Philippines), Buhler-DSM (People's Republic of China), PATH (US), and ILSI (Japan). The Project will be implemented over 3 years, from April 2009 to April 2012.

⁷ The Coalition for Fortification in Indonesia provides technical advice on all related food fortification strategies and projects in Indonesia. It has successfully supported the implementation of JFPR grant assistance for Enriching Lives of the Urban Poor through Food Fortification (footnote 6).

⁸ The Micronutrient Initiative has substantial experience in rice fortification.

2. Risks Affecting Grant Implementation

Type of Risk	Brief Description	Measure to Mitigate the Risk
Lack of awareness needed to invest in fortification	Decision makers in the public and private sectors are not aware of the benefits of food fortification.	The Project will finance an advocacy campaign among decision makers in the public and private sectors.
Affordability	Rice prices have been increasing.	Rice fortification through the Project will support the efficacy of the RASKIN program. Lower-cost technology will be considered in the rice fortification strategy to be adopted.

3. Incremental ADB Costs

Component	Incremental Bank Cost
Amount requested	\$60,000
Justification	Recruitment of consultants to prepare the grant implementation manual, background data, and information for the JFPR midterm review and roundtable meetings on rice fortification between the public and private sectors. Participation of the project officer in food and nutrition conferences to discuss results of the pilot project.
Type of work to be rendered by ADB	Coordination with rice fortification companies, food and nutrition research institutes, and specialized United Nations agencies including the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD). Participation in food and nutrition conferences to share the results of the pilot project. Review missions.

4. Monitoring and Evaluation

Key Performance Indicator	Reporting Mechanism	Plan and Timetable for Monitoring and Evaluation
Iron-deficiency anemia reduced in at least 60% of target households	Monitoring reports	Biological impact assessment; operations research; baseline and final evaluation
Daily intake of iron improved by at least 30% of the estimated average requirement	Results of operations research	Baseline and final evaluation; semiannual and annual reports
Six mills produce fortified rice	Monitoring reports	Semiannual and annual reports

5. Estimated Disbursement Schedule

Fiscal Year (FY)	Amount (\$)
FY2009	550,000
FY2010	900,000
FY2011	550,000
Total Disbursements	2,000,000

Appendixes

1. Design and Monitoring Framework
2. Summary Cost Table
3. Detailed Cost Estimates
4. Funds Flow Arrangement
5. Project Management and Implementation Structure
6. Summary Poverty Reduction and Social Strategy

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Reduced iron deficiency anemia among the poor	Prevalence of anemia among children under 5 years reduced from 48% in 2005 to 35% in 2011	Food and nutrition surveillance system Baseline and final survey	Assumption Fortified rice is regularly distributed under the RASKIN program Risk Overall food price increases will undermine the nutrition status of the population
Outcome Assessment of the feasibility, cost, and impact of providing iron-fortified rice under the RASKIN program in the project areas	At least 800,000 RASKIN beneficiary households consume fortified rice	Baseline and final survey	Assumption Government budget for RASKIN will be maintained Risk Trend of increasing rice prices will continue
Outputs Output 1: Identified appropriate rice fortification technology	At least two alternative technology options and their costs identified; formal agreement reached with a technology partner	Biannual project reviews	Assumption Low-cost technology is identified Risk Cost of effective technology
Output 2: Strengthened capacity for the production and fortification of fortified rice	At least 80% of RASKIN households increase their daily intake of iron to 30%–50% of WHO’s estimated average requirement Rice fortification technology adopted in at least six mills and staff trained in new technology	Baseline and final survey Biological impact assessment	Assumptions Target households consume fortified rice Low-cost fortification technology is accepted by millers
Output 3: Increased awareness of the benefits of fortified rice	At least 70% of target households know about the adverse impact of IDA Draft strategy for expanding rice fortification developed	Baseline and final survey	Assumptions Fully fortified rice will be available and consumed by target households Political and financial commitment of the Government to expand rice fortification

Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
Output 4: Strengthened grant implementation and monitoring and evaluation	Detailed implementation and monitoring guidelines are developed for the project implementation units	Project monitoring and evaluation reports	
<p>Activities with Milestones</p> <p>1. Identify Appropriate Rice Fortification Technology</p> <p>1.1. Recruit consultants (month 1).</p> <p>1.2. Conduct socialization workshops with public and private sector stakeholders (months 2–3).</p> <p>1.3. Evaluate options for introduction of iron fortificant compound (months 3–6).</p> <p>1.4. Assess projected costs and efficacy.</p> <p>1.5. Define proposed fortification level for RASKIN rice (month 4).</p> <p>1.6. Assess capacity-building needs for cost-effective rice fortification production (month 3).</p> <p>1.7. Develop technical guidelines for rice fortification (month 8).</p> <p>1.8. Reach agreement with a technology partner (month 6).</p> <p>2. Strengthen Capacity for the Production of Fortified Rice</p> <p>2.1. Recruit consultants (months 6–8).</p> <p>2.2. Provide blending equipment to six mills (month 8).</p> <p>2.3. Train milling staff in blending technology (months 9–11).</p> <p>2.4. Repackage fortified rice at warehouses (month 11).</p> <p>2.5. Develop quality assurance guidelines (month 10).</p> <p>2.6. Assess costs and benefits of rice fortification (month 30).</p> <p>3. Raise Awareness of the Benefits of Fortified Rice</p> <p>3.1. Recruit consultants (months 15–30).</p> <p>3.2. Undertake surveys on consumer awareness and perceptions (months 12–16).</p> <p>3.3. Organize workshops and roundtable meetings with public and private stakeholders (months 3–35).</p> <p>4. Strengthen Grant Implementation and Monitoring and Evaluation</p> <p>4.1. Conduct baseline and final surveys (months 2 and 30).</p> <p>4.2. Conduct biological impact assessment (months 30–33).</p> <p>4.3. Conduct three external audits (annually).</p> <p>4.4. Prepare midterm and final evaluation reports (months 15–30).</p>			<p>Inputs</p> <p>ADB/JFPR: \$2,000,000</p> <p>Government: \$220,440</p>

ADB = Asian Development Bank, IDA = iron deficiency anemia, JFPR = Japan Fund for Poverty Reduction, RASKIN = rice for the poor program; WHO = World Health Organization.

Table A1.1: SUMMARY COST TABLE
(\$)

Inputs/Expenditure Category	Component A: Assessment and Identification of New Technologies	Component B: Capacity Building, Production, and Distribution	Component C: Advocacy, Socialization, Evaluation, and Policy Development	Component D: Grant Management, Monitoring and Audit	Total (Input)	Share (%)
1. Civil Works	0	0	0	0		
2. Equipment and Supplies	10,000	623,200	80,000	0	713,200	36
3. Training, Workshops, Seminars, Public Campaigns	80,000	10,000	104,000	47,200	241,200	12
4. Consulting Services	40,000	120,000	55,000	115,000	330,000	16
5. Grant Management	0	0	0	173,400	173,400	9
6. Other Inputs	120,000	12,000	186,000	0	318,000	16
7. Contingencies (up to 10% of estimated grant fund)	50,000	50,000	62,100	62,100	224,200	11
Subtotal, JFPR Grant-Financed Government Contribution	300,000	815,200	487,100	397,700	2,000,000	100
Contributions from Other Donor(s) (e.g., NGOs, multilateral and bilateral agencies)	10,000	130,440	0	80,000	220,440	
Community Contributions (mostly in kind)	0	0	0	0	0	
Total Estimated Costs	310,000	945,640	487,100	477,700	2,220,440	
Incremental Costs					60,000	

JFPR = Japan Fund for Poverty Reduction, NGO = nongovernment organization.

Source: Asian Development Bank estimates

Table A1.2: DETAILED COST ESTIMATES
(\$)

Code	Supplies and Services Rendered	Unit	Quantity	Cost Per Unit	Total	Contributions	
						JFPR	
						Amount	Method of Procurement
Component A: Assessment and Identification of New Technologies							
1.1	Equipment and Supplies						
1.1.1	Publication of fortified rice guidelines (premix, blending, distribution)	publication	1	10,000	10,000	10,000	
1.2	Training, Workshops, and Seminars						
1.2.1	Stakeholder workshops: BULOG, MOH, BPOM, MOA	workshop	6	10,000	60,000	50,000	10,000
1.2.2	Communications/Workshops for technology partners	workshop	3	10,000	30,000	30,000	
1.3	Consulting Services						
1.3.1	Rice fortification consultant (international)	person-months	2	20,000	40,000	40,000	
1.4	Other Project Inputs						
1.4.1	Consumer acceptance trials	trail	4	5,000	20,000	20,000	
1.4.2	Efficacy trials with 2 selected technologies/compounds	trail	1	80,000	80,000	80,000	
1.4.3	Feasibility analysis of blending technologies for	study	1	10,000	10,000	10,000	
1.4.4	BULOG- contracted rice mills						
1.4.4	Testing of stability of fortified rice in BULOG warehouses	evaluation	1	10,000	10,000	10,000	
Component B: Capacity Building, Production, and Distribution							
2.1	Equipment and Supplies						
2.1.1	Blending and mixing equipment for fortification premix milling/extrusion capacity building	blender/mixer	1	250,000	250,000	250,000	
2.1.2	Blending capacity at mills	mills	6	20,000	120,000	120,000	
2.1.3	Iron fortificant (MT rice)	MT	24,000	2.8	67,200	67,200	
2.1.4	Labeling and bags for fortified rice	labels and bags	480,000	0.3	144,000	144,000	
2.1.5	Quality assurance and operations	mills/	24	500	12,000	12,000	
						765,200	130,440

Code	Supplies and Services Rendered	Unit	Quantity	Cost Per Unit	Total	Contributions		
						JFPR		
						Amount	Procurement	Government
2.1.6	for PIU, BPOM, and mills Operations (electricity, labor, and overhead at rice mills)	months mills	6	5,000	30,000	30,000		
2.2	Training, Workshops, and Seminars							
2.2.1	Training workshops for BULOG mills and quality assurance personnel	workshop	2	5,000	10,000	10,000		
2.3	Consulting Services							
2.3.1	Fortification consultant (international)	person- months	3	20,000	60,000	60,000		
2.3.3	Milling and quality assurance consultant	person- months	3	20,000	60,000	60,000		
2.4	Other Project Inputs (Specify)							
2.4.1	Contract guarantee for participating mills (for 12,000 MT of 24,000 MT)	custom order/MT	12,000	10.87	130,440	130,440		130,440
2.4.2	Mill electricity and overhead	mills	6	1,000	6,000	6,000		
2.4.3	Additional labor per mill @ \$10/day	days	750	8	6,000	6,000		
Component C:	Advocacy, Monitoring and Evaluation, and Scaling-Up				425,000	425,000		0
3.1	Equipment and Supplies							
3.1.1	Consumer Education	brochure	400,000	0.2	80,000	80,000		
3.2	Training, Workshops, and Seminars							
3.2.1	Advocacy with local governments	meeting	22	2,000	44,000	44,000		
3.2.2	Policy paper recommendations and workshops for policy development	lump sum			30,000	30,000		
3.2.3	Workshops for policy development	lump sum			30,000	30,000		
3.3	Consulting Services (e.g., for management and monitoring/assessments)							
3.3.1	Legislative regulatory consultant (national)	person- months	3	5,000	15,000	15,000		
3.3.2	Social marketing and advocacy consultant (national)	person- months	2	20,000	40,000	40,000		
3.4	Other Project Inputs (Specify)							

Code	Supplies and Services Rendered	Unit	Quantity	Cost Per Unit	Total	Contributions		
						JFPR		Government
						Amount	Method of Procurement	
3.4.1	Effectiveness evaluation	evaluation	2	38,000	76,000			
3.4.2	Parallel efficacy trial	trial	1	40,000	80,000			
3.4.3	Social mobilization in each project area	NGO	2	10,000	20,000			
3.4.4	Poverty assessment	study	2	5,000	10,000			
Component D: Grant Management, Monitoring, and Audit					415,600		80,000	
4.1	Training, Workshops, and Seminars							
4.1.1	Steering committee meetings	meeting	12	600	7,200			
4.1.2	Inception meeting	meeting	1	10,000	10,000			
4.1.3	Midterm review	meeting	1	10,000	10,000			
4.1.4	Final meeting	meeting	1	10,000	10,000			
4.1.5	National roundtable	meeting	1	15,000	15,000		5,000	
4.2	Consulting Services (e.g., for management and monitoring/assessments)							
4.2.1	Baseline survey and impact assessment (see component C)							
4.2.2	Final publication	report	1	10,000	40,000			
4.2.3	Final reporting	report	1	15,000	15,000			
4.3	External Audit	audit	3	20,000	60,000			
4.4	Management and Coordination of Project							
4.4.1	PMO staff (project coordinator, financial analyst, administrative assistant)	month	36	2,500	90,000		50,000	
4.4.2	PMO office/operational costs	month	36	1,000	36,000			
4.4.3	PIU staff (2 PIUs)	month	72	1,000	72,000			
4.4.4	PIU office/operations (2 PIUs)	month	72	500	36,000		25,000	
4.4.5	PMO/PIU travel	month	72	200	14,400			
4.4.7	Other project inputs (specify)							
	Subtotal, Components A to D				1,996,240		220,440	
	Contingency				224,200			
	Total Grant Costs				2,220,440		220,440	
	Incremental Costs				60,000			

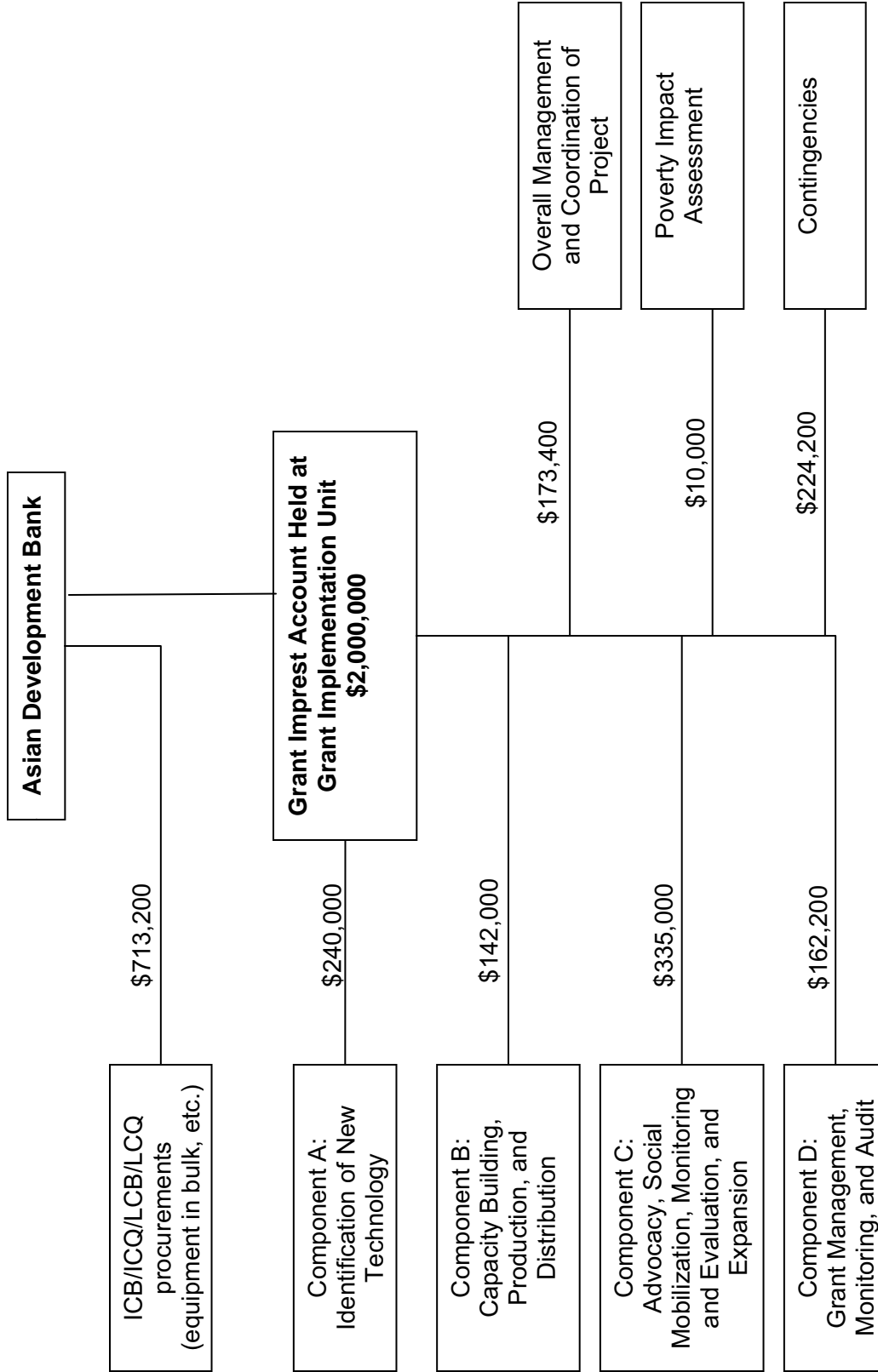
Code	Costs				Contributions			
	Supplies and Services Rendered	Unit	Quantity	Cost Per Unit	JFPR	Amount	Method of Procurement	Government
Total Incremental Costs								60,000

PERUM BULOG = National Procurement Corporation, BPOM = National Agency for Drug and Food Control, MOA = Ministry of Agriculture, MOH = Ministry of Health, MT = metric ton, PIU = project implementation unit, PMO = project management office, PMU = project management unit.
 Source: Asian Development Bank estimates.

FUNDS FLOW ARRANGEMENT

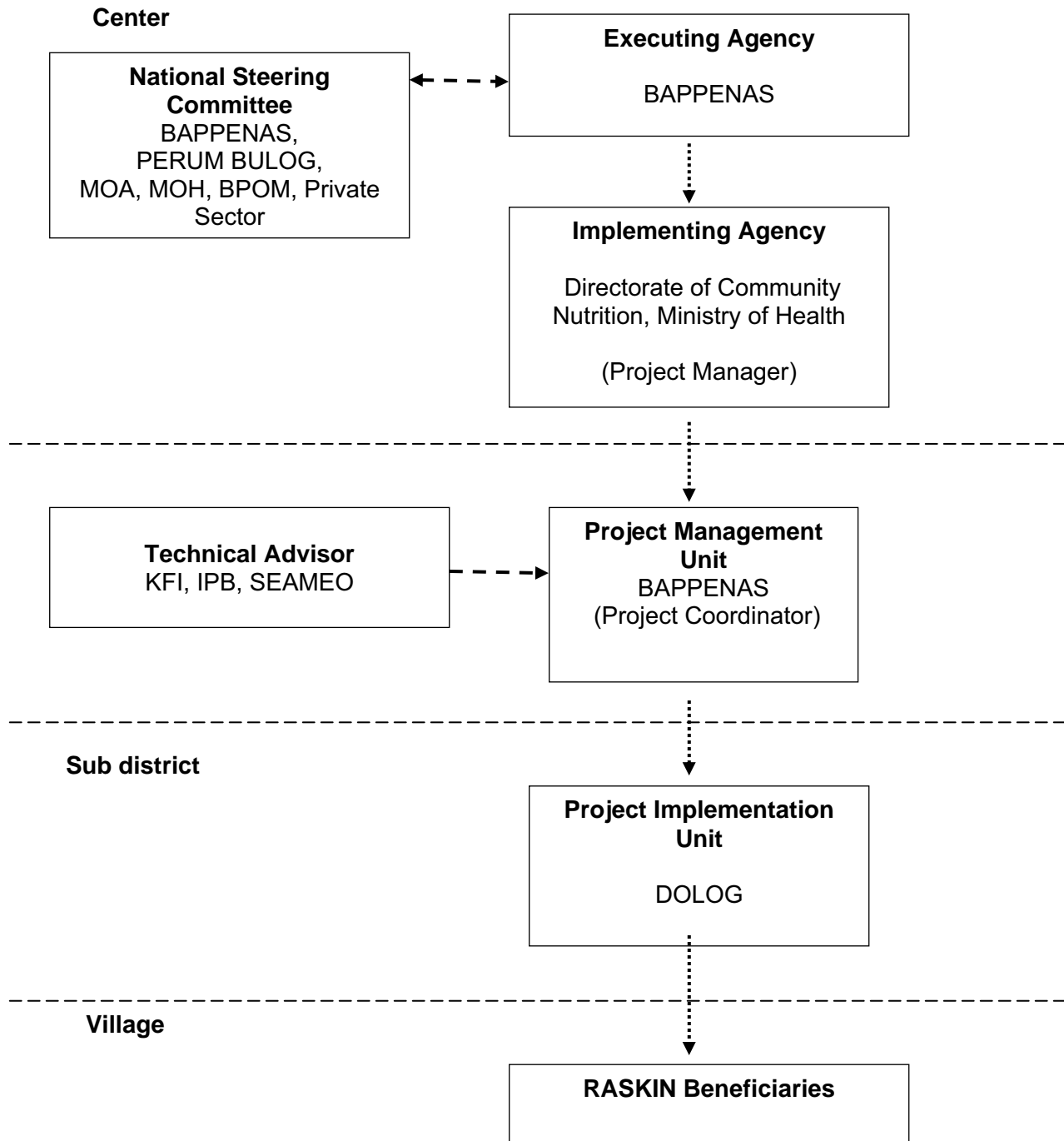
1. Funds will be disbursed under the terms of a contractual arrangement with the National Development Planning Agency (BAPPENAS), which will maintain an imprest account at a bank acceptable to the Asian Development Bank (ADB), for that purpose. The project management unit will channel funds to the project implementation units, following appropriate request and liquidation procedures. The imprest account will be established, managed, replenished, and liquidated according to ADB's *Loan Disbursement Handbook* (2007, as amended from time to time) and detailed arrangements agreed on between the Government and ADB. Total advances should not exceed ADB's estimated share of eligible project expenditures to be financed through the imprest account for the next 6 months or 10% of the grant, whichever is lower. The Executing Agency may request an initial advance from ADB on the basis of approved contracts and planned expenditures for the first 6 months of the Project that are to be paid through the imprest account. The initial advance, in any event, should not exceed the approved ceiling. The statement-of-expenditure (SOE) procedure will apply to all payments and transactions under \$5,000 to speed up project implementation. Detailed implementation arrangements, such as funds flow, replenishment, and administrative procedures, will be detailed in the grant implementation manual to be prepared before project inception and to be established between ADB and the Government through a letter of agreement from the Japan Fund for Poverty Reduction (JFPR).
2. The use of the imprest account and the SOE procedure will be audited annually by auditors acceptable to ADB, and a separate audit opinion on the use of the JFPR account should be included in annual reports. All procurement under the Project will be conducted according to ADB's *Procurement Guidelines* (2007, as amended from time to time). Consultants will be hired according to ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time) and other arrangements satisfactory to ADB for the hiring of national consultants.
3. Interest earned on the JFPR imprest account can be used for the Project subject to ADB's approval, within the approved total amount of the JFPR grant. Upon the completion of the Project and before the JFPR account is closed, any unused interest should be returned to the JFPR account maintained at ADB. If the remittance fee and other bank charges are higher than the amount of interest earned, there will be no need to return such interest to the JFPR account maintained at ADB.

Figure A2: Funds Flow Arrangements for the Project



ADB = Asian Development Bank, ICB = international competitive bidding, ICQ = international competitive quotation, LCB = local competitive bidding, LCQ = local competitive quotation.

PROJECT MANAGEMENT AND IMPLEMENTATION STRUCTURE



BAPPENAS = National Development Planning Agency, BPOM = National Agency for Drug and Food Control, PERUM BULOG = National Procurement Corporation, DOLOG = PERUM BULOG Logistics Agency at Provincial level, IPB = Bogor Agricultural University, KFI = Coalition for Fortification in Indonesia, MOA = Ministry of Agriculture, MOH = Ministry of Health, RASKIN = subsidized rice program for the poor, SEAMEO = Southeast Asian Ministers of Education Organization.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

Lending/Financing Modality:	JFPR Grant	Department/Division:	Southeast Asia Department Social Sectors Division
I. POVERTY ANALYSIS AND STRATEGY			
A. Links to the National Poverty Reduction Strategy and Country Partnership Strategy			
<p>Indonesia's long-term development plan for 2005–2025 considers nutrition a necessary and essential element of equitable and pro-poor growth. Specific measures intended to improve the nutritional status of pregnant women and young children are necessary for Indonesia to catch up with the human development achievements of its neighbors in the Association of Southeast Asian Nations (ASEAN). The development of a national food security system to ensure that households have enough nutritious food is one of the three pillars of equitable and pro-poor growth. Indonesia has adopted a basic-rights approach to poverty reduction in its medium-term plan (2005–2009). The right to food requires ensuring the adequacy of food for poor communities and groups that are vulnerable to economic and social uncertainties and to natural disasters. Ensuring the right to health services means, among others, prioritizing and overcoming the problems of poor communities, including low nutritional status. The Asian Development Bank's (ADB's) country strategy and program (2006–2009) for Indonesia highlights the importance of investments to accelerate the attainment of the Millennium Development Goals (MDGs). The Project supports MDG 1 (eradicating extreme poverty and hunger), MDG 4 (reducing child mortality), and MDG 5 (improving maternal health).</p>			
B. Poverty Analysis		Targeting Classification: TI-M	
<p>Undernutrition and anemia in adults undermines their work performance and health. Anemia is one of the causes of maternal deaths and child morbidity and mortality. It hampers the ability of children to learn and reduces their long-term productivity. One form of anemia is iron deficiency, caused by insufficient iron intake. About 50% of women and 20% of men in Indonesia are anemic.</p> <p>The Indonesian diet is low in iron-rich foods. Fish, pulses, and rice are the main sources of protein. Red meat and eggs are expensive sources of protein consumed in minuscule quantities by the bottom 60% of the population. Inadequate knowledge of nutrition and food preferences also results in under-consumption of other foods with relatively high iron content. Rice is the predominant starchy staple, accounting for more than 90% of household expenditures on grains and tubers across all expenditure quintiles. Adding micronutrients to commonly consumed food can be a sustainable and cost-effective strategy for addressing or preventing micronutrient deficiencies. Factors affecting success, sustainability, and cost-effectiveness include palatability or acceptance, technology, and the nature of production and distribution. Although Indonesians find fortified processed foods acceptable, their consumption of wheat products, which are iron-fortified, is low. Rice fortification has been implemented in the People's Republic of China, the Philippines, and other countries.</p> <p>In Indonesia and in other countries where rice is a staple, to eat is to eat rice. Only in a few areas of Indonesia is rice no longer the preferred staple food.^a Rice production is still accompanied by rituals to protect the rice harvest and the rice seed. To be able to eat rice is a sign of sufficiency. Indonesia's first poverty line, developed in 1975, was based on the per capita amount of rice required per year. The Government has pursued a policy of rice price stabilization since the late 1960s, when international rice prices were high and volatile. Indonesia has used trade barriers and tariffs and subsidized agricultural inputs to protect rice production, the cornerstone of food security. To protect farmers from falling prices during the harvest, the Government sets a floor price and purchases rice from farmers. To protect consumers from local price surges, the Government releases rice to the market at an established ceiling price.</p> <p>The National Procurement Corporation (PERUM BULOG) was established in 1967 as the sole rice</p>			

importer, responsible for maintaining national rice stocks, procuring and distributing rice to civil servants and the military, maintaining the floor price of rice by buying from farmers during the harvest, and releasing milled rice into the market to reduce price surges. Although PERUM BULOG is no longer the sole rice importer, it still has responsibility for national buffer stocks and for operations to maintain the floor price and protect consumers against price surges. In addition, PERUM BULOG is responsible for food the security of targeted vulnerable populations such as poor households and disaster victims. The subsidized rice program for the poor (RASKIN) evolved through PERUM BULOG's general market operations to stabilize consumer prices. In 1998, the first special market operation (Operasi Pasar Khusus) was implemented to provide subsidized rice to poor households as part of the Government's social safety net program. The RASKIN program is the modified continuation of the special market operations. PERUM BULOG procures and delivers rice to local governments for distribution to poor families. The RASKIN budget is based on National Statistical Agency calculations of the number of poor and the amount of subsidized rice provided per capita annually. Provincial and district allocations are based on the agency's estimate of the number of poor in the districts, and the district government's actual requests.

The district government is expected to cover the costs of delivering the rice to the household. Outside Java province, transport can be expensive; hence, monthly distribution is not possible and rice is distributed quarterly instead.

Targeting the poor presents several challenges. First, seasonal labor markets, price fluctuations, weather (good or bad crops), and unexpected expenditures push those who are vulnerable (60% of the population) back and forth across the poverty line. Second, poor households spend as they earn and find it difficult to buy large quantities of rice at one time. Some villages have local mechanisms to help the poorest households purchase their full quota of subsidized rice, but even this is not always possible because the number of recipients generally exceeds the village's quota. Third, the different definitions of poverty (based on expenditure versus physical characteristics) overlap. About 50% of households have incomes below \$2 a day. But overall, the program reaches poor households.

The prospect of long-term rice prices increases has led to efforts to increase overall rice productivity including raising farm gate prices and input subsidies. To offset the impact of rising rice prices on poor consumers, in April 2008 the Government expanded the RASKIN program to cover 19.1 million families with an allocation of 15 kilograms of subsidized rice per month per family, up from 10 kg per month per family for 15.8 million families previously.

Despite these challenges, the RASKIN enjoys popular and political support. RASKIN is perceived as delivering an essential good to poor and low-income households and more desirable than cash subsidies, which can easily be spent on nonessential goods.

II. SOCIAL ANALYSIS AND STRATEGY

A. Findings of Social Analysis

The poor recognize the signs of anemia and are generally aware of its causes. Anemia is referred to as not having enough blood. There are many popular remedies including eating raw eggs with honey and ginger and drinking a wide variety of commercial herbal tonics. Iron-fortified processed cereal for infants is sold in the supermarket but is affordable to only the top 20% of households. Women of childbearing age are advised of the importance of consuming iron-rich food and taking iron tablets during pregnancy. But for most low-income households affordability of iron-rich food is a problem. Nevertheless, as food plays an important role in traditional concepts of illness and their remedies, addressing anemia through the consumption of fortified food is one way to address iron deficiency anemia. Consumer acceptability trials will be required to match consumer taste and affordability. Advocacy programs will be developed to promote the consumption of fortified rice and ensure that it is safe and halal.

B. Consultation and Participation

1. Provide a summary of the consultation and participation process during the project preparation.

The request for the Project came from the National Development Planning Agency (BAPPENAS) and its preparation was achieved in close collaboration with PERUM BULOG, the ministries of health, agriculture,

and trade and industry, the National Agency for Drug and Food Control (BPOM), research institutions, and the private sector. The Embassy of Japan in Jakarta was consulted during the appraisal mission.

2. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?
 Information sharing Consultation Collaborative decision making Empowerment

3. Was a C&P plan prepared? Yes No

No explicit consultation and participation plan has been prepared. The relevant agencies and associations will review the results of the fortification trials and the proposed technology for producing the fortificant. The Ministry of Trade and the BPOM are responsible for technology approval, licensing, fortificant authorization, standard setting, and monitoring. The relevant agencies, local government, and specialized nongovernment organizations (NGOs) will help develop and disseminate information.

C. Gender and Development

Key Issues

Women must be willing to feed the fortified rice to their families and especially their children. Consumer acceptance trials and advocacy are at the core of the program. The consumer acceptance trials are needed to develop a product suited to local rice preparation methods and taste. Women who are RASKIN recipients will be involved in the trials. The advocacy interventions will address their concerns including product safety and adherence to religious dietary laws.

Key Actions. Measures included in the design to promote gender equality and women's empowerment—access to and use of relevant services, resources, assets, or opportunities and participation in decision-making process:
 Gender plan Other actions/measures No action/measure

Specific measures to develop and promote consumption of iron-fortified rice will focus on gaining consumer acceptance, meeting women's cooking preferences, and developing an information and communication campaign. Specialized NGOs will work on health education with local health officials, religious institutions, and other civic organizations.

III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS

Issue	Significant/Limited/ No Impact	Strategy to Address Issue	Plan or Other Measures Included in Design
Involuntary Resettlement	None		<input checked="" type="checkbox"/> No Action
Indigenous Peoples	None		<input checked="" type="checkbox"/> No Action
Labor	None		<input checked="" type="checkbox"/> No Action
Affordability	None		<input checked="" type="checkbox"/> No Action
Other Risks and/or Vulnerabilities	None		<input checked="" type="checkbox"/> No Action

IV. MONITORING AND EVALUATION

Are social indicators included in the design and monitoring framework to facilitate monitoring of social development activities and/or social impacts during project implementation? Yes No

^a Only 2% of the population does not consume rice as a main food staple. Parts of Papua still maintain a preference for tubers. In Central Maluku sago palm flour, a former traditional staple, is now consumed mainly on special occasions. Sago trees have become scarce as a result of land conversion from freshwater swamp to fishponds. The production of sago flour is labor-intensive and requires a great deal of water, and the flour does not store as well as rice. In Nusa Tenggara Timor and Nusa Tenggara Barat, rice is the preferred food but the less-expensive corn is consumed much of the year.

