

**ASIAN DEVELOPMENT BANK**

**JFPR:REG 00004**

**PROPOSED**

**GRANT ASSISTANCE**

**(Financed from the Japan Fund for Poverty Reduction)**

**TO**

**ASIAN COUNTRIES IN TRANSITION**

**FOR IMPROVING NUTRITION**

**FOR POOR MOTHERS AND CHILDREN**

**March 2001**

## ABBREVIATIONS

ACT	-	Asian countries in transition
ADB	-	Asian Development Bank
CPIU	-	Central Project Implementation Unit
DMC	-	developing member country
FSU	-	former Soviet Union
IDA	-	iron deficiency anemia
IDD	-	iodine deficiency disorders
JFPR	-	Japan Fund for Poverty Reduction
NGO	-	nongovernment organization
UNICEF	-	United Nations Children's Fund
WHO	-	World Health Organization

## NOTE

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

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## I. INTRODUCTION

1. Micronutrients are essential to the normal growth and development of the body and brain. The absence of iodine and iron nutrients, in the required amounts, can permanently impair brain development, growth, and the immune function. The World Bank estimates the economic cost of micronutrient malnutrition in developing countries to be at least a 5 percent loss of gross domestic product.<sup>1</sup> Poor dietary quality is the most common reason for these micronutrient deficiencies. Iodine deficiency disorders (IDD) and iron deficiency anemia (IDA) result from both the lack of food diversity and the lack of effective demand by the poor. Both causes of poor diets are at issue in the Asian countries in transition (ACT).<sup>2</sup> The Asian Development Bank (ADB) approached the five ACT countries and reached an agreement on their participation in the regional project described below.

## II. BACKGROUND AND RATIONALE

2. In ACT, the deteriorating nutrition situation is directly linked to the breakup of the former Soviet Union (FSU), and the subsequent withdrawal of food subsidies and breakdown of distribution networks to rural areas. Limited purchasing power has reduced the quality of affordable diets for the poor. The result is that hidden hunger has gradually deprived the citizens of ACT, especially mothers and young children, of nutrition adequate to ensure proper physical and mental development. Only two areas in the world are currently witnessing a rise in the proportion of children stunted due to malnutrition: ACT and sub-Saharan Africa. Micronutrient deficiencies, especially the lack of iodine and iron, usually accompany stunting and are rising to crisis levels. In some regions more than half of poor children and women of reproductive age are afflicted with IDA. Anemic women are more likely to die in pregnancy and childbirth (one fifth of maternal deaths may be due to severe IDA). IDA mothers give birth to infants whose psychomotor and cognitive skills are diminished or developmentally delayed.<sup>3</sup> An average of 13 IQ points is lost in iodine-deficient children living in areas where goiter is endemic.<sup>4</sup> One out of four ACT schoolchildren suffer from palpable goiter, suggesting that over half suffer from IQ-reducing severe to moderate iodine deficiency; there are pockets of IDD in ACT where the incidence among children is greater than 90 percent. In short, ACT face potentially catastrophic losses in human potential among women and young children.

3. Public health programs can provide supplements to certain groups for a short time, but they are neither comprehensive nor sustainable. The main solution lies in promoting iodized salt and iron-fortified wheat flour (two major staples in ACT) to combat IDD and IDA.<sup>5</sup> Cost-effective technologies can increase access of the poor to iodized salt and iron-fortified wheat. Fortifying salt with potassium iodate and wheat flour with iron costs an extra \$0.05 and \$0.09 per person per year respectively.<sup>6</sup> Fortifying both salt and flour will reduce maternal mortality and enhance cognitive development for young children.

4. Since the breakup of the FSU, centralized iodization of salt has collapsed, and the salt industry in ACT is in a state of disarray. Iodized salt from Ukraine, the major supplier for the whole region during the Soviet era, is no longer being imported; micronutrient-enriched food from Europe and elsewhere is not affordable to many; and national private sector industries have not been encouraged

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<sup>1</sup> World Bank 1994. *Enriching Lives: Overcoming Vitamin and Mineral Malnutrition in Developing Countries*. Development in Practice Series.

<sup>2</sup> The Republic of Kazakhstan, Kyrgyz Republic, Mongolia, Republic of Tajikistan, and Republic of Uzbekistan.

<sup>3</sup> IDA also causes prematurity, low birth weight, increased risk of morbidity through weakened immunity, and decreased capacity to work (reducing wages for adult workers). In addition to severe and moderate mental retardation, IDD causes stillbirths, spontaneous abortions, and prematurity, and contributes to stunting. See Levin et al. 1993. "Micronutrient Deficiency Disorders" in Jamison et al. *Disease Control Priorities in Developing Countries*. World Bank.

<sup>4</sup> Bleichrodt, N., and Born, M. 1991. *A Meta-analysis of Research on Iodine and its Relationship to Cognitive Development*.

<sup>5</sup> Dietary diversification through broad-based food policy and supplementation for high-risk groups remain options in an integrated strategy for eliminating micronutrient malnutrition, but both have their limitations.

<sup>6</sup> An iron-based flour premix with minerals is slightly more expensive, but highly cost-effective in reducing nutritional deficiencies and improving public health and educability of children.

to produce such products. Informal border trade has increased and swamped the salt and flour markets with nonfortified products. In addition, widespread closure of kindergartens eliminated the major delivery channel for health and nutrition programs.

5. What is needed is a system for retail marketing of iodized salt and fortified flour to poor consumers within each ACT. The level of expenditure needed to solve this problem is low, but quick changes are required to protect the future of a whole generation at risk.<sup>7</sup> Such an approach will allow for interregional resolution of transborder food trade issues, developing economies of scale in upgrading the processing and distribution facilities for iodized salt and fortified wheat flour, strengthening regulatory mechanisms for encouraging public-private sector partnerships in the interest of quality assurance and food safety, and direct targeting of micronutrient-fortified food products to the most affected and vulnerable populations.

6. The public and private sectors will be encouraged to work with nongovernment organizations (NGOs) and civil society to stimulate market promotion and regional investment, and strengthen capacities in industry and the public health service for production, marketing, regulation, and trade. Governments typically invest very little in monitoring food efficacy or maintaining quality assurance to enhance the nutritional quality and affordability of enriched foods. Targeting a program on poor mothers and their children supports cost-effective and equity-oriented social programs of ACT governments, and will initiate an innovative regional program with immediate and long-term direct benefits for the poor in the region. Increased mental acuity leads to life-long learning and earning.

### III. THE PROPOSED JFPR PROJECT

#### A. Objectives

7. The Project aims to improve the nutrition status and physical and mental capacity of the poor, by piloting an umbrella regional program for delivering micronutrient-fortified salt and wheat flour to the populations in the ACT region. The Project will particularly target poor women of reproductive age and children. It will (i) focus support on the poor currently afflicted or at risk, (ii) pilot related capacity-building processes for establishing a regional network of marketing, distribution, and rules of trade, and (iii) demonstrate the efficacy of a regional approach to solving a common nutrition problem that is depressing both human and economic development in the region. The project framework is presented in Appendix 1.

#### B. Scope

8. The Project will have four major components:

- (i) A Roundtable Conference. This will bring together representatives from ACT public health service agencies, the private sector (federations of flour millers and salt producers), NGOs that focus on women and children, representatives of external assistance agencies, and senior central and local government officials. The Roundtable will seek policy commitment and agreement on the essential requirements for fortifying salt and flour, upgrading regulatory and trade policies, enriching food for the poor, conducting population surveillance and food quality monitoring, and identifying potential follow-up activities including larger scale investment projects.
- (ii) Fortification of salt and flour. In selected pilot sites in poor areas, ACT governments will work with flour millers, bakers, and salt producers to upgrade processing and marketing technology (private-sector financed) to use micronutrient-enriched salt and

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<sup>7</sup> Asian Development Bank, 1998. *A Generation at Risk: Children in the Central Asian Republics of Kazakhstan and Kyrgyzstan*. 158 pages

wheat flour. The Project will finance a one-year supply of fortificants (potassium iodate and an iron-based premix) for salt and flour consumed by the poor. Both private companies and state-owned companies will be eligible for assistance if they intend to continue fortifying products after the Project.

- (iii) Support for regulatory authorities. Regulatory authorities will develop food-testing instruments and surveys for monitoring the enriched food program for mothers and children.
- (iv) Social marketing to create demand by the poor. This activity will be managed by NGOs to promote public awareness and acceptance of micronutrient–enriched salt and wheat flour, targeting poor consumers.

## **C. Costs and Financing**

9. The total cost of the Project is estimated at \$6.24 million equivalent, of which \$6.0 million will be financed on a grant basis from the Japan Fund for Poverty Reduction, funded by the Government of Japan (Appendix 2). Participating ACT governments at the national and local levels, NGOs, and the private sector will finance the remaining \$240,000 equivalent, largely through contributions in kind. Parallel assistance for public education and surveillance may be available through the United Nations Children’s Fund (UNICEF), in its role as the lead development partner for the universal salt iodization initiative.

## **D. Implementation Arrangements**

### **1. Executing and Implementing Agencies**

10. The Project will commence in May 2001 and end in August 2002. It will be coordinated by the ADB. A central project implementation unit (CPIU) will be established in one participating DMC to coordinate project activities for all participants, and will be responsible for centralized procurement of equipment and fortificants. Each participating DMC will set up a project office and a steering committee for project oversight, comprising representatives from the ministries of finance, planning and investment, and health, as well as the private food industry and the NGO community. The core members of the committee will be invited to the Roundtable and the final project review. The ministries of health of the participating countries will be the executing agencies of national projects through project offices to which concerned government ministries, local governments, NGOs, and private sector organizations (associations for bakers, millers, and salt producers) will send representatives. DMC project offices will submit financial, progress, and project completion reports to the CPIU. The CPIU will monitor financial disbursement and project activities, and prepare consolidated project reports and consolidated financial statements. The ministries of health will be responsible for surveys, social marketing campaigns, surveillance, monitoring, and report preparation, in most cases through sub-contracting national organizations. An ADB Preparation Mission to participating DMCs will be fielded to firm up implementation arrangements, including identifying NGOs, establishing project offices and auditing procedures, and confirming counterpart funding arrangements.<sup>8</sup> The Roundtable will be organized by ADB, possibly with the assistance of the highly respected Institute of Nutrition, National Academy of Sciences in Kazakhstan, which is the regional World Health Organization (WHO) Collaborating Center.

11. The provision of fortified foods for poor children in prioritized pilot regions of ACT will be done through the private sector and NGOs as Implementing Agencies. Responsibility for the surveillance and monitoring component will be with the public health services in each participating country. The

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<sup>8</sup> A staff consultant fielded in December 2000 has provided the basis for selecting counterparts in the public and private sectors.

social marketing campaign will be implemented through NGOs in partnership with the respective governments (Appendix 3).

## **2. Linkage to Counterpart ACT Projects**

12. The Project will complement the poverty reduction and improved public health objectives of ongoing and proposed ADB projects in ACT, such as the Health Sector Development Program (Mongolia, 1996), Basic Education Project (Kazakhstan, 1997), Social Services Delivery and Finance Project (Kyrgyz Republic, 1999), Social Sector Rehabilitation Project (Tajikistan, 1999), and Community-Based Early Childhood Development Project (Kyrgyz Republic, 2002). Selected activities, such as social marketing, may be linked to those projects. ADB will consider additional investment projects (e.g. Uzbekistan) as elements of a long-term strategy to address the poverty of mothers and children in ACT. Investing in eliminating IDD will make education sectors in the region more productive by raising intelligence levels. Investments in education cannot be successful and policy reforms will not be sustainable if the mental development of poor children and their mothers is impeded due to micronutrient deficiencies.

## **3. Sustainability**

13. If fortifying salt and flour is successful, reinforced by regulatory policies, and accepted by poor consumers through effective social marketing, the small incremental costs will be absorbed by consumers. Substantial public and private savings will be generated due to reduced need for public health interventions, avoidance of costly remedial measures, and more cost-efficient education and health systems.

## **4. Community and NGO Involvement**

14. In each participating country, an NGO partnership agreement will be drafted to ensure that adequate consultation with communities is maintained, and that locally tailored messages are created and disseminated widely through formal and informal media. Shifts in consumer preferences to fortified salt and flour will be tested through follow-up surveys and focus group discussions. NGOs will be contracted to provide these services. In ACT, many governments promote child-focused NGOs. The Central Asia Child Development Network will assist in identifying suitable NGOs.

## **5. Procurement and Recruitment of Consultants**

15. Goods and services will be procured in accordance with ADB's *Guidelines for Procurement*. Project offices will be responsible for domestic procurement, disbursement, and financial management of the project resources. Joint procurement of essential food fortificants, food production equipment, dosifiers, and food safety and quality testing equipment will be used to maximize cost-effectiveness. In accordance with its *Guidelines on the Use of Consultants*, ADB will recruit six individual international consultants for 25 person months: 16 person-months for a project coordination and administration consultant; and 9 person months of short term consultants in the fields of: regional nutrition policy analysis, salt fortification technology, flour fortification technology, social marketing and communications; and regulatory and trade policy (Appendix 3).

## **6. Performance Monitoring Indicators**

16. Project offices in each participating ACT will monitor completion of agreed-upon activities, while ministries of health will monitor levels of food fortificants, certify food safety, and conduct baseline and end-of-project population surveys to assess the prevalence of nutrition deficiencies. NGOs will monitor shifts in consumer preferences and provide feedback on the acceptance of fortified foods.

## **7. Reporting**

17. Each project office will report on the financial and physical progress of the Project on a semi-annual basis, based on consolidated findings from quarterly reports submitted to the project offices by NGOs, food companies, and others. A final report will be submitted within two months of project completion.

### **E. Impact Assessment**

#### **1. Sustainable Poverty Reduction Impact**

18. ACT is experiencing a catastrophic loss of human intellectual potential: without rapid and effective response, today's children will be shorter, less educated, and less mentally acute than their parents. Experts warn that a whole generation is at risk. The Project will demonstrate, through a regional approach, one of the most effective ways to address human deprivation affecting young children. The proposed investments for universal iodized salt will meet the needs of the majority of poor women and children in ACT. Fortified flour will help poor women and children in areas where IDA is greater than 50 percent. The Project will thus make a tangible, substantial improvement in the health status of ACT's poor women and young children. Poverty will be reduced in the long run by raising intelligence, school achievement, adult productivity and wages, and the health of mothers who can care properly for their children. The social and poverty impact analysis appears in Appendix 4.

#### **2. Participatory Development Issues**

19. The Project will be implemented through three essential partnerships: (i) a public-private coalition will provide demonstration effects to motivate private sector investment by shifting ACT consumers' preferences to universal salt and flour fortification, thus helping to reduce poverty and hidden hunger among mothers and children; (ii) a partnership combining regional aid agencies and developing countries will generate awareness and stimulate policy and trade reforms for long-term improvements of child development in ACT; and (iii) a public sector-NGO partnership will involve NGOs in the social awareness campaign and distribution of fortified food.

### **F. Risks and Assurances**

20. The Project will build public-private, government-NGO, and intraregional partnerships. This approach carries risks to the success of the Project: (i) both the public and private sectors must recognize they have a role to play in sustaining high-quality, affordable foods, and must learn to work effectively together; (ii) some ACT central government agencies may initially be reluctant to work with NGOs and local governments in a participatory manner; and (iii) nationalistic sentiments in some ACT may impede effective regional cooperation. However, the governments in all participating countries share a strong social, gender, and child orientation, as well as a history of regional cooperation with regard to food and nutrition provide reassurance that initial difficulties will be resolved. All ACT governments see themselves as protectors of the mental and social development of their citizens, and are strongly committed to equality, child development, and safe motherhood.

## **IV. THE PRESIDENT'S RECOMMENDATION**

21. The President recommends that the Board approve ADB administering assistance to the governments of the Republic of Kazakhstan, Kyrgyz Republic, Mongolia, Republic of Tajikistan, and the Republic of Uzbekistan, in an amount not exceeding the equivalent of \$6,000,000, to be financed from the Japan Fund for Poverty Reduction on a grant basis, for the purpose of Improving Nutrition for Poor Mothers and Children.

### PROJECT FRAMEWORK

Design Summary	Performance Targets	Means of Verification	Assumptions and Risks
<p><b>1. Goal</b></p> <p>Reduce the prevalence of iodine deficiency disorders and iron deficiency anemia in Asian countries in transition (ACT), thereby reducing prevalence of poverty through raised intelligence, improved learning, and greater productivity</p>	<p>Reduced prevalence through epidemiological assessment in target regions</p>	<p>Epidemiological surveys by public health services</p>	
<p><b>2. Purpose</b></p> <p>Strengthen the food production capacity in ACT by providing the means to fortify salt and flour and regulate the food Sector appropriately</p>	<ul style="list-style-type: none"> <li>• Higher household consumption of fortified salt and flour</li> </ul>	<ul style="list-style-type: none"> <li>• Testing salt and flour fortificant levels at borders, markets, and households</li> <li>• Laboratory certification of food quality</li> </ul>	<ul style="list-style-type: none"> <li>• Inputs to food sector are siphoned off.</li> <li>• Regulatory authorities resist serious food. Inspection</li> </ul>
<p><b>3. Components/Outputs</b></p> <ul style="list-style-type: none"> <li>• Roundtable to reach consensus on regional standards for food fortification, marketing and trade</li> <li>• Supply of fortificants and equipment for fortifying salt and flour according to international best practice</li> <li>• Strengthen regulatory capacity for the food sector</li> </ul>	<ul style="list-style-type: none"> <li>• Agreement is reached with participating countries at the Roundtable on inputs and responsibilities for sustaining high-quality production and a transparent regulatory environment.</li> <li>• All salt companies produce iodized salt.</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly review of implementation progress</li> <li>• Inspection of food factories to assure proper use of equipment and monitor food quality</li> </ul>	<ul style="list-style-type: none"> <li>• Government counterpart commitments are ignored.</li> <li>• Supplied equipment is directed to other uses.</li> </ul>

(Reference in text: page 2, para. 7)

Design Summary	Performance Targets	Means of Verification	Assumptions and Risks
<ul style="list-style-type: none"> <li>Strengthen consumer demand through nongovernment organization (NGO) partnerships</li> </ul>	<ul style="list-style-type: none"> <li>All flour producers in high- anemia areas fortify flour with iron premix.</li> <li>Regulators carry out regular inspection of factories and food markets.</li> <li>Multimedia venues for social marketing are used.</li> </ul>	<ul style="list-style-type: none"> <li>Licensing and labeling of food products against tested food ingredients</li> <li>NGO reports</li> </ul>	<ul style="list-style-type: none"> <li>False labeling is not identified and penalized.</li> <li>Border inspections fail to restrict adulterated imports.</li> <li>NGOs are not permitted to use major media.</li> </ul>
<p><b>4. Activities/ Inputs</b></p> <ul style="list-style-type: none"> <li>Confirmation of participation sent and received</li> <li>Broader aid agency partnership sought with UN agencies, World Bank, and others</li> <li>Agreements with food companies, NGOs, and local government bodies</li> <li>Rapid assessment surveys of nutrition status, food ingredients, and trade</li> <li>Training programs for fortification technology, food inspection, and population surveillance</li> <li>Multimedia and focus group campaigns</li> </ul>	<ul style="list-style-type: none"> <li>Signed agreement with UN, bilaterals, World Bank on capacity building support for the ACT region</li> <li>Compliance with agreement by food companies, NGOs, and local governments</li> <li>At least two surveys of populations at risk per country</li> <li>Number of trained operatives in relevant sectors</li> <li>Formal and informal media spots on “fortified staples for the poor “double</li> <li>Focus groups target poor women and their children.</li> </ul>	<ul style="list-style-type: none"> <li>Coordination activities by ADB and aid partners to sustain momentum</li> <li>Participating countries monitor companies</li> <li>baseline and end of project surveillance of iodine deficiency disorders and iron deficiency anemia prevalence</li> <li>improved management of programs by trainees</li> <li>Media surveys</li> </ul>	<ul style="list-style-type: none"> <li>Aid agencies act independently.</li> <li>Agreements are not Honored.</li> <li>Intra and inter country surveys and surveillance are not conducted or are poorly executed.</li> <li>Training is not performance-related.</li> <li>Media impact is minimal because of poor messages or poor coverage.</li> </ul>

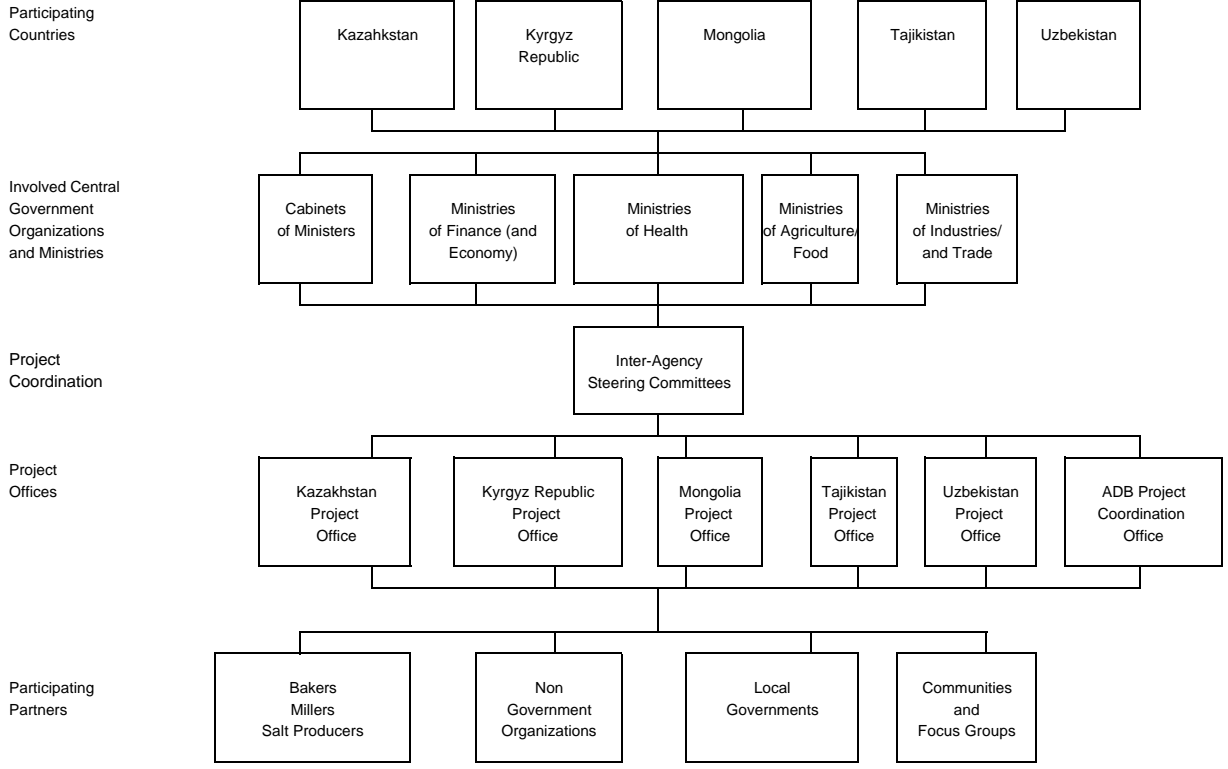
**Cost Estimates and Financing Plan  
(\$)**

Item	Total Cost
<b>A. JFPR Financing</b>	
<b>1. Roundtable Preparations and Conference</b>	
a. Consultants and studies	165,000
b. Travel expenses	87,000
c. Participation cost for observers and experts	30,000
d. Conference organization (translation services, hotel, per diem, others)	60,000
e. Special regional studies	28,000
<b>2. Fortification Inputs</b>	
a. Fortifiers	1,750,000
b. Equipment	2,250,000
<b>3. Regulatory Development</b>	
a. Food testing and sanitary inspection	270,000
b. Population surveillance and trade monitoring	330,000
<b>4. Social marketing campaigns and focus groups</b>	
a. Regional activities	60,000
b. National activities	525,000
c. Web site	16,000
<b>5. Project management</b>	
a. Consultants	87,000
b. Communication costs	23,000
c. Travel	48,000
d. Publication	26,000
e. Miscellaneous	50,000
<b>6. Contingencies</b>	195,000
<b>Subtotal (A)</b>	<b>6,000,000</b>
<b>B. Government /NGO/private sector financing (in kind)</b>	
a. Counterpart staff	120,000
b. Office equipment/space	90,000
c. Local transport	15,000
d. Contingencies	15,000
<b>Subtotal (B)</b>	<b>240,000</b>
<b>TOTAL</b>	<b>6,240,000</b>

JFPR = Japan Fund for Poverty Reduction, NGO = Nongovernment Organization

(Reference in text: page 3, para. 9)

### Organizational Structure of Implementation



(Reference in Text: page 3, para. 11)

## **Terms of Reference for Consultants**

ADB will recruit six consultants individually, in accordance with ADB *Guidelines on the Use of Consultants*.

### **Project Coordination and Administration (16 person-months)**

The project coordinator and administrator will coordinate project activities in all participating countries, and manage the central project implementation unit that will be responsible for centralized procurement of equipment and fortificants. The consultant will organize the roundtable conference with all participating DMCs and invited institutions, provide logistic support for ADB supervisory missions, and arrange for the preparation and review of audited imprest accounts by all participating DMCs. The consultant will coordinate and consolidate the periodic progress reports, and prepare the project completion report.

### **Regional Nutrition Policy Analyst (1.5 person-months)**

The regional nutrition policy analyst will prepare the keynote address for the regional Roundtable, consult with leading nutritionists and economic planning stakeholders in the participating DMCs, and assist the ADB project officer in preparing a regional strategy paper on future roles for the international assistance community.

### **Salt and Flour Fortification Technology Specialists (2.0 person-months each)**

The salt and flour fortification technology specialists will have broadly similar responsibilities, spread out over the course of the project. They will conduct a pre-Roundtable assessment of the salt and flour industries in participating DMCs, coordinate an industry-based working group at the Roundtable, participate as needed in one supervision mission and prepare a final report on project achievements in fortifying salt and flour, and proposed next steps. The consultants will prepare industry assessments that include an inventory of all major producers and their production capacities; recommend changes in production systems as needed; review consumption patterns and likely nutritional impact of expanded fortification; analyze pricing, subsidy or marketing constraints that would block affordable access to fortified flour and salt by most poor consumers; analyze the current system of monitoring product quality as well as fortified product certification, licensing and labeling; and recommend improvements in public sector practices to encourage sustained production, marketing, sales and trade of fortified products.

### **Social Marketing and Communications Specialist (2.0 person-months)**

The social marketing and communications specialist will assist DMCs in preparing a unified communications strategy in consultation with NGOs in each country; prepare and testing various approaches; provide an overview of social advocacy and public education campaigns to build community and consumer awareness of the benefits of fortified salt and flour and stimulate demand by the poor. The specialist will lead a public-private sector workshop at the Roundtable on message development and pre-testing methodologies, and advise during the course of the follow-on campaigns; and will assist the regional nutrition policy analyst in preparing the forward-looking regional strategy paper.

**Regulatory and Trade Policy Specialist (1.5 person- months)**

The regulatory and trade policy specialist will review the legal frameworks for food fortification in each DMC, identifying gaps in regulatory policy, and offer guidance from international experience on licensing, quality assurance, food standards, labeling and advertising, inspections, civil enforcement and legal penalties. The specialist will address the role of international law in protecting the consumers of the ACT region, including prevention of international transport of mislabeled or adulterated food products, with attendant sanctions, under the rules promulgated by the World Trade Organization.

## **SOCIAL AND POVERTY IMPACT ANALYSIS**

1. The proposed investments for universal iodized salt will meet the needs of the majority of poor women and children in Asian countries in transition (ACT). Fortified flour will help poor women and children in areas where iron deficiency anemia (IDA) is greater than 50 percent. The Project will thus have a tangible and immediate impact, substantially improving the health status of poor women and young children currently vulnerable to micronutrient deficiency, in ACT. Poverty incidence is highest where malnutrition is greatest: among internally displaced people, mountain areas, remote and civil war-affected areas, and smaller cities. The Project will focus on these regions and thus address both hidden hunger and poverty. The Project will directly improve the health of mothers who, with the erosion of the public social protection system, are the most important safety net in ACT for the proper care of children, the elderly, and the family. In the long run, the Project will be an effective intervention for reducing poverty on a sustainable basis by raising intelligence, improving achievement in schooling, and thus increasing adult wages.

2. The Project can realistically reduce the prevalence of iodine deficiency disorders (IDD) and IDA in ACT by at least 80 percent and 30 percent, respectively. The Project can come close to achieving universal salt iodization in ACT by rapidly modernizing the salt industry. Since the flour fortification intervention will be more selective, focusing on high-IDA endemic areas, the overall impact will be less, but it is realistic to expect halving of IDA in the targeted areas where the population consumes wheat products daily. Prevalence estimates in the table indicate the severity of the problem in ACT. Note that standard measure of iodine deficiency in school-age children (total goiter rate) understates IDD prevalence by a factor of two.

3. The poverty reduction impact will be dramatic. The IQ distribution of young children will shift upward by at least 10 percent; halving IDA among women in targeted areas will reduce maternal mortality by about 10 percent. Primary school dropouts will decrease and retention rates will increase, coupled with higher school achievement by children enjoying the benefits of fortified flour and salt.

**Table A4: Micronutrient Deficiency Prevalence  
Latest Estimate  
(percent)**

Item	Kazakhstan	Kyrgyz Republic	Mongolia	Tajikistan	Uzbekistan	Average Europe and Central Asia
Total Goiter Rate Among Primary School Children	20	20	21.4	>30 (severe)	18	18
IDD Prevalence	Increasing	Pockets up to 90	Increasing	Increasing	Increasing	
Iodized Salt Usage						
Urban			70		15	
Rural			12			
Iron Deficiency Anemia						
0-5 years	69	50	48.5		61	22
Newborn	39					
Pregnant Women			19.8	20		24
Women 15-49 years	49	38		60	60	

IDD = Iodine Deficiency Disorders

References: (i) World Bank, 2000. Prospects for Improving the Nutrition Situation in Eastern Europe and Central Asia; (ii) ADB, 2000. Kyrgyz Republic: Community-Based Early Childhood Development Project Preparatory Technical Assistance; (iii) various UNICEF sources.