

Process

Building capacity, consensus, and collaboration

In February 2000, the Asian Development Bank (ADB) convened the Manila Forum 2000⁸ to accelerate national efforts to fortify common basic foods with essential micronutrients in Asia and the Pacific. Multidisciplinary delegations from eight countries in the region gathered to learn from one another's experiences, identify needs for technical assistance, and test the need for regional and international support. The Forum suggested the need for multisector national teams to prepare investment programs, identify priority actions to create an enabling environment for fortification, and develop market mechanisms that could be self-sustaining over time. Regional consensus on fortification goals and strategies was recognized as the precursor to concerted national action.

Building directly on the Manila Forum, ADB worked in consultation with public- and private-sector leaders in the region to launch the Regional Initiative to Eliminate Micronutrient Malnutrition through Public-Private Partnership. This initiative was enabled through cofinancing by the Government of Japan, the Denmark International Development Agency, and the International Life Sciences Institute. It has endeavored to identify regional needs, build regional and national capacity, identify fortification priorities, develop appropriate projects, and craft Country Investment Plans (CIPs)

to attract the seed investments necessary to develop sustainable fortification markets that reach populations in need.

Five countries from the Manila Forum—India, Indonesia, People's Republic of China, Thailand, and Viet Nam—were joined by a sixth, Pakistan, in forming Country Teams that include government, industry, academia, and civic-sector organizations. The ADB asked the US-based Keystone Center to assemble an international team of specialists in relevant fields, including private- and public-sector investment, health and nutrition economics, communications, trade and legislation, quality assurance and food control, health surveillance, food technology, and consensus building—to assist the Country Teams with national planning and advocacy, design and lead regional workshops, and guide the development of the CIPs. (See Annex A for a complete list of project participants.)

The initiative used issue-specific workshops to promote the sharing of information and best practices, cultivate skills in investment planning, identify shared resource needs and strategic opportunities, and build skills in investment planning.⁹ (See Figure 2 for the timeline of key meetings and workshops.) In addition, ADB and the United Nations Children's Fund organized these countries' participation in the PRC's celebration of reaching almost universal salt iodization, and the Asian nations learned valuable lessons about scaling up their own salt programs to reduce iodine deficiency disorders.

⁸ ADB, *Manila Forum 2000: Strategies to Fortify Essential Foods in Asia and the Pacific* (Manila: ADB, 2002). A consensus statement signed by eight countries from Asia and the Pacific region declared readiness to work toward the regional adoption of processed foods that are compatible with the dietary needs of the poor and with internationally agreed-upon standards for the fortification, regulation, and trade of food products.

⁹ The Government of India participated in these workshops, but reserved its official opinion regarding the consensus statements.

The thorough consultative and technical assessment process undertaken by these parties has positioned the Country Teams for the successful implementation of the projects set forth in the CIPs, pending an appropriate mix of investments. Moreover, the process as executed has allowed for a regional perspective on problems that are sometimes perceived by individual countries to be unique to them. Understanding these crosscutting issues enabled the Country Teams to share experiences and discuss the possibility of regional efforts to overcome barriers to success.

The process of developing the CIPs emphasized four key elements.

1. **National ownership** of the CIPs by the Country Teams and their governments
2. **Collaboration among the public, private, and civic sectors** to gain the endorsement of industry, key national institutions, and NGOs, as well as the relevant government ministries
3. **Implementation**, each CIP presents realistic projects with a likelihood of success
4. **Regional capacity building and decision making**, common opportunities and challenges could be addressed with regional solutions

The remainder of this chapter provides detail on these four process elements.

National Ownership

While this project, like many development efforts, relied on consultants for technical assistance, the Country Teams themselves gathered the data, undertook the analysis, identified the priorities, and developed the CIPs. Capacity building of multisectoral national fortification teams and national ownership of the CIPs are at the heart of this project. Therefore, although the CIPs do not always follow the same format, they all reflect a national perception of opportunities and realities. For example:

- The Thailand CIP builds on a successful history of public-private collaboration to propose an official Nutrition Seal—a national, collaborative system to develop, market, assure the quality of, and monitor fortified foods.

- Closely knit with civil society, the Viet Nam CIP proposes novel partnerships with NGOs that provide powerful new channels to government and industry leaders as well as to consumers.
- To fortify wheat flour in the poor northwestern provinces of the country, the PRC's CIP grapples with the balance between vast potential health benefits and the realities of small community producers.
- Indonesia's CIP considers options to protect domestic millers that comply with mandatory flour regulations from a flood of nonfortified and less-expensive flour.
- The Pakistan CIP addresses complex governance issues and makes an innovative, albeit embryonic, proposal to deal with them in the context of a wheat fortification plan.

Collaboration Among the Public, Private, and Civic Sectors

At the project's Inception Meeting in August 2001, Country Teams reflecting the breadth of public, private, and civic society began a year-long commitment to conduct a national situation analysis, review data, consider policy and regulatory reforms, and undertake the financial analysis and initiate the political mobilization necessary to both write a CIP and make it a reality. In many cases, the formation and operation of these Country Teams evolved new relationships among government, industry, and academia. For example:

- In the PRC, the Public Nutrition Center of the State Planning and Development Commission began a serious dialogue with the wheat milling industry.
- The Viet Nam Women's Union (VWU) was brought into direct discussions on nutrition issues with the national Government and public health agencies of that country.
- The Indonesian wheat millers' association worked with Indonesian government agencies to develop a national marketing campaign.
- In Thailand, the Ministry of Public Health and Mahidol University opened a dialogue with the wheat milling and fish sauce industry associations, as well as specific companies.

- For the first time, an independent group of Pakistani economists provided an economic analysis of fortification for a range of government ministries, including those governing food and agriculture, health, and planning.

Implementation

The multisectoral collaborative approach enabled a focus on implementation. The integral involvement of industry made it possible to consider thoughtfully how each program would actually be developed, what timeline for action was possible, and how success would be measured. Discussions among a variety of stakeholders—which is still ongoing—yielded pragmatic, strategic, and sometimes opportunistic decisions. For example:

- The Vietnamese team concluded that oil and sugar fortification, while initially considered promising, failed the benefit-cost test under current conditions. (See Annex E for a complete discussion of the benefit-cost test.)
- The Pakistani team came to the reasonable conclusion that fortification of flour from *chakki* mills—small stone mills exclusively serving local markets—was simply not feasible, at least in the next 5 years.
- Testing by the Thai team concluded that vitamin A could not be cost-effectively added to dried broken rice, a promising product that reaches young children from 6 to 36 months. However, they found that the project would be cost-effective and feasible if four other vitamins and minerals vital to child growth were added.
- The Chinese team concluded that flour fortification should focus on specific regional markets prior to expanding to the national scale and that mandatory legislation could not be considered until the final stages of the 10-year plan.
- Indonesia concluded that, while palm oil fortification with vitamin A is uniquely appropriate for a nation with 50% VAD prevalence and one of the world's largest crude palm oil industries, product development and advocacy should precede any major investment.

Regional Capacity Building and Decision Making

As noted previously, ADB convened three regional, issue-specific, capacity-building workshops in Asia between August 2001 and October 2002—one each in Bangkok, Manila, and Singapore. At these workshops, the multidisciplinary Country Teams worked with ADB experts, a supporting team of technical consultants and facilitators from The Keystone Center, and several invited specialists and strategists to share information, build technical and analytical skills, and chart a course for the region. From these three workshops came consensus statements covering five general topic areas that outline common ground, endorse provisional fortification guidelines, make technical recommendations, and define regional and national actions necessary to accelerate fortification in Asia. The five topics are:

- legislation, regulation, and trade;
- quality assurance, food control, and nutrition surveillance;
- wheat flour and cooking oil fortification;
- regional cooperation and capacity building to support food fortification; and
- linking the expansion of processed complementary foods to public health services that optimize child growth for children under the age of 2.

Participants' key agreements on these topics are summarized in the following sections. Annex B contains the complete consensus statements.

The consensus statements emerged from a shared vision of micronutrient malnutrition as a serious public health problem and fortification as a key solution. The following are from the statement of the Bangkok Regional Workshop on Trade, Regulation, Surveillance, and Quality Assurance of Fortified Food Products:

- Micronutrient deficiencies are causing serious damage to social and economic development through poorer pregnancy outcomes, impaired cognition (especially in young children), reduced work capacity, and increased morbidity and mortality from infectious diseases.
- Food fortification offers an effective, low-cost, and sustainable approach to reducing the prevalence of these deficiencies.

“It should be public policy to make available to our populations foods fortified with...critical micronutrients.”

Bangkok Consensus Statement, April 2002

- Collaboration between government, private sector, and civil society is the key to sustained and effective implementation of food fortification to reduce micronutrient deficiencies. Mechanisms should be defined collaboratively that pass all costs of fortification programs to the consumer as soon as feasible.
- While additional research and development is needed to better define optimal fortification approaches, it is also recognized that *nutrition delayed is equivalent to nutrition denied*, and therefore countries of the region should move forward consistent with the current evidence and scientific consensus.
- Taxes and duties on inputs to fortification as well as taxes on domestically produced fortified food products should be minimized in the case of mandatory fortification programs.

Consensus on Quality Assurance, Food Control, and Nutrition Surveillance

Workshop participants recognized the need to build national and regional quality assurance capacity to ensure that food fortification efforts are effective, safe, and sustainable. Transparent food control monitoring and enforcement were recognized as essential.

Participants from the five countries¹⁰ urged their governments to initiate programs to empower inspectors and technicians. They felt this should include a range of incentives for food control personnel, as well as penalties to enable personnel to enforce laws fairly and transparently. A combination of improved recruitment, training, protocol development, and increased penalties should be implemented, with a view toward zero tolerance of corruption in the inspection force and in industry.

The technical consensus focused on regional cooperation and the harmonization of quality assurance and nutrition surveillance methodologies. Participants from government and industry agreed on food control and enforcement approaches that rely not only on punitive measures but also on positive incentives to the private sector for consistent performance meeting fortification quality standards. Representatives of government health departments and participants from academia and research institutions agreed on common regional protocols for nutrition monitoring, surveillance sampling frames, and biochemical indicators to produce reliable and regionally equivalent data on population micronutrient status. These guidelines for food control and nutrition surveillance provided a foundation for planning and budgeting these critical public functions in the CIPs.

Regional Consensus on Flour and Cooking Oil Fortification

Technical workshops focusing on the fortification of flour and oil set out a vision that all flour and edible

Regional Policy Consensus on Legislation, Regulation, and Trade

While open and clear communication with the private sector is critical, the Country Teams focused on the lead role of governments in establishing a trusting and enabling environment for food fortification. The consensus statements from the Bangkok and Manila workshops affirmed the following:

- National food laws and regulations should be reviewed and amended to ensure that they support and enable the addition of all essential micronutrients to appropriate food products.
- Public policies and regulations constraining or impeding investment in food fortification should be reviewed and amended.
- Appropriate intergovernmental and/or institutional mechanisms should be established to implement effective policy in concert with partners in industry and civil society.
- Countries should enhance current regulatory frameworks and build capacity to implement food control and enforcement functions in a systematic, transparent, and fair manner.
- National customs protocols and trade regulations should be revised or enacted to facilitate the import and export of certified and safe fortified foods.

¹⁰ Indonesia, Pakistan, PRC, Thailand, and Viet Nam. India reserved its opinion.

oils used in the preparation of staple foods, such as leavened and unleavened breads, noodles, pastas, biscuits, and other flour products, and consumed by at-risk populations in the region, should be fortified. Participants urged their governments to review regulations and policies that might impede the fortification of these products and recommended appropriate mechanisms for government cost sharing until such time as the costs of fortification can be fully passed on to the consumer. Perhaps most significant, the participants from government and private industry agreed on regional guidelines to provide a starting point for the consideration of flour fortification. The recommended basic fortification package for flour includes iron and folic acid, along with several other micronutrients commonly added to flour. (See Table 4.)

their consensus recommendations and the achievement of their shared vision. Participants recognized that the cost effectiveness and efficiency of cooperative arrangements among regional institutions would be critical to overcoming these barriers. The Country Teams' consensus recommendations include the development of regional technical capacity, including:

- a regional food control and quality assurance framework to accredit laboratories, develop and train inspectors and analysts, and promote fair and transparent regional trade;
- a regionwide framework for nutrition surveillance to develop common guidelines and offer an adequately staffed regional reference laboratory; and

TABLE 4: Basic Recommended Fortification Package for Flour¹¹

	White Flour (PPM)	Brown Flour (PPM)
Folic Acid	2.0	2.0
Iron	60.0	60.0
Riboflavin	4.0	
Thiamin	2.5	
Zinc	30.0	30.0

Participants also recommended that, where a public health need is demonstrated, niacin, vitamin B₆, vitamin B₁₂, calcium, and vitamin A be added at 25% of the recommended daily allowance (RDA). Participants from the private sector affirmed that fortification at these levels is technically feasible and that there are no capacity constraints within the industry. Similar guidelines were established for oil fortification with vitamins A and D.

Need for Regional Cooperation and Capacity Building to Support Food Fortification

The Country Teams acknowledged that resource and skill constraints could hinder the implementation of

- “centers of technical excellence” to undertake operational research and product development.

A crucial area for regional cooperation and investment is in the production, distribution, and quality assurance of fortificant and premix. The five CIPs describe an expanding and potentially huge market for vitamin and mineral fortificants—more than half a billion dollars over 10 years for the 10 proposed wheat, oil, and condiment fortification programs. In fact, the fortificant mixes themselves account for about 70% of all projected public- and private-sector fortification costs. (Table 5 shows the percentage for each of the 10 projects individually.) Securing consistent access to the least-cost, quality-assured fortificant was a priority topic at a number of workshops. Several consensus statements recommended that ADB and other relevant institutions explore investment in an expanding regional production complex—as well as strengthen

¹¹ The basic recommended fortification package for flour was negotiated at the Regional Workshop on Flour and Cooking Oil Fortification. The Consensus Statement which articulates the package can be found in Annex B.

TABLE 5: Cost of Fortificant Mix and Recurring Costs as a Percentage of Ten Year Projected Costs

	Projected Total Cost of Project Over Ten Years (\$)	Cost of Fortificant Mix Over Ten Years (\$)	Fortificant Mix as a Percentage of Total Cost (%)
Indonesia			
Wheat Flour	20,586,000	14,350,000	70
Cooking Oil	60,372,000	48,490,421	80
Pakistan			
Cooking Oil	35,833,000	31,107,220	87
Wheat Flour	165,594,000	137,415,000	83
PRC			
Wheat Flour	184,125,000	101,081,100	55
Soy Sauce	240,238,000	198,030,000	82
Thailand			
Fish Sauce	24,463,000	22,915,000	94
Wheat Flour	2,759,000	1,925,000	70
Viet Nam			
Fish Sauce	21,740,000	15,450,000	71
Wheat Flour	3,815,000	2,135,000	56
Total	759,525,000	572,898,741	75

regional and national public institutions to create an enabling and transparent business environment and a quality product.

Regional Consensus on Complementary Feeding

A workshop organized in collaboration with the International Life Sciences Institute (based in Washington, DC) and Mahidol University (based in Salaya, Thailand) focused on the critical need to improve the nutritional status of children from 6- to 24-months. While infants in developing countries start growth at average levels, between 6 and 24 months the deterioration of nutrition indicators is severe. It was recognized that children in this age group have the highest rates of micronutrient deficiency of any risk group. In addition to increasing the risk of death, micronutrient deficiency during these critical months reduces cognitive development and is clearly associated with lower performance in school and the workplace. In recognition of the special needs of these children, workshop participants urged governments to:

- establish national goals for the production and distribution of affordable complementary foods, and

- integrate fortified complementary foods into public health, development, and child nutrition programs.

Regional Public Goods for Health and Human Development

Regional public goods (RPGs) are increasingly seen as a viable option that developing countries and the donor community should use to address compelling problems with transnational scope. Infectious diseases that disrespect national borders, disputes over trade and fairness in international business practice, harmonizing regulations that govern the exchange of health goods and services (fortified foods and essential drugs are the most compelling examples), and establishing fair and consistent prices for essential goods at regional level, all are transboundary development challenges that call for solutions at a regional level.

RPGs respond to market failures, common among health-related policies and interventions, where investment particularly by the private sector may be constrained by disproportionate benefits accruing to the poor and lowered profits that are expected. RPGs stipulate the provision on nonrival benefits so that one country benefiting does not provide obstacles to another also benefiting.

Countries that do not pay for the RPG are not excluded from its benefits (i.e., benefits from an RPG are not held by a selective “club” of stakeholders, and are instead received by all parties). Also, RPGs reduce overall transaction costs for delivering benefits by spreading responsibility and building regional institutions that will assume the burden of sustained capacity building over the long term.

Trade and Health

The benefits of trade liberalization are often questioned, not least because of the impasse at the Cancun talks (September 2003) that stymied progress in reducing subsidies from the developed countries to agricultural products, among other areas. Nevertheless, all countries are permeable to the influences of globalization, and two essential commodities needed by the poor—processed (fortified) foods and medicines essential for delivery of primary health care—can benefit from trade because international standards of quality and transparent pricing and product labeling are required by the World Trade Organization agreements.

Creating an ASEAN-PRC Alliance for Nutritionally Fortified Foods

The recommended place to start is the influential Association of Southeast Asian Nations (ASEAN), an economic bloc of 10 countries that has recently signed a free-trade agreement with the PRC that could very well facilitate fair pricing, high quality, and universal access for commonly consumed commodities like processed foods and essential drugs. This could well spark an Asia-wide adoption of trade practices that will contribute to nutrition security and medical protection against fatal diseases for poor Asian families, especially their children.

Based in part on the findings of this study, food fortification is now recognized as an essential element of national food policies in Asian and Pacific countries to ensure nutrition security for all their citizens. Asia is poised to apply food science and

technology in the food industry and make strides in solving the lingering micronutrient deficiencies (vitamins and trace minerals) that impede human development (and indirectly economic development) on a massive scale. A mature food industry in Asia will soon be prepared to deliver micronutrients through fortified foods at the population level, substantially reduce maternal and young child deaths, and also help children achieve optimal physical growth and mental development at very low cost. The technical costs of production are not prohibitive, as this multicountry study demonstrates.

ADB has shown regional leadership in implementing fortification programs in Central Asia and helping mainland Asian countries define, through country investment plans, a niche for the food industry to improve the health of the poor, as well as the educability of their children, through the fortification of essential, commonly consumed foods. A variety of foods can deliver iron and reduce anemia (wheat flour, condiments such as soy and fish sauce and MSG), reduce vitamin A deficiency (cooking oils, margarine, sugar), reduce iodine (salt) and zinc deficiencies (wheat flour), and all forms of malnutrition with infants and very young children (through multiple micronutrient-enriched complementary foods).

The ASEAN-PRC free trade agreement offers an opportunity to move fortified foods in major production systems throughout this region, and the proposed regional initiative would promote the harmonization of standards to effect rapid adoption of fortified staples and to tap the power of regional trade to induce competition and institutionalize structural reform packages that will raise the credibility of ASEAN and PRC as formidable partners in global food trade. Donors, working with the ASEAN Secretariat, should examine how the Asian region can create common approaches to regulation, quality assurance and food control systems, and trade. Harmonization of all regulatory and trade protocols in the 11 nations with the Codex Alimentarius standards for food safety and product labeling, as well as the WTO agreements with its member states, should be the goal by 2005.