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## Annex 1

# Country Experience with Short Routes to Improving Nutrition

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<i>Intervention</i>	<i>Large-scale program experience</i>	<i>Effect on nutrition*</i>	<i>Costs per participant per year<sup>a</sup></i>	<i>Best practices</i>
Community-based growth promotion	Indonesia UPGK; Tamil Nadu Integrated Nutrition Program; BINP; Madagascar SEECALINE; Nicaragua PROCOSAN (Health Sector Reform Project; Honduras AIN-C (national); Tanzania Iringa; Thailand National Nutrition	+	\$1.60–\$1 0.00 recurrent additional budgetary cost; \$11–\$18 if food added	Target to children under age two. Tailored, negotiated, two-way counseling with mother; messages based on “trials of improved practices”; can integrate preventive health and rapid response to danger signals and mental stimulation. Medical and nursing personnel need training and motivation to support.
Vitamin A supplements (to preschool children)	India, Indonesia, Bangladesh, Ghana, Nepal, Pakistan, Niger, Tanzania, Senegal	+	\$1.01–\$2.55	Campaign approach needs perennial motivation and mobilization. Need to integrate into mainstream medical services. Medical and nursing personnel need training.
Vitamin A fortification	Guatemala (sugar)	+	\$.69–\$.98 per high risk person reached	Special attention to regulatory enforcement of fortification laws to ensure industry compliance; consumer education may be needed; costs are usually small and can often be passed on to consumers, except when a targeted subsidy is warranted.

<i>Intervention</i>	<i>Large-scale program experience</i>	<i>Effect on nutrition*</i>	<i>Costs per participant per year<sup>a</sup></i>	<i>Best practices</i>
Iron supplementation (daily to pregnant women, $\_$ and children under age two, C)	Indonesia $\_$ Thailand $\_$ Cuba $\_$ , C Bolivia $\_$ , C Honduras AIN-C C Zambia C Nicaragua PRO-COSAN C	+	\$\$.55– \$3.17	Counseling to address resistance points and motivations needed; reminders enhance adherence; medical and nursing staff need to be educated and motivated; consider combining with community-based growth promotion.
Iron fortification	Venezuela, United States, Canada, United Kingdom, Sweden, Chile	+	\$.12–\$.22	Special attention to regulatory enforcement of fortification laws to ensure industry compliance; consumer education may be needed; costs are usually small and can often be passed on to consumers, except when a targeted subsidy is warranted.
Salt iodization	China Salt Iodization Project; Indonesia Iodine Project Worldwide	+	\$.20–\$.50	Special attention needed to regulatory enforcement of fortification laws; consumer education may be needed. Consolidation of alternative employment for artisan producers. Costs are usually small and can often be passed on to consumers.
Conditional cash transfers	Mexico PROGRESA Honduras PRAF Nicaragua Red de Protección Social (RPS)	+/-	\$70–\$77	Pay attention to the quality of nutrition counseling in health services. Consider combining with community-based growth promotion.

<i>Intervention</i>	<i>Large-scale program experience</i>	<i>Effect on nutrition*</i>	<i>Costs per participant per year<sup>a</sup></i>	<i>Best practices</i>
Maternal-child food supplementation (listed countries have NGO programs evaluated for impact)	Ethiopia, Gambia, Kenya, Benin, Madagascar, Mozambique, India, Bolivia, Guatemala, Haiti, Peru, Honduras, Nicaragua Virtually every country.	+/-	\$42 per 1,000 calories per day per person	Tight targeting critical. Important that food not be disincentive to family or local agriculture; nutrition education critical; avoid foreign foods, use local foods if possible; targeting to malnourished risks rewarding failure.
Early child development/Child care	Bolivia PIDI Colombia HBI Uganda ECD India ICDS Philippines ECD Kenya ECD	+/-	\$250–\$412 with food (Colombia, Bolivia); \$2–\$3 without food (Uganda)	Involve parents in growth promotion and child development through interpersonal counseling and community meetings.
Nutrition education (breastfeeding promotion, complementary feeding)	Most small nutrition components and information, education, and communication in health-based nutrition projects.	+/-	\$2.50	Most common problem is poorly designed messages, materials, and media. Counseling messages should be tailored, negotiated, and based on formative research in the community. Generic information, education, and communication and group talks ineffective.
Breastfeeding promotion in hospitals	Brazil, Honduras, Mexico Baby-friendly hospitals	+	\$.30–\$.40 if infant formula in ward \$2–\$3 if no infant formula in ward	For hospital-based births; education of medical and nursing professional critical, as is keeping infant formula purveyors out of hospitals.

<i>Intervention</i>	<i>Large-scale program experience</i>	<i>Effect on nutrition*</i>	<i>Costs per participant per year<sup>a</sup></i>	<i>Best practices</i>
Microcredit cum nutrition education	Ghana Bolivia Uganda	+	\$.90–\$3.50 (marginal cost of nutrition education)	Freedom from Hunger (NGO). Pay attention to quality of nutrition counseling.
Facility-based integrated nutrition services such as IMCI (micro-nutrient supplements, growth monitoring, nutrition education, prenatal nutrition; care of severely malnourished)	Honduras AIN	—	—	Educating medical and nursing personnel about breast-feeding, infant feeding, growth, and micronutrients is essential.

— = not available.

a. Costing is a complex exercise, and the costs presented here, extracted from several sources, are not necessarily comparable. We include the information here simply to emphasize the point that costing is important in setting priorities.

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## Annex 2

# Long Routes to Improving Nutrition

### **Economic growth**

Economic growth is perhaps the most important long route to improved nutrition. Although nutrition is correlated with income, both across countries and over time in the same country, improvement takes a long time—time during which many children suffer irreparable damage to human capital. Haddad and others (2002) estimate that countries with 2.5 percent GDP growth per capita could expect a reduction of 27 percent in underweight in preschool children between 1990 and 2015.

### **Macroeconomic policies**

Macroeconomic policies, particularly trade policies, can profoundly affect both the supply of and the demand for food. Policy reforms can have a rapid effect on the income of the poor, but their effect on nutrition is less direct, and pro-poor reforms have often proven to be politically difficult to implement. As was shown in the Sahel in 1996 when the CFA franc was devalued, foreign exchange rates have an immediate and large effect on food consumption of the rich and poor alike. Unfortunately, government controls on food markets (tariffs, subsidies, price controls, ration shops, public ownership of mills, and parastatal food marketing boards) often fail to benefit the poor, while draining the public coffers.<sup>1</sup> Reforms of such programs can improve poor people's nutrition or food consumption and reduce public expenditures (usually by reducing benefits to wealthy and politically powerful populations, however). Careful food policy analysis on the effect of policy changes on food consumption of the poor can show which policy reforms make the most sense. A good example of this type of analysis is Romania's Agricultural Sector Adjustment Loan;<sup>2</sup> it identified the regressiveness of food subsidies and tariffs, and at the same time built local capacity to undertake food policy analysis.

## **Female education and enhanced women's status**

Female education and enhancing the status of women are important long routes to nutritional improvement.<sup>3</sup> In a large cross-country study, women's education was found to have a greater influence on child nutrition than food availability, women's status, and access to safe water.<sup>4</sup> Improving women's education and status is desirable for many reasons, of course, but the lag time between girls entering school and having their first child (hopefully delayed by additional schooling) and the slow pace of improvement in women's status make these long-term approaches to improving nutrition. In Ethiopia, analysis showed that increased schooling, food security, and income growth would take too long to affect preschool malnutrition, but that community-based growth promotion could accelerate and potentiate their effect on nutrition.<sup>5</sup> The nutritional effect of growth promotion among 25 percent of children is equivalent to primary schooling in one female adult per household. This had been shown previously in the Bank-supported Indonesian Nutrition Development Project, where growth promotion was shown to have the greatest effect on mothers with the least education.<sup>6</sup>

## **Women's workload**

Women's workload is also important for nutrition. Women are farmers and wage workers, and they carry out the bulk of family maintenance (cooking, washing, child care). Women's income can have an important positive effect on child nutrition, if child-care arrangements are adequate. Relieving this workload through labor-saving devices (food mills, wheelbarrows, improved stoves, water supply) can free both time and energy for attention to nutrition, both for the woman and her children. Many development programs expect women to "do more" for health when they have no time available. Attention to women's income, control of resources, energy expenditure, and time use is critical to improving the nutrition of women and children.

## **Food production**

Food production is also a long route to nutrition improvement. Countries with higher food availability tend to have better nutrition. Nonetheless, nutrition does not track food availability within countries over time. This is undoubtedly because those who need the food the most are unlikely to be able to increase production or purchasing power in the short term, unless explicit efforts are made to increase their economic access to food. Also, as shown in studies of agricultural commercialization by the International

Food Policy Research Institute,<sup>7</sup> the effect of income on nutrition is mediated by women's control of income and their time.<sup>8</sup>

### **Water supply and sanitation**

Diarrhea, a major cause of malnutrition, is strongly related to water access and quality,<sup>9</sup> so it is not surprising that water supply and sanitation have been shown to have an effect on nutrition.<sup>10</sup> Water supply programs not only reduce the waterborne transmission of disease, but also save women time and energy otherwise spent carrying water. This extra time can be devoted to child care and feeding or to income generation, and the extra energy benefits undernourished women. Water and sanitation programs might find that their cost-benefit increases if they measure their effect on improving nutrition.

### **Family planning**

The relationship between nutrition and fertility is complex. On the one hand, exclusive breastfeeding (arguably the most important nutrition intervention) reduces fertility. On the other hand, high parity and short birth intervals are associated with worse child nutrition and maternal nutritional depletion. Family planning affects nutrition both by enhancing maternal resources available to each child and by enhancing women's health. Such programs rarely measure nutrition as an outcome, but a successful family planning program is likely to have a substantial positive effect on nutrition. Thus maternal health and family planning programs provide another long route to nutritional improvement.

### **Notes**

1. Alderman and Lindert (1998); Adams (1998); Tuck and Lindert (1996); World Bank (2001c).

2. Esanu and Lindert (1996).

3. Smith and others (2003); women's status is proxied by whether women work for cash, age at first marriage, age difference between partners, and education difference between partners.

4. Smith and Haddad (2000).

5. Christiaensen and Alderman (2004).

6. Manoff International, Inc. (1984).

7. Von Braun (1995).

8. Haddad and others (1996).

9. Cairncross and Valdimanis (2004).

10. Anderson (1981); Burger and Esrey (1995).

11. Heaver (2002).
12. Monteiro and others (2004).
13. Panneth and Susser (1995).
14. Caballero (2005).

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## Annex 3

# Key Priorities for Action Research in Nutrition: A Proposal

### **Mainstreaming Nutrition in the Development Agenda**

A new programming environment is emerging at the global and country levels. The move from projects to programs, from vertical, disease-specific approaches to sectorwide approaches (SWAps), and budget support are all part of this changing picture. The roles of civil society and the private sector are becoming more important in global health and nutrition. The focus on results has never been higher on the agenda of development partners. These changes call for some adjustments in how the nutrition agenda is furthered. Four key areas of action research are critical in making these adjustments:

- *Mainstreaming nutrition into health, agriculture, rural development, education, and social protection programs.* As outlined in chapter 1, evidence now shows that several of the health and other Millennium Development Goals (MDGs) will not be met without investments in improving nutrition. Some evidence suggests that nutrition education efforts and other demand-side interventions may be necessary but not sufficient to improve outcomes unless these efforts are linked to supply-side interventions such as improved access to health services and micronutrient supplementation and fortification, supplementary feeding, and increased access to cheaper fruits and vegetables for addressing overweight. Programs across many sectors have attempted to include nutrition interventions. Yet very little information is available on how best to do so or which approaches are successful. The Bank-supported development grant for the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) will look at opportunities to include nutrition in maternal

and child health programs. There is a need to review and support similar experiences in other sectors.

- *Guidelines and instruments for assessing institutional capacity.* As outlined in chapter 4, a key constraint on action in nutrition is the institutional arrangements and capacity for nutrition.<sup>11</sup> Many programs are unsuccessful because not enough effort is invested in assessing capacities and in defining capacity needs. Developing guidelines and instruments for assessing institutional capacity and identifying best practices for institutional arrangements in different country scenarios will be critical to helping countries make rational assessments for scaling up programs. Human resource options for nutrition service delivery under different institutional arrangements and their management and fiscal implications need to be researched.
- *Building commitment for nutrition.* How should these commitment-building approaches vary in different country circumstances, and how can international and local stakeholders best partner to strengthen commitment?
- *Costing and financing interventions and service delivery approaches in varied country circumstances.* The Copenhagen Consensus (Behrman, Alderman, and Hoddinott 2004) has shown that nutrition interventions rank very high among other interventions in terms of cost-benefit. While some information is available for costing individual interventions, very little is available on large-scale programs and the levels of investments needed to meet the nutrition MDGs.

## **Strengthening and Fine-Tuning Delivery Mechanism**

- *Exploring the replicability of new delivery mechanisms for nutrition services.* Where government capacities for implementation are limited, countries have explored service delivery through nongovernmental organizations (NGOs), as in Bangladesh. Lessons suggest that this may warrant an alternative capacity for contracting and managing NGOs. In other countries (such as Mexico and Honduras), conditional cash transfers have been used as an opportunity for strengthening the use of health and nutrition services. In the micronutrient sector, public-private partnerships and alliances are being explored. Experience and learning from these innovations needs to be tested in other environments for future adaptation and scaling-up.
- *Research to support a clearer understanding of how far micronutrient supplementation can take us (and for which micronutrients), how long it should be continued under different conditions, and whether fortification or food-based*

*strategies are sufficient.* The efficacy of biofortification and other emerging food-based strategies for micronutrient deficiency control is being explored through initiatives such as the Harvest Plus program. These strategies have immense potential that must be maximized.

- *Cost-effectiveness of food supplementation (linked to nutrition education), and conditions under which costs may outweigh potential benefits.* Food supplementation often consumes 50 percent or more of program budgets. Evidence suggests that to be effective, food supplementation must be linked to nutrition education through growth promotion or other strategies, especially for young children. Yet the evidence is unclear as to what the best targeting mechanisms are and when costs may outweigh benefits.
- *Devise methodologies for forging stakeholder consensus* around results from operations research and monitoring and evaluation as well as the programmatic vision and capacities to fine-tune strategies based on these inputs.

### **Strengthening the Evidence Base:**

- *Evidence-based strategies to prevent and reduce overweight and diet-related noncommunicable diseases (NCDs).* This is a key challenge because it affects both rich and poor countries; these problems contribute substantially to chronic disease and mortality, as well as to economic growth; and reversing overweight offers huge public expenditure savings in both low-income and middle-income countries. The poor in low socioeconomic status countries (gross national product [GNP] less than \$2,500 per capita) may be protected against obesity, but the poor in upper middle-income countries (GNP greater than \$2,500 per capita) are much more prone to obesity.<sup>12</sup> In addition, the Barker hypothesis suggests that fetal food deprivation may result in postnatal programming that predisposes low-birthweight babies to cardiovascular disease and diabetes.<sup>13</sup> Furthermore, in many areas obesity coexists with underweight.<sup>14</sup> However, precise information on the size and scope of the overweight problem as well as the diet-NCD link and tested large-scale interventions on how to address them are still limited. Therefore, the priority here is to find out more about these issues as we move toward scaling up.
- *Efficacy and effectiveness of different nutrition interventions for preventing and mitigating the effect of HIV/AIDS.* These interventions include the role of exclusive breastfeeding in preventing mother-to-child transmission of HIV/AIDS; the role of nutrition in enhancing the effectiveness of anti-retroviral therapy; and the role of food security in mitigating the risk of HIV infection.

- *Linking nutrition data with larger global monitoring initiatives.* Several larger global health and poverty monitoring initiatives (such as the Health Metrics Network) are under development. Development partners and funding agencies are keen to support integrated systems, and it is important that relevant nutrition indicators be included in these initiatives. This will need some research support.
- *Methodologies for evaluating nutrition actions in the context of programmatic approaches such as SWAps and Poverty Reduction Strategy Credits (PRSC)s.* The current evaluation methodologies may need to be adjusted and adapted to these new approaches. In addition, the indicators that are used for assessing progress in nutrition are much harder to apply than those in other sectors. For example, the MDG progress indicator for the education sector is school enrollment rates. The nutrition indicator is underweight rates. While the education indicator is much closer to being a process or output indicator, the nutrition indicator is much more of an impact indicator—and the time frame for achieving an impact in underweight is much longer than that for enrolling children in school. In the choice of indicators, we may be setting nutrition up for higher standards than other sectors. This issue needs some research. In addition, many traditional nutrition evaluations have looked for the benefits of programs across population groups as whole—for example, low-birthweight prevention programs have looked for an impact among all pregnant women. However, emerging research has shown that these benefits may be unequally distributed across different groups (for example, the poorest or the most malnourished may benefit more), or that benefits may be distributed differently across the mother-child dyad under different situations—yet the evaluation methodology used often limits the size and nature of the benefits that can be detected.



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# Technical Annexes

- 1.1. Ten selected risk factors for major burden of disease
- 1.2. Trends in selected development indicators in developing countries
- 1.3. Percentage reduction in prevalence of malnutrition between 1990 and 2015 and number of years to halve prevalence of malnutrition
- 2.1. Estimated prevalence of malnutrition among preschool children by region
- 3.1. Obesity and chronic disease in the developing world
- 4.1. Country experiences in nutrition programming
  - A. India: Two approaches to food supplementation—The Tamil Nadu Integrated Nutrition Projects and the Integrated Child Development Services
  - B. Senegal: Empowering communities by involving them in the design, delivery, and management of services
  - C. India: The Tamil Nadu Integrated Nutrition Project—attention to microlevel design and management
  - D. Honduras: The AIN-C program—attention to microlevel design and management
  - E. Managing multisector programs: What not to do—experiences from World Bank–supported projects
  - F. Thailand: Incorporating nutrition into community development indicators—the village information system
  - G. Thailand: Sequenced partnership-building—making nutrition everybody’s business
  - H. China: Building commitment is not just about communication—the iodine deficiency control program
- 4.2. Nutrition as part of health services
- 5.1. Areas of focus in nutrition among development partners, by subject area

- 5.2. Areas of focus in nutrition among development partners, by technical area
- 5.3. Mandate and focus of development partners in nutrition
- 5.4. Deciding how to invest in nutrition: A framework for making policy choices
- 5.5. Methodology for constructing the country prioritization matrix
- 5.6. Nutritional status of children

## Annex 1.1

# Ten selected risk factors of major burden of disease

<i>Developing countries with high child and high or very high adult mortality<sup>a</sup></i>		<i>Developing countries with low child and low adult mortality<sup>b</sup></i>		<i>Developed countries with very low or low child mortality levels<sup>c</sup></i>	
<i>Risk factor</i>	<i>% DALYs</i>	<i>Risk factor</i>	<i>% DALYs</i>	<i>Risk factor</i>	<i>% DALYs</i>
1 Underweight	14.9	Alcohol	6.2	Tobacco	12.2
2 Unsafe sex	10.2	Blood pressure	5.0	Blood pressure	10.9
3 Unsafe water/ sanitation/hygiene	5.5	Tobacco	4.0	Alcohol	9.2
4 Indoor smoke from solid fuels	3.7	Underweight	3.1	Cholesterol	7.6
5 Zinc deficiency	3.2	Overweight	2.7	Overweight	7.4
6 Iron deficiency	3.1	Cholesterol	2.1	Low fruit and vegetable intake	3.9
7 Vitamin A deficiency	3.0	Low fruit and vegetable intake	1.9	Physical inactivity	3.3
8 Blood pressure	2.5	Indoor smoke from solid fuels	1.9	Illicit drugs	1.8
9 Tobacco	2.0	Iron deficiency	1.8	Unsafe sex	0.8
10 Cholesterol	1.9	Unsafe water/ sanitation/hygiene	1.7	Iron deficiency	0.7

Source: WHO (2002).

Note: Calculation is based on WHO regions:

<sup>a</sup> = AFR-D, AFR-E, AMR-D, EMR-D, SEAR-D

<sup>b</sup> = AMR-B, EMR-B, SEAR-B, WPR-B

<sup>c</sup> = AMR-A, EUR-A, EUR-B, EUR-C, WPR-A

Unsafe sex disease burden is from HIV/AIDS and sexually transmitted diseases; iron deficiency disease burden is from maternal and perinatal causes, as well as direct effects of anemia; unsafe water, sanitation, and hygiene disease burden is from diarrheal diseases.

## Annex 1.2

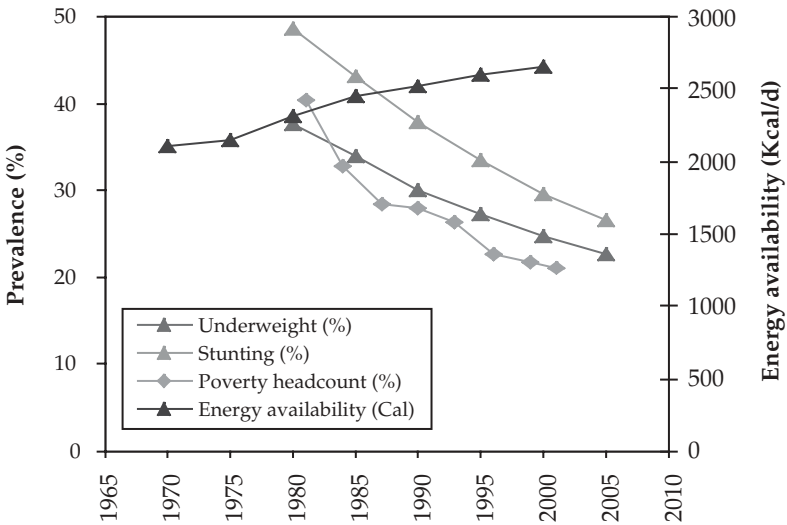
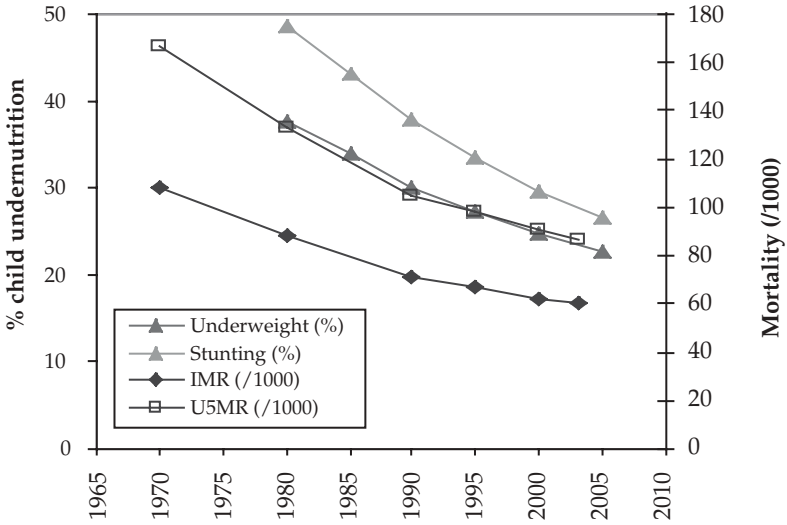
# Trends in selected development indicators in developing countries

	1970	1975	1980	1981	1984	1985	1987	1990	1993	1995	1996	1999	2000	2001	2002	2003	2005	ARC*
IMR (/1000)	108		88					71		67			62			60		-1.80
U5MR (/1000)	167		133					105		98			91			87		-1.99
Energy availability (Cal)	2110	2146	2308			2444		2520		2602			2654					0.83
Underweight (%)			37.6			33.9		30.1		27.3			24.8				22.7	-2.99
Stunting (%)			48.6			43.2		37.9		33.5			29.6				26.5	-2.03
Poverty headcount (%)				40.4	32.8		28.4	27.9	26.3			22.8	21.8		21.1			-2.45

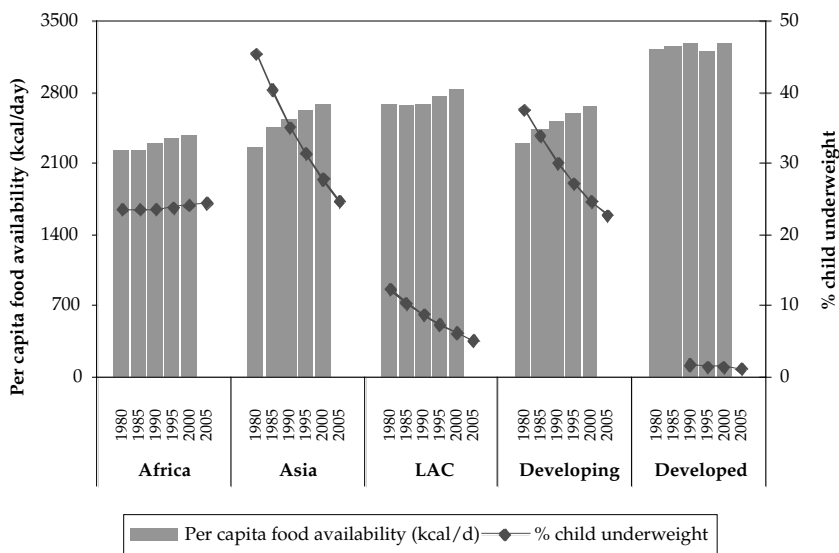
*Source:* IMR & U5MR: [www.childinfo.org](http://www.childinfo.org); underweight and stunting: SCN (2004); poverty headcount: Chen and Ravallion (2004); energy availability: FAO Statistical Database (2005).

*Note:* IMR = infant mortality rate; U5MR = under-five mortality rate; ARC = annual rate of change; per capita energy availability is an average of three years.

**Figure A.1 Trends in selected development indicators in developing countries**



**Figure A.2 Differences in aggregate per capita food availability and percent child underweight levels**



Source: SCN (2004); FAO Statistical Database (2005).

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## Annex 1.3

# Estimated percentage reduction in prevalence of malnutrition between 1990 and 2015 and number of years to halve prevalence of malnutrition, through economic growth alone

<i>Elasticity Econ. growth</i>	<i>Percentage reduction in prevalence of malnutrition, 1990–2015</i>			<i>No. of years to halve the prevalence of malnutrition</i>		
	<i>-0.3</i>	<i>-0.5</i>	<i>-0.7</i>	<i>-0.3</i>	<i>-0.5</i>	<i>-0.7</i>
0.5	3.7	6.1	8.4	461.8	276.9	197.7
1.0	7.2	11.8	16.1	230.7	138.3	98.7
1.5	10.7	17.2	23.2	153.7	92.1	65.7
2.0	14.0	22.2	29.7	115.2	69.0	49.2
2.5	17.2	27.0	35.7	92.1	55.1	39.3
3.0	20.2	31.5	41.2	76.7	45.9	32.7
3.5	23.2	35.7	46.2	65.7	39.3	27.9
4.0	26.1	39.7	50.8	57.4	34.3	24.4
4.5	28.8	43.4	55.1	51.0	30.5	21.7
5.0	31.5	46.9	59.0	45.9	27.4	19.5
5.5	34.0	50.2	62.5	41.7	24.9	17.7
6.0	36.5	53.3	65.8	38.2	22.8	16.2
6.5	38.9	56.2	68.8	35.2	21.0	14.9
7.0	41.2	59.0	71.5	32.7	19.5	13.8
7.5	43.4	61.5	74.0	30.5	18.1	12.9
8.0	45.5	64.0	76.3	28.5	17.0	12.0
8.5	47.6	66.2	78.4	26.8	16.0	11.3
9.0	49.6	68.4	80.3	25.3	15.1	10.7
9.5	51.5	70.4	82.1	24.0	14.2	10.1
10.0	53.3	72.3	83.7	22.8	13.5	9.6

*Source:* Authors' calculation based on different per capita GDP growth (0.5 to 10.0 percent per capita per year) and elasticity assumptions (-0.3 to -0.7).

For example, in countries with an annual GDP growth of 2.5 percent per capita and an elasticity of -0.5, one can expect a 27 percent reduction in underweight rates between 1990 and 2010.

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## Annex 2.1

# Estimated prevalence of malnutrition among preschool children by region

<i>Stunting</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>
Africa	39.0	37.8	36.9	36.1	35.2	34.5
Asia	55.1	48.2	41.1	35.4	30.1	25.7
LAC	24.3	21.1	18.3	15.9	13.7	11.8
Developing	48.6	43.2	37.9	33.5	29.6	26.5
Developed			2.8	2.8	2.7	2.6
Global			33.5	29.9	26.7	24.1
<i>Underweight</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>
Africa	23.5	23.5	23.6	23.9	24.2	24.5
Asia	45.4	40.5	35.1	31.5	27.9	24.8
LAC	12.5	10.5	8.7	7.3	6.1	5.0
Developing	37.6	33.9	30.1	27.3	24.8	22.7
Developed			1.6	1.4	1.3	1.1
Global			26.5	24.3	22.2	20.6
<i>Overweight</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>
Africa				3.3	4.2	5.2
Asia				2.6	2.5	2.5
LAC				4.4	4.3	4.3
Developing				2.9	3.0	3.4

Source: SCN (2004); de Onis (2004a).

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## Annex 3.1

# Obesity and chronic disease in the developing world

Many developing countries are starting to parallel the developed world, with increasing prevalence of overweight and obesity and associated chronic disease comorbidities. Overweight and obesity put individuals at higher risk for dyslipidemia, hypertension, hyperinsulinism, insulin resistance, and diabetes, all of which substantially increase the risk for cardiovascular disease. Obese individuals may also suffer from respiratory disorders and certain types of cancer. In 2001, it was estimated that chronic diseases contributed to approximately 60 percent of the 56.5 million total reported deaths in the world and to approximately 46 percent of the global burden of disease. Reflecting this trend, the World Health Organization (WHO) has recently made a call to action to put overweight and obesity at the forefront of public health policies and programs.

There are many potential reasons for the strikingly high prevalence of overweight and obesity and their comorbidities in developing countries. Behavioral factors, including dietary intake, physical activity, and sedentary behaviors, have been important contributors to the development of obesity. Intakes of total fat, animal products, and sugar are increasing simultaneously with decreases in the consumption of cereals, fruits, and vegetables. Decreased energy expenditure, due to an increasingly sedentary lifestyle and a reduction in labor-intensive occupations, is a second and equally important explanation for the increased rates of overweight and obesity in the developing world. Major changes in lifestyle have occurred over the past several decades, and have caused an “obesogenic environment” because of the easy availability of high-energy food combined with an increasingly sedentary lifestyle.

Although obesity is the result of a complex interplay between genetics and environment, obesity and chronic diseases are largely preventable. There is compelling evidence for the power of societal and environmental factors to contribute to weight gain. Beyond the medical treatment necessary for the people who are already overweight or obese, there is an underutilized opportunity for primary prevention through cost-effective and

sustainable interventions. Given the limited resources of the developing world in particular, it is clear that obesity prevention needs to be incorporated into existing nutrition programs. Unfortunately, little is known about the prevention and treatment of overweight and obesity on a population level, particularly in developing countries.

Interventions addressing obesity span from clinic-based, one-on-one consultations with a primary-care physician to large-scale policy or social marketing initiatives. Clinical interventions target adults and children who are already overweight or obese. There are several possibilities for clinic-based interventions, which include dietary management, exercise programs, pharmacological treatment, psychotherapy, behavior modification, and surgical treatment. Most successful programs have combined diet and exercise approaches with behavior therapy.

School-based programs are becoming increasingly popular in the United States due to the captive audience of children in the school setting. The findings from studies of school-based interventions are modest at best, and do not always sustain results over time. Workplace interventions include promotion of stair use, on-site recreational facilities and programs, incentives for active commuting to work, and physical activity and nutrition counseling. Although most worksite interventions are able to show short-term changes in behavior, in large part they are not able to assess whether any change in body mass index (BMI) or adiposity resulted from the program.

The most successful programs have taken a community-level approach, and have addressed obesity through multiple, simultaneous and different avenues. The key elements of the successful interventions include having an environmental and multidisciplinary approach; generating local adaptations of programs; exploring cultural norms and fitting the program within those constructs; adhering to a social-ecological model of behavior change; and taking a multifaceted approach to include multiple stakeholders, including health professionals, educators, and policy makers. Unfortunately, many of these types of programs have not been sufficiently evaluated. Those that have been evaluated do not always show any impact on BMI, and some have actually shown an increase in BMI across the course of the program.

A wide variety of policy interventions are possible and have achieved mixed success. Social marketing campaigns are another approach to obesity prevention, but have been shown to be only marginally successful. The programs are generally successful in raising awareness about health issues, particularly through the use of mass media and point-of-purchase promotions, multichannel marketing, and consumer-driven research. However, it is very difficult to capture any changes in individual-level behavior or health status change.

Despite the apparent, albeit moderate, effectiveness of several types of interventions, there are operational challenges that exist to addressing the problem of obesity in the developing world. The primary challenge is the lack of financing and institutional capacity to approach the problem in many developing countries. Several other political and economic issues hinder the effectiveness of interventions in developing countries. These include lack of understanding by key decision makers, such as health ministers, that obesity and chronic disease are critical issues and threats to public health; a misguided perception by policy makers that obesity is a result of personal irresponsibility and therefore outside of the domain of policy; and an assumption that global development and economic growth are the most important goals for the developing world, with disregard for the health consequences that come along with such economic growth. A related challenge is that transitional economies are facing the dual burden of undernutrition simultaneous with a high prevalence of obesity. In addition to these political and economic barriers to effective prevention and control of obesity are strong cultural and social norms working against that goal.

Large gaps in research relating to obesity prevention and management have been identified. The primary gap is the lack of high-quality evaluations of obesity prevention interventions. Another important gap in the research arena is the lack of behavioral research, including research on the environmental, familial, and societal influences on food intake and physical activity. Cost-effectiveness will certainly be enhanced through improved targeting of programs and interventions to the populations who will benefit most.

*Source:* Fernald (2005).

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## Annex 4.1

# Country experiences in nutrition programming

### **A. India: Two approaches to food supplementation— The Tamil Nadu Integrated Nutrition Projects and the Integrated Child Development Services**

India's Tamil Nadu Integrated Nutrition Program (TINP) operated in about 20,000 villages. It began in 1980, and was absorbed by the national Integrated Child Development Services Program (ICDS) in 1997. The two programs had quite different approaches to food supplementation.

TINP served children a slightly sweetened snack food early in the morning, which was seen by mothers as a supplement, rather than a meal. ICDS feeding is at lunchtime, and so substitutes for a meal at home. The ICDS timing suits older children, who can walk to the feeding center. TINP's early morning supplementation was at a time when mothers could bring children under three—the most nutritionally vulnerable—to the nutrition center before they went to work.

TINP supplemented only children who were malnourished or whose growth was faltering; they “graduated” from supplementation when their growth was back on track. ICDS feeds a specific number of children every day, who may or may not be malnourished or growth faltering. Since the same children are fed every day, food is seen as an entitlement, rather than a temporary supplement designed to get the child back on track and to show mothers how they can prevent or treat malnutrition at home by feeding small, affordable amounts of extra food.

The TINP system was both more effective in terms of reducing malnutrition, and cheaper, because an average of 25 percent of children were supplemented on a given day, in comparison to ICDS' 40 percent. But, because different children came into TINP supplementation as and when their growth faltered, 75 percent of TINP children got supplementation at different times, thus encouraging broad community acceptance of the program.

*Source:* Heaver (2003a).

## **B. Senegal: Empowering communities by involving them in the design, delivery, and management of services**

In Senegal's first World Bank–supported Community Nutrition Project:

- Clients helped influence the design of services during a pilot intervention a year before the main project began. They determined what opening hours for the nutrition centers best suited them. They also insisted on more information, education, communication sessions, and themes than the designers of the pilot had originally intended.
- The choice of community nutrition workers was approved by local steering committees representing the community, which then met their nutrition workers and their supervisor once a month to review progress.
- Community nutrition workers organized “social mobilizations” bimonthly to keep the broader community informed about progress.
- Project clients contributed about 3 percent of the costs of running the nutrition centers; the amount was nominal, but the principle of user charges made the nutrition services more accountable to the community.
- During the project, communities were encouraged to analyze their local problems and take action to deal with them. One initiative was that day-care centers for children were started in 137 nutrition centers at the request of and financed by the community.
- During the project, communities were involved in field level steering committees that included local representatives of the ministries of Finance; Social Action; Women, Children and Family Affairs, and Health; the project's executing agency; women's leaders, leaders of youth clubs and other local associations and nongovernmental organizations; and local religious leaders. These committees helped with information exchange, synchronization of activities, and building good interpersonal relations and commitment.

*Source:* World Bank (2001b).

## **C. India: The Tamil Nadu Integrated Nutrition Project—attention to microlevel design and management**

- *Recruitment criteria:* Outreach workers had to be from their local community. In addition, as much as possible, they were chosen from women who were poor, but whose children were nevertheless well nourished. Before they even began nutrition counseling, they were proof to the community that poverty need not be an impediment to good nutrition.

- *Work routines:* These were clearly defined on a daily, weekly, and monthly basis. Growth monitoring, for example, was conducted on the same three days every month, so women knew when to bring their children to the nutrition center. This cut down the number of home visits workers had to make to monitor children.
- *Supervision and training:* There was a field supervisor for every 10 community workers, and a senior supervisor for every 60–70 workers. The training system was innovative in that the senior supervisor was also the preservice and in-service trainer of the workers in her area. This meant training could be tailored to workers' individual needs and cut out the expense of maintaining a network of training institutions.
- *MIS:* Every month, data showing the proportion of children weighed and the number malnourished were posted on a chalkboard outside the nutrition center. This helped communities monitor progress. And every month, the data for all centers were analyzed by computer, and poor-performing centers were identified for special attention by supervisors—“management by exception.”

Source: Heaver (2003a).

### **D. Honduras: The AIN-C program— attention to microlevel design and management**

AIN-C (Atención Integral a la Niñez en la Comunidad—Integrated Attention to Childhood in the Community) aims to promote self-reliance. The focus is on helping families improve the care of children under age two with their own resources, based on research showing that 92 percent of families had adequate food resources and that the reasons for child malnutrition were largely behavioral. This is different from programs that assume the family cannot adequately provide for its children, and immediately offer food, coupons, or cash to parents with malnourished children.

AIN's field level management system has been carefully refined over a decade, and incorporates best practices from other community-based programs. Key features include:

*Keeping it simple.* Like the Tamil Nadu Integrated Nutrition Project (TINP), AIN focuses on child growth, rather than nutritional status. But unlike TINP, AIN's growth monitoring system does not rely on workers plotting each child's growth monthly on a graph. Instead, workers are given a table with figures showing how much weight a child of a given age (in years and months) should be putting on each month. They then have to make only a

yes/no decision about whether the child's weight gain is adequate compared to the table. If not, workers discuss with the mother what is causing slow growth and agree on specific behavioral changes for improvement.

Workers have counseling cards, developed through a trials of improved practices (TIPs) formative research process, to help them tailor their advice to the family's particular situation. The card helps workers differentiate their advice by the child's age, adequacy or inadequacy of weight gain, illness status, and breastfeeding status. The card may suggest several areas for improvement, but the worker selects only one or two behaviors that the mother is willing to follow in the ensuing month. These could be as simple as nursing from both breasts at each feeding, or giving half of a tortilla to the child at two meals during each day. Next month, the mother gets feedback in the form of the child's weight gain, showing whether the behavior change made a difference.

Progress monitoring is done through an innovative 5-bar graph (see below for an example), which tracks five simple indicators in each village each month: the number of children under age two in the community, the number weighed that month, the number gaining adequate weight, the number with inadequate weight gain, and the number gaining inadequate weight for two or more months.

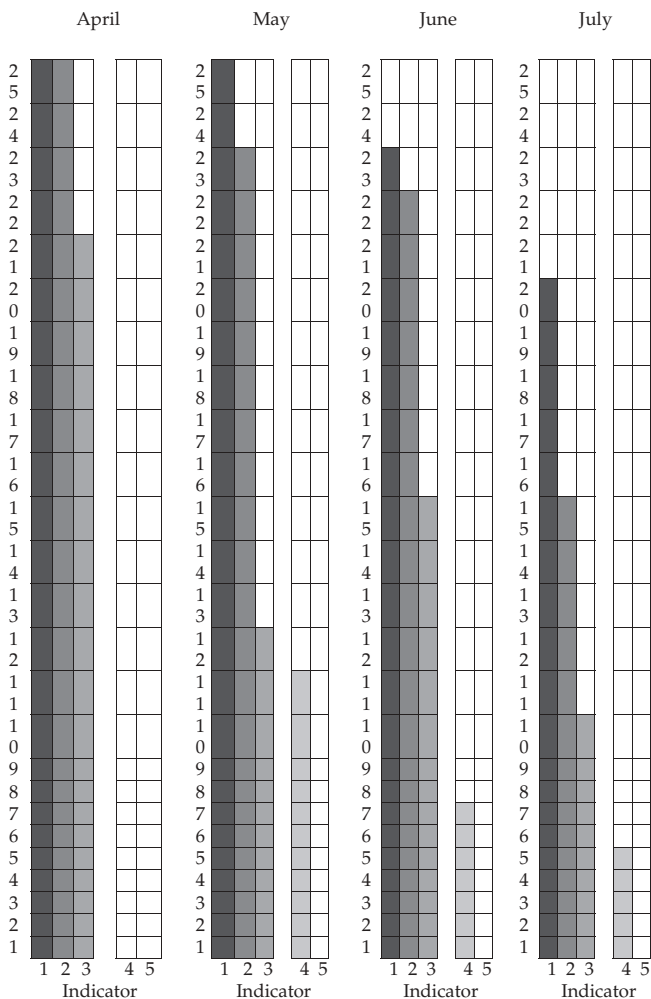
*Community action.* Once a quarter, the previous month's monitoring data (see below) are reported to the community at a meeting at which the community at large makes decisions and works collectively for the betterment of its children. Collective action is key because many problems causing poor child growth go beyond the power of a family to correct: contaminated water sources, garbage disposal, childcare, and poor health center outreach are all problems that families need to work together to fix.

Treatment as well as prevention. Another important intervention is the detection, assessment, and treatment of common childhood illnesses, especially diarrhea and pneumonia, in children under age five. Once the community workers have mastered the core AIN program for children under age two, focused primarily on home-based preventive actions, they are trained in AIN's illness and newborn modules (based on the Integrated Management of Childhood Illnesses [IMCI] approach), which focuses more on identifying danger signs, expedited referral, and some community-initiated treatment. They are also given timers to diagnose the rapid breathing that indicates pneumonia and an antibiotic to treat it.

AIN is being studied and adapted by other countries, such as Bolivia, El Salvador, Ghana, Guatemala, Nicaragua, Uganda, and Zambia.

*Source:* Griffiths and McGuire (2005).

**5-bar graph as presented to the community to stimulate discussion of changes in child growth over time**



**Indicators:**

1. Number of children younger than 2 years listed in the register.
2. Number of children younger than 2 years who attended the weighing session this month.
3. Number of children younger than 2 years with adequate growth this month.
4. Number of children younger than 2 years with inadequate growth this month.
5. Number of children younger than 2 years with inadequate growth this month and last month.

## **E. Managing multisector programs: What not to do—experiences from World Bank–supported projects**

- Rwanda’s Food Security and Social Action Project initially put the finance ministry in charge of the project; it had no experience with program implementation and no presence in the field. Later in the project, inter-sectoral coordination was moved to the Ministry of Local Government, which handled it more successfully.
- In the Bangladesh Integrated Nutrition Project, the responsibility for multisectoral coordination was at too low a level to be effective. It was given to an Inter-Sectoral Nutrition Cell in the health ministry’s project management unit, which had little influence over the other participating agencies—the Ministry of Agriculture and the Ministry of Fisheries and Livestock.
- No clear arrangements were made for managing nutrition as part of early childhood development (ECD) activities in Argentina’s first World Bank–assisted Maternal and Child Health and Nutrition Project. The ECD centers had strong community support, but no institutional home in the government, not in the education ministry, whose focus was on schools, nor in the health ministry, which was more concerned with strengthening its own clinics than with nutrition outreach through preschool centers.

*Source:* World Bank Project Implementation Completion Reports.

## **F. Thailand: Incorporating nutrition into community development indicators—the village information system**

Four government ministries (health, agriculture, education, and interior), led by the Ministry of Public Health, jointly developed the Basic Minimum Needs (BMN) system. It was piloted in Korat province in the northeast, and then picked up by the National Economic and Social Development Board, Thailand’s planning ministry, and implemented nationwide.

There are 32 BMN indicators, divided into eight groups, as follows:

### *Adequate Food and Nutrition*

1. Proper nutrition surveillance from birth to age five years and no moderate and severe protein-energy malnutrition (PEM).
2. School children receive adequate food for nutritional requirements.
3. Pregnant women receive adequate and proper food, and delivery of newborn babies with birthweight not less than 3,000 grams.

### *Proper Housing and Environment*

4. The house will last at least five years.
5. Housing and the environment are hygienic and in order.
6. The household possesses a hygienic latrine.
7. Adequate clean drinking water is available all year round.

### *Adequate Basic Health and Education Services*

8. Full vaccination with BCG, DPT, OPV, and measles vaccine for infants under one year of age.
9. Primary education for all children.
10. Immunization with BCG, DPT and typhoid vaccine for primary school children.
11. Literacy among citizens 14 to 50 years old.
12. Monthly education and information in health care, occupation, and other important areas for the family.
13. Adequate antenatal services.
14. Adequate delivery and postpartum services.

### *Security and Safety of Life and Properties*

15. Security of people and properties.

### *Efficiency in Food Production by the Family*

16. Growing alternative crops or soil production crops.
17. Utilization of fertilizers to increase yields.
18. Pest prevention and control in plants.
19. Prevention and control of animal diseases.
20. Use of proper genetic plants and animals.

### *Family Planning*

21. Not more than two children per family and adequate family planning services.

### *People's Participation in Community Development*

22. Each family is a member of self-help activities.
23. The village is involved in self-development activities.
24. Care of public properties.
25. Care and promotion of culture.

- 26. Preservation of natural resources.
- 27. People are active in voting.
- 28. The village committee is able to plan and implement projects.

### *Spiritual or Ethical Development*

- 29. Being cooperative and helpful in the village.
- 30. Family members are involved in religious practices once per month.
- 31. Neither gambling nor addiction to alcohol or other drugs by family members.
- 32. Modest living and expenses.

*Source:* Heaver and Kachondam (2002).

## **G. Thailand: Sequenced partnership-building— making nutrition everybody's business**

### *Building a constituency at the technical level*

Thailand's three nutrition champions (two from the health sector and one from agriculture) built up a broader group of "friends of nutrition" across the government by sending key staff from the planning ministry and line agencies for overseas nutrition training together, and through follow-up seminars combining staff from different government departments.

### *Involving civil society: Mass communication*

The nutrition champions enlisted the support of the private sector to finance a much-repeated television ad, showing children in the northeast of the country who were so poor that they were reduced to eating earth to fill their stomachs. There was a nationwide sense of shame that this could happen in Thailand.

### *Bringing key policy makers on board*

They convinced senior managers in the finance and planning ministries that putting money into nutrition was an investment rather than a social welfare expenditure, since it would make Thailand more productive and competitive. The military government saw the advantages of a multisectoral rural development program for national stability and security as well as for economic development.

### *Widening the consensus*

Once commitment had been built up in central government, seminars for provincial governors helped to bring regional governments into the partnership. In the villages, all government agencies were involved in advocacy for community development, raising public awareness and encouraging people to volunteer.

#### *Appropriate management arrangements: High-level support and organizational incentives*

A national nutrition committee, chaired by the deputy prime minister and with representatives from all concerned line agencies, helped raise the profile of nutrition. Though financial allocations are controlled by the planning ministry, each line agency is responsible for managing its part of the multisector program, and so each feels that nutrition is its business.

*Source:* Heaver and Kachondam (2002).

## **H. China: Building commitment is not just about communication—the iodine deficiency control program**

This \$152 million World Bank–supported project, rated highly satisfactory, introduced new technologies in 200 firms in 31 provinces. Success factors included:

- Commitment to salt iodization was built before the project began, through informal dialogue with local representatives of the United Nations Development Programme (UNDP), United Nations Children’s Fund (UNICEF), United Nations Industrial Development Organization (UNIDO), and WHO, before the World Bank became involved; and by political leaders’ involvement in international meetings facilitated by the Micronutrient Initiative (MI).
- There was a systematic plan to ensure that high level political commitment was disseminated to stakeholders at all levels. Government allied with civil society—for example, the All China Women’s Federation—to run public awareness campaigns on the importance of iodization. In addition:
  - A strong, legislative framework requiring salt to be iodized, and a strong regulatory framework to ensure that it actually happened, were developed.

- A free-standing project for iodine was carved out of a much larger health sector loan: this helped focus attention on the issue.
- The salt industry was put in the driver's seat of the project, and its authority and responsibility helped ensure commitment to effective iodization.
- The environment was favorable: a national focus on industrial reform meant that industry saw the project as an opportunity to modernize through the project's capacity-building work in management, monitoring, packaging, marketing, and quality control. Hence industry and the health ministry had a common goal in successful project implementation.
- A carefully planned implementation management framework was defined, so all stakeholders knew what was expected of them and were monitored.
- Senior World Bank management expressed strong interest in the project and actively monitored its progress.
- Strong coordination between the development partners and regular informal technical assistance from local UN agencies helped sustain commitment.
- There was continuity of both country and World Bank project teams.

*Source:* World Bank (2001a).

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## Annex 4.2

# Nutrition as part of health services

Child growth and development interventions center on health and nutrition:

1. Breastfeed exclusively for the first six months of infant's life.
2. Then feed freshly prepared, energy and nutrient rich complementary foods while continuing breastfeeding for two years.
3. Ensure adequate micronutrients through the diet or supplementation.
4. Continue feeding sick children, and offer them more fluids.
5. Ensure that every pregnant woman has adequate antenatal care.
6. Ensure that children get a full course of immunizations.
7. Ensure that children in malaria-endemic areas sleep under insecticide-treated bednets.
8. Give appropriate home treatment for infections, especially oral rehydration for diarrhea and drugs for malaria.
9. Recognize when sick children need professional care and seek it.
10. Follow health workers' advice about treatment, follow-up, and referral.
11. Dispose of feces safely, and wash hands afterwards and before touching food.
12. Promote mental and social development through talking, playing, and providing a stimulating environment.

*Source:* Hill, Kirkwood, and Edmond (2004).

### **The BASICS approach to incorporating nutrition into health services**

The Basic Support for Institutionalizing Child Survival (BASICS) Projects are U.S. Agency for International Development (USAID) contracts to fight needless childhood deaths in the developing world (see [www.basics.org](http://www.basics.org)). The current \$100 million BASICS contract began in October 2004. It helps expand effective child health interventions, such as newborn health, vitamin A supplementation and other essential nutrition actions, immu-

nization, pediatric AIDS, the treatment of diarrhea and pneumonia, and malaria control. It supports activities to increase the use of child health and nutrition interventions by families, communities, and health systems.

Essential Nutrition Actions (ENA)\* is an approach, developed as part of the BASICS project, to expand the coverage of six proven nutrition interventions through actions at health facilities, in communities, and through communications channels:

- Exclusive breastfeeding for six months.
- Adequate complementary feeding from about age 6 months to 24 months, with continued breastfeeding.
- Appropriate nutritional care of sick and severely malnourished children.
- Adequate intake of vitamin A for women and children.
- Adequate intake of iron for women and children.
- Adequate intake of iodine by all members of the household.

There has been experience with implementing ENA at the community level in Benin, Ethiopia, Ghana, Madagascar, and Senegal. ENA is also being incorporated into the pre-service of doctors and other health professionals in the medical schools and paramedical training institutions of Ethiopia, Ghana, and Madagascar. The table below illustrates how different nutrition actions can be incorporated into the routine work of health personnel.

**Essential nutrition actions in health services**

<i>When you see clients for</i>	<i>You should provide</i>	<i>The content should be</i>
Prenatal care	Breastfeeding counseling	Breastfeeding immediately after delivery, the importance of colostrums and exclusive breastfeeding (EBF), solving problems that prevent establishing breastfeeding, and mother’s diet.
	Iron/folate supplements and counseling	One daily tablet (60 mg iron) throughout pregnancy for 6 months (180 tablets), counseling on side effects and compliance, and when and how to get more tablets

## Essential nutrition actions in health services *(continued)*

<i>When you see clients for</i>	<i>You should provide</i>	<i>The content should be</i>
Delivery and postpartum care	Breastfeeding assistance and counseling (all maternities should follow the “10 Steps for Baby Hospitals”).	Immediate initiation of breastfeeding, check for position and attachment, management of common problems, duration of EBF up to about six months, dangers of giving water or liquids, and how to express breast milk.
	Vitamin A supplement for mothers	One dose of 200,000 IU administered to the mother after delivery (within the first eight weeks).
Postnatal checks	Exclusive breastfeeding check; reinforce good diet and rest for mothers.	Assess and counsel on problems, teach prevention of “insufficient milk,” how to increase milk supply, manage problems, and mother’s diet.
Immunizations	With tuberculosis vaccine (BCG) contact, check mother’s vitamin A supplement.	Complete one dose of 200,000 IU for women within eight weeks after delivery (within six weeks if not breastfeeding).
	During National Immunization Days (NIDs) and community outreach for immunizations, check and complete children’s vitamin A.	One dose of 100,000 IU for infants age 6–11 months; and one dose of 200,000 IU for children age 12–59 months, every 4–6 months.
	With OPV-3 and measles immunization, check infant’s vitamin A.	One dose of 100,000 IU for infants age 6–11 months; and one dose of 200,000 IU for children age 12–59 months should be given every 4–6 months (for infants under age 6 months, use 50,000 IU per dose).

**Essential nutrition actions in health services *(continued)***

<i>When you see clients for</i>	<i>You should provide</i>	<i>The content should be</i>
Well-baby visits	Assess and counsel on breastfeeding; assess and counsel on adequate complementary feeding (use locally adapted recommendations).	Counseling and support for EBF in the first 6 months, counseling and support for adequate complementary feeding from age 6–24 months, continuation of breastfeeding to age 24 months. Use iodized salt for all family meals.
	Check and complete vitamin A, iron, and antimalarial protocol.	See protocols above under immunizations, INNACG (1998).
Sick child visits	Screen, treat, and refer severe malnutrition, vitamin A deficiency, and anemia.	IMCI and WHO (1997) protocols for severe malnutrition, vitamin A deficiency, and anemia.
	Check and complete vitamin A protocol.	See protocols above under immunizations. Also provide vitamin A supplements for measles, diarrhea, and malnutrition according to WHO/UNICEF/IVACG.
	Assess and counsel on breastfeeding; assess and counsel on adequate complementary feeding (use locally adapted recommendations).	Increase breastfeeding while child is sick. Counsel and support EBF in the first 6 months; counsel and support for adequate complementary feeding for age 6–24 months, continuation of breastfeeding to age 24 months. Continued and recuperative feeding for sick children.

Source: Sanghvi and others (2003).

Note: \* Acharya and others (2004).

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## Annex 5.1

### Areas of focus in nutrition among development partners, by subject area

<i>Types</i>	<i>Organizations</i>	<i>General malnutrition</i>	<i>Micronutrients</i>	<i>HIV and nutrition</i>	<i>Food policy/ agriculture/ rural development</i>	<i>Nutrition in maternal and child health/ child feeding</i>
UN agencies	UNICEF	X	X	X		X
	SCN*	X	X	X	X	X
	WFP		X	X		
	WHO**	X	X	X	X	X
	FAO			X	X	
Multilateral agencies	World Bank	X	X	X	X	X
	ADB	X	X		X	X
Bilateral agencies	DFID				X	
	SIDA				X	
	CIDA		X			X
	USAID	X	X	X	X	X
	GTZ				X	

	DANIDA					X
	NORAD					
	JICA				X	
	Dutch			X		
	Ireland AID					
Public/private partnerships	GAIN		X			
Private sector/ NGOs	WABA					X
	Manoff Group	X				X
	AED			X	X	X
	HKI		X		X	
	MI		X			
	MOST		X			
	CARE	X			X	X
	La Leche League					X
	FANTA	X		X	X	X
	BASICS		X	X		X
Research institutions	Harvest Plus		X		X	
	IFPRI/CGIAR			X	X	

*Note:* Tables 5.1 and 5.2 are indicative only and are based on a subjective review of Web sites and common knowledge about the focus of each organization.

\*Functions primarily as a coordination body.

\*\*Functions primarily as a technical body.

## Annex 5.2

### Areas of focus in nutrition among development partners, by technical area

<i>Organizations</i>		<i>Commitment building</i>			<i>Capacity development</i>			<i>Mainstreaming nutrition into PRSCs, PRSPs and SWAps</i>			<i>Monitoring and evaluation</i>			<i>Research</i>		
		<i>G</i>	<i>N</i>	<i>SN</i>	<i>G</i>	<i>N</i>	<i>SN</i>	<i>G</i>	<i>N</i>	<i>SN</i>	<i>G</i>	<i>N</i>	<i>SN</i>	<i>T</i>	<i>A</i>	<i>O</i>
UN agencies	UNICEF	X	X	X		X										X
	SCN	X														
	WFP	X														
	WHO	X			X						X					X
	FAO*	X				X					X					
Multilateral agencies	World Bank	X	X		X	X			X		X	X			X	
	ADB		X			X									X	X
Bilateral agencies	DFID*								X						X	
	SIDA															
	CIDA															
	USAID					X	X					X				

	GTZ							X
	DANIDA	X						X
	NORAD			X				
	JICA							
	Ireland AID							
Public/private partnerships	GAIN***	X		X				X
Private sector/ NGOs	WABA**		X	X				
	Manoff Group		X			X		X
	AED		X	X				X
	HKI		X	X		X		X
	MI***	X	X	X		X	X	X
	MOST***	X	X	X		X		
	CARE			X	X			
	La Leche League**				X			
	FANTA					X		X
	BASICS					X	X	X
Research institutions	Harvest Plus*							X
	IFPRI/CGIAR	X		X				X

Note: G-Global; N-National; SN-Subnational;  
T-Technological research; A-Applied research; O-Operational research.

\* Focus primarily on food security.

\*\* Focus primarily on infant feeding/breastfeeding.

\*\*\* Focus primarily on micronutrients.

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## Annex 5.3

# Mandate and focus of development partners in nutrition

*(Information for this annex has been extracted primarily from the Web sites of the relevant agencies/groups.)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
<b>UN agencies</b>		
WHO/ Department of Nutrition for Health and Development (NHD)	<p>The importance of WHO's role in promoting nutrition is well elucidated.</p> <p>"Because of the fundamental role nutritional well-being plays in health and human development, and the worldwide magnitude of malnutrition-related mortality and morbidity, WHO has always included nutrition promotion, and the prevention and reduction of malnutrition, among its key health-promotion instruments."</p>	<ul style="list-style-type: none"> <li>• WHO shares responsibility with UNICEF in reporting on child mortality, maternal health, nutritional status, etc.</li> <li>• WHO, along with the Food and Agricultural Organization (FAO), convened International Conference on Nutrition, 1992.</li> <li>• Key documents include: <b>Turning the Tide of Malnutrition: Responding to the Challenge of the 21st Century; Nutrition for Health and Development: A global agenda for combating malnutrition, 2000.</b></li> <li>• Consistent with nine goals and nine strategies of the World declaration and Plan of Action for Nutrition, NHD works through seven priority areas of action through a multisectoral framework.</li> <li>• The main objectives:             <ol style="list-style-type: none"> <li>1. Capacity building for assessing and addressing nutrition-related problems; development of nutrition policies and programs.</li> <li>2. Help develop scientific knowledge, methodologies, standards, strategies, etc., for detecting and preventing all forms of malnutrition deficiencies and excesses, including improvements in horticulture and farming systems.</li> </ol> </li> </ul>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
WHO/NHD cont.		<ol style="list-style-type: none"> <li>3. Promote sustainable health and nutrition benefits of targeted food and development projects. Works with World Food Program (WFP) to ensure effectiveness of food aid interventions.</li> <li>4. Maintains global database for monitoring and evaluation (M&amp;E) and reporting on world’s major forms of malnutrition, effectiveness of programs, and achievement of targets at national, regional, and global levels.</li> </ol> <ul style="list-style-type: none"> <li>• The seven priority areas are:  <i>PEM</i>: Management of severe malnutrition; spearheading a study to recalculate and overhaul existing growth curves:               <ol style="list-style-type: none"> <li>1. <i>Micronutrients</i>:                    With partners, NHD provides technical tools, scientific standards, guidelines and methodologies to build up national programs, such as salt iodization programs; evaluates iodine deficiency disorders (IDD) programs in collaboration with UNICEF; maintains the global databank on IDD; promotes breastfeeding, supplementation, food fortification, and home gardens for eradicating vitamin A deficiencies; increases iron intake and infection control; and conducts research on vitamin A supplementation.</li> <li>2. <i>Obesity</i>:                    Raising awareness; developing strategies that will make healthy choices easier to make; collaborating to calculate economic impact of obesity and to analyze the impact of globalization and rapid economic transition on nutrition.</li> </ol> </li> </ul>

## Mandate and focus of development partners in nutrition (continued)

Institutions	Mission statement/ mandate	Nutrition strategy
WHO/NHD cont.		<p>3. <i>Infant feeding:</i></p> <ul style="list-style-type: none"> <li>• Promoting baby-friendly hospital initiative with UNICEF.</li> <li>• Intensifying technical support to improve complementary feeding practices.</li> </ul> <p>4. <i>Emergencies:</i> Provision of manuals and guidelines on managing nutrition in emergencies; rapid nutrition assessments; promoting safe-feeding practices; and caring for the nutritionally vulnerable.</p> <p>5. <i>Guiding food aid for development:</i></p> <ul style="list-style-type: none"> <li>• WHO's Food Aid for Development (FAD) office assists elaboration of WFP's policies, guidelines, and country programs.</li> <li>• It assists WFP in identification, formulation, and evaluation of supplementary feeding programs.</li> </ul> <p>6. <i>Developing effective food and nutrition policies and programs:</i></p> <ul style="list-style-type: none"> <li>• WHO sees household food security as a basic human right. Undertaking a multicountry, multidisciplinary study since 1995 examining causal factors of malnutrition.</li> <li>• Other priority areas include developing global nutrition data banks and global network of collaborating centers in nutrition</li> <li>• Advisory group on Nutrition and HIV/AIDS.</li> </ul>
UNICEF	Mandated to advocate for the protection of children's rights, to help meet their basic needs, and to	Nutrition strategy embodies their conceptual framework developed in 1990. Focus areas include: 1. <i>Micronutrients:</i> Works with governments in both donor and developing countries to develop innovative programs to deliver micronutrients

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
UNICEF, cont.	<p>expand their opportunities to reach their full potential. Nutrition is one of the eight key program areas implied in the medium-term strategic framework. A new health and nutrition strategy is under development.</p>	<p>in foods or through health care services (salt iodization, folate, capsules and vitamin A supplementation) (DFID is a partner supplying capsules). Assists countries to formulate and use national recommendations on multi-micronutrients.</p> <ul style="list-style-type: none"> <li>• Not much focus on food-based strategies.</li> </ul> <p>2. <i>Infant and child feeding:</i></p> <ul style="list-style-type: none"> <li>• Promotion of EBF, timely introduction of complementary foods.</li> <li>• Also on the forefront of developing policy guidelines for infant feeding in HIV; capacity building of national institutions to develop their own guidelines and training, including training in counseling of mothers in infant feeding choices.</li> <li>• Immunization Plus as part of Child Health Weeks, including malaria components in some countries.</li> </ul> <p>3. <i>Maternal nutrition/low birthweight:</i> Low-Birthweight Prevention Initiative is being piloted in 11 countries. The initiative includes the use of multiple micronutrient supplements for pregnant women.</p> <ul style="list-style-type: none"> <li>• Will complement UNICEF's Care for Women and Children Initiative, which focuses on women's education, workload, physical health and nutrition status, emotional well-being, reproductive health, and care during pregnancy and lactation.</li> </ul> <p>4. <i>Growth Monitoring and Promotion (GMP):</i></p> <ul style="list-style-type: none"> <li>• Working with WHO to develop new international growth references. Support for growth monitoring in more than 40 countries.</li> <li>• Expansion of therapeutic centers for severely malnourished children, especially in emergencies.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

Institutions	Mission statement/ mandate	Nutrition strategy
UNICEF, cont.		<p>5. <i>Community-based programs:</i></p> <ul style="list-style-type: none"> <li>• Strengthens local capacities to run such programs.</li> <li>• Triple A approach (assessment, analysis, action) for community mobilization.</li> </ul> <p>6. <i>Nutrition information and surveillance systems:</i></p> <ul style="list-style-type: none"> <li>• Supports generation of data on many key indicators of children's and women's well-being, including their nutrition status.</li> <li>• Supports updated data on selected nutrition indicators in the "childinfo" Web site.</li> </ul> <p>7. <i>Emergencies: Most of the above in emergencies.</i></p> <ul style="list-style-type: none"> <li>• National and regional nutrition surveillance to analyze the possible links between malnutrition and HIV/AIDS in Southern Africa.</li> </ul>
WFP	<p>As the food aid arm of the UN, WFP uses its food to:</p> <ul style="list-style-type: none"> <li>• Meet emergency needs.</li> <li>• Support economic and social development.</li> </ul> <p>"Works to put hunger at the center of the international agenda, promoting policies, strategies, and operations that directly benefit the poor and hungry."</p>	<p><i>Strategic and Financial Plan 2002–5:</i></p> <p>The goal for 2002–5 is: "Excellence in providing food assistance that enables all planned beneficiaries of WFP relief activities to survive and maintain healthy nutritional status, and enabling the social and economic development of at least 30 million hungry people every year."</p> <ul style="list-style-type: none"> <li>• Aligning future policies and operations with "Enabling Development." Policies and guidelines currently exist for procurement and for donors.</li> <li>• Development activities are envisioned to enable hungry poor to work toward sustainable food security, adequate nutrition, and economic development.</li> <li>• Combating micronutrient deficiencies: <ul style="list-style-type: none"> <li>• Production and low-cost blended foods, including building national capacities (pilot in Ethiopia, India, Madagascar, North Korea, and Malawi).</li> <li>• Piloting standardization of premixed blended foods.</li> </ul> </li> </ul>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
WFP, cont.		<ul style="list-style-type: none"> <li>• Provision of fortified commodities—oil and blended food, especially in emergencies, high-energy biscuits, iodized salt, wheat, and maize flour fortified with vitamins and minerals.</li> <li>• Training staff and NGOs in nutrition issues.</li> <li>• Research on dietary diversity as an indicator of food security, and on ration composition quality in relation to nutrition outcomes. Project review committee screens all food interventions and examines quality and appropriateness. Supports research on the micronutrient impact of fortified biscuits derived from wheat. Supports research into effectiveness of blanket complementary food distribution for malnutrition prevention (Haiti).</li> <li>• Monitors the cost effectiveness of local purchases within country redistribution of foods.</li> </ul> <p data-bbox="531 994 1019 1050"><i>Enabling Development (1999); Reaching mothers and children at critical times of their lives (1997):</i></p> <ul style="list-style-type: none"> <li>• Supplementary feeding using blended foods.</li> <li>• School feeding (especially girls), as women’s education could potentially reduce child malnutrition.</li> <li>• Improving livelihoods route to improving nutrition.</li> <li>• Acting early: Improving Vulnerability Analysis Mapping (VAM).</li> </ul> <p data-bbox="531 1315 720 1341"><b>Emerging issues:</b></p> <ul style="list-style-type: none"> <li>• Urban food insecurity and HIV.</li> <li>• <i>Urban food insecurity</i>: process of understanding the complex socioeconomic issues, informal safety nets, and how they respond to crisis.</li> <li>• <i>HIV</i>: policy statement (October 2002 draft).</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

Institutions	Mission statement/ mandate	Nutrition strategy
UN Standing Committee on Nutrition (SCN)	<p>The mandate of SCN is to:</p> <ul style="list-style-type: none"> <li>• Raise awareness of nutrition problems and mobilize commitment to solve them—at global, regional, and national levels.</li> <li>• Refine the direction, increase the scale, and strengthen the coherence and impact of actions against malnutrition worldwide.</li> <li>• Promote cooperation among UN agencies and partner organizations in support of national efforts to end malnutrition in this generation.</li> </ul>	<p>Three main areas for action:</p> <ol style="list-style-type: none"> <li>1. Promote harmonized approaches among the UN agencies, and between the UN agencies and governmental and non-governmental partners, for greater overall impact on malnutrition.</li> <li>2. Review the UN system response to malnutrition overall, monitor resource allocation, and collate information on trends and achievements reported to specific UN bodies.</li> <li>3. Advocate and mobilize to raise awareness of nutrition issues at global, regional, and country levels and mobilize accelerated action against malnutrition.</li> </ol> <p><i>Ending Malnutrition by 2020:</i> An Agenda for Change in the Millennium. Final Report to the ACC/SCN by the Commission on the Nutrition Challenges of the 21st Century, February 2000.</p> <ul style="list-style-type: none"> <li>• Proposes a new paradigm of nutrition, which incorporates the double burden of undernutrition and diet-related adult diseases.</li> <li>• Focus on preventable disorders in middle and old age.</li> <li>• Why have global plans of action such as International Conference on Nutrition (ICN) and World Food Summit (WFS) not achieved more? <ul style="list-style-type: none"> <li>• Lack of motivated actors to drive the nutrition agenda.</li> <li>• Failure of health and agriculture sectors to combine forces for a coherent action. Lack of intersectoral approach highlighted.</li> </ul> </li> </ul> <p>New agenda identifies four major tasks:</p> <ol style="list-style-type: none"> <li>1. Assessment of national policies and plans developed in response to SCN.</li> <li>2. Coordination of UN efforts.</li> </ol>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
SCN, cont.		<ol style="list-style-type: none"> <li>3. New mechanism for developing national policies for diet and physical activity. The commission proposes National Nutrition Councils based on Norwegian and Thai experiences.</li> <li>4. Acceptance of National Nutrition Councils to be the major focus for international support.</li> </ol>
FAO/ Economic and Social Department/ Food and Nutrition Division (ESN)	<p>Food and Nutrition Division aims to:</p> <ul style="list-style-type: none"> <li>• Raise awareness of the benefits of combating hunger and reducing malnutrition.</li> <li>• Assist countries in identifying people who are food-insecure and vulnerable to nutritional problems.</li> <li>• Promote food safety and prevent foodborne diseases.</li> <li>• Focus on consumer protection and fair practices in food trade.</li> </ul>	<p>ESN is responsible for:</p> <ul style="list-style-type: none"> <li>• Maintaining food and nutrition country profiles.</li> <li>• Stimulating and maintaining analysis of food composition data (INFOODS).</li> <li>• Nutrition assessments and monitoring, including FIVIMS, State of Food Insecurity in the World Reports, and FAO statistical databases on foods available for consumption.</li> <li>• Organizing consultations on nutrient requirements with other key partners.</li> <li>• Building the necessary program activities and support at the government and institutional levels to respond to identified needs, and thus reverse the situation; working on understanding urban nutrition, incorporating nutritional needs in NARS agenda.</li> <li>• Identify best practices, monitor impact on behavior, consumption, biochemistry, and function.</li> <li>• Initiatives to develop appropriate locally based complementary foods.</li> <li>• Provide fortification recommendations and technical assistance on food legislation, standards and food control, and quality assurance. In collaboration with WHO, provide standards and guidelines for labeling, nutrition and health claims, and nutritional quality.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
FAO, cont.	<ul style="list-style-type: none"> <li>• It has primary responsibility for coordinating FAO nutrition-related activities in follow-up to international meetings and agreements.</li> </ul>	<ul style="list-style-type: none"> <li>• Household Food Security and Community Nutrition Group, together with the Nutrition Information, Communication and Education Group (<a href="http://www.fao.org/es/ESN/nutrition/education_en.stm">http://www.fao.org/es/ESN/nutrition/education_en.stm</a>), directs their activities toward developing and implementing effective community-centered programs:             <ul style="list-style-type: none"> <li>• Focus areas include food-based, community-centered approaches, including home gardens, food fortification, and preparing and planning for food emergencies.</li> <li>• Nutrition in HIV/AIDS. Developed guide, "Living well with HIV/AIDS."</li> </ul> </li> <li>• Nutrition Information, Education, and Communication (IEC) Division's activities</li> <li>• Antihunger program: Reducing hunger through sustainable agriculture and rural development and wider access to food (FAO, Rome, 2002) (<a href="http://www.fao.org/DOCREP/004/Y7151E/Y7151e00.HTM">http://www.fao.org/DOCREP/004/Y7151E/Y7151e00.HTM</a>).</li> </ul>

### Multilateral agencies

World Bank/Health, Nutrition, and Population (HNP)	<p><i>Mission statement of HNP: "Assist clients to improve health, nutrition, and population outcomes of poor people and protect people from the impoverishing effects of illness, malnutrition, and high fertility."</i></p>	<ul style="list-style-type: none"> <li>• Supports a multisectoral approach (including Poverty Reduction Strategy Papers [PRSPs], sectorwide approaches [SWAps]) to nutrition that targets the poor, especially young children and their mothers.</li> <li>• Focuses on community nutrition programs, food fortification programs, and food policy reforms.</li> <li>• Increasing focus on micronutrient deficiencies, the impact of nutrition on education and learning ability, and early child development projects.</li> <li>• The Bank's nutrition strategy is explicitly being framed in terms of accelerating progress towards achieving nutrition relevant MDGs.</li> </ul>
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## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
HNP, cont.		<ul style="list-style-type: none"> <li>• Investing in capacity development within the World Bank and also at the national levels to enable nutrition partners to be at the negotiating table when the reforms, SWAPs, and PRSPs are discussed.</li> <li>• Continued advocacy on how nutrition actions can best be positioned within the new programming environment.</li> <li>• Health Systems Development (HSD) group, under HNP, in the next two to three years will reorient its activities to focus on building the global knowledge base and institutional support needed to help countries accelerate progress toward achieving their MDG targets.</li> <li>• Sector Strategy: Health, Nutrition, and Population, 1997. Key objectives stated include: <ul style="list-style-type: none"> <li>• Improve the health, nutrition, and population outcomes of the poor, and to protect the population from the impoverishing effects of illness, malnutrition and high fertility.</li> <li>• Enhance the performance of health care systems by promoting equitable access to preventive and curative health, nutrition, and population services that are affordable, effective, well managed, of good quality, and responsive to clients.</li> <li>• Secure sustainable health care financing by mobilizing adequate levels of resources, establishing broad-based risk pooling mechanisms, and maintaining effective control over public and private expenditure.</li> </ul> </li> <li>• Bank-supported programs in agriculture and rural development, water and sanitation, social protection, early child development, and maternal and child health can have significant impact on nutrition.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
Asian Development Bank (ADB)	The Bank's overall approach to the health sector is to assist developing member country governments to ensure their citizens have broad access to basic preventive, promotive, and curative services that are efficacious, cost-effective, and affordable. From: ADB. 1999. Policy for the Health Sector. Manila.	<p>Activities in the health sector will be guided by five strategic considerations outlined in the Policy for the Health Sector (1999):</p> <ul style="list-style-type: none"> <li>• The Bank will work to improve the health of the poor, women, children, and indigenous peoples by: (a) increasing its lending for the health sector and maintaining its current emphasis on primary health care (including reproductive health, family planning, and selected nutrition interventions); and (b) focusing on vulnerable groups with particular attention to women, and measuring the extent to which the poor, women, and indigenous peoples have access to health services.</li> <li>• The Bank will maintain a focus on achieving tangible, measurable results by: (a) further strengthening monitoring and evaluation of all health sector activities; (b) emphasizing interventions with strong evidence of effectiveness; (c) improving the quality of loans at entry; and (d) improving implementation of health sector activities.</li> <li>• The Bank will support the testing of innovative approaches and the rapid deployment of effective and affordable new technologies through: (a) financing pilot tests of new approaches to health care financing, organization, and management; and (b) helping support the deployment of new technologies, particularly new vaccines.</li> <li>• The Bank will play a significant role in health sector reform by encouraging developing member country (DMC) governments to take an appropriate and activist role in the health sector. This will involve engaging in policy dialogue to encourage the DMCs to: (a) increase their budgetary allocations for primary health care; (b) diversify their sources of health care financing; (c) collaborate more extensively with the private sector; and</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

Institutions	Mission statement/ mandate	Nutrition strategy
ADB, cont.		<p>(d) increase support for public goods such as research, health education, and regulation.</p> <ul style="list-style-type: none"> <li>• The Bank will increase the efficiency of its health sector investments by: (a) helping to strengthen management capacity of the public sector in the DMCs; (b) improving its economic and sector work and strengthening linkages with other sectors; and (c) further strengthening its collaboration with partner institutions operating in the health sector.</li> </ul> <p>A review of this policy is planned for 2005/2006, at which time it is anticipated nutrition and population considerations will be more explicitly considered and integrated into ADB's policy for the sector.</p>
<b>Bilaterals</b>		
Norway— Ministry of Foreign Affairs		<p>Action Plan for Combating Poverty in the south toward 2015, March 2002:</p> <ul style="list-style-type: none"> <li>• Increase in development assistance to 1 percent of gross national income (GNI) by 2005.</li> <li>• Mentions education and health, but not nutrition.</li> </ul>
NORAD Institutional set-up for nutrition not clear <a href="http://www.norad.no/">http://www.norad.no/</a>	<ul style="list-style-type: none"> <li>• NORAD aims to achieve lasting improvements in political, economic, and social conditions for the entire population within the limits imposed by the natural</li> </ul>	<p>“Nutritional considerations in Norwegian development cooperation” argues that NORAD should explicitly incorporate nutritional considerations in its plan for 2000-5.</p> <ul style="list-style-type: none"> <li>• Recommends supporting partner countries’ national plan of action for food and nutrition in formulation and implementation.</li> <li>• Building or strengthening institutions</li> <li>• Supporting nutrition surveillance systems.</li> </ul> <p>(Not clear if these recommendations have been implemented.)</p>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
NORAD, cont.	<p>environment and the natural resource base.</p> <ul style="list-style-type: none"> <li>• Has links to health/education and HIV, but not nutrition. Nutrition not even overtly mentioned.</li> </ul>	<p>Other key documents include:</p> <ul style="list-style-type: none"> <li>• Focus on NORAD: Statement to the starting on development cooperation policy 2002: Report on NORAD in 2002 (expands on the Action Plan).</li> <li>• Annual Report 2001—NORAD: Emphasizes that health and education are the most important areas of focus.</li> </ul>
Denmark/ Danish International Development Agency (DANIDA)	<ul style="list-style-type: none"> <li>• Danish assistance will in the future concentrate on its original main objective: promoting sustainable development through poverty-oriented economic growth.</li> <li>• A critical review conducted in 2002. Results will appear in appropriation bill of 2003.</li> </ul>	<ul style="list-style-type: none"> <li>• No clear nutrition strategy mentioned.</li> <li>• But “to help poor by investing in education and health” is the primary goal.</li> <li>• More focus on women.</li> </ul>
Japan/ Japanese International Co-operation Agency (JICA)	<p>Technical assistance aimed to transfer technology and knowledge that can serve the socio-economic development of the developing countries.</p>	<ul style="list-style-type: none"> <li>• Nutrition per se not prominent.</li> <li>• Priority areas are dependent on regional and country level issues. Therefore, JICA’s priorities in South America are very different from Africa.</li> <li>• Food security, agriculture development, and health care are priority issues in Africa. In South America,</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

Institutions	Mission statement/ mandate	Nutrition strategy
JICA, cont.  No institutional set-up for nutrition apparent	<a href="http://www.jica.go.jp/english">http://www.jica.go.jp/english</a>	<p>issues include strengthening international competitiveness, environment-friendly agriculture, etc.</p> <ul style="list-style-type: none"> <li>• Global issues of concern include:               <ul style="list-style-type: none"> <li>• Poverty, gender, environment, education, and health.</li> <li>• Population and AIDS.</li> <li>• Trade and peace building.</li> <li>• Disability.</li> </ul> </li> </ul>
Canada/ Canadian International Development Agency (CIDA)/ Health and Nutrition	<ul style="list-style-type: none"> <li>• “CIDA supports sustainable development activities in order to reduce poverty and to contribute to a more secure, equitable, and prosperous world.”</li> <li>• Health and Nutrition: “Canada is active in promoting health and nutrition in developing countries and countries in transition, focusing on the poorest and most marginalized people—who are most often women and children.”</li> </ul>	<ul style="list-style-type: none"> <li>• “Canada will commit 25 percent of its ODA to basic human needs as a means of enhancing its focus on addressing the security of the individual.”</li> <li>• Under the priority area of “Basic human needs,” CIDA supports health and nutrition.</li> <li>• Contributed to the creation of Micronutrient Initiative (MI). <i>Extract from CIDA’s Action Plan on Health and Nutrition, 2001: Guidelines through 2005:</i> <ul style="list-style-type: none"> <li>• Contribute to reduction in poverty by investing in health, nutrition, and water.</li> <li>• Rights-based approach, gender analysis.</li> <li>• Integrated and targeted nutrition programs: protecting women’s nutrition, improving child feeding practices.</li> <li>• Vitamin A supplementation and salt iodization.</li> <li>• Food security: food-based strategies, emphasizes the need to develop new ways of examining impacts.</li> <li>• Has research and capacity development program for tropical diseases and reproductive health, but not nutrition.</li> </ul> </li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
<p>Sweden/ Swedish International Development Agency (SIDA)</p> <p>Health and education are under the Department for Democracy and Social Development (DESO).</p> <p>There seems to be no house for nutrition.</p>	<p>The overall goal of Swedish development cooper- ation is to raise the standard of living of poor people in the world. The Swedish Parliament has adopted the follow- ing six specific objec- tives to achieve this overall goal:</p> <ul style="list-style-type: none"> <li>• Economic growth.</li> <li>• Economic and political independ- ence.</li> <li>• Economic and social equality.</li> <li>• Democratic devel- opment in society.</li> <li>• The long-term sustainable use of natural resources and protection of the environment.</li> <li>• Equality between men and women.</li> </ul>	<p>Health Sector policy states that SIDA supports research, including malnutri- tion:</p> <ul style="list-style-type: none"> <li>• Emphasizes health sector develop- ment through bilateral and multilat- eral cooperation.</li> <li>• Malnutrition is mentioned as “other sectors” that could affect health.</li> <li>• SIDA’s Poverty Programme 1996: Food security is one of the priority areas under the Department of Natural Resources and Environment. No elaboration provided.</li> </ul> <p>Key documents include:</p> <ul style="list-style-type: none"> <li>• SIDA Looks Forward—SIDA’s Programme for Global Development (not available on line).</li> <li>• Policy for development cooperation: Health sector, 1997.</li> <li>• Perspectives on poverty, 2002 (fleet- ing mention of nutrition).</li> </ul>
<p>Germany/ German Agency for Technical Assistance (GTZ)</p>		<p><b>GTZ:</b> Agriculture and agriculture research are priority areas.</p> <ul style="list-style-type: none"> <li>• The only publication on nutrition listed on the Web is on certification of organic foods.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
Ireland Aid	<p>The Government is committed, through its <i>Action Programme for the Millennium</i>, to reaching the target for development aid of 0.45 percent of gross national product (GNP) by the year 2002.</p> <p><a href="http://www.irlgov.ie/iveagh/irishaid/overview/default.htm">http://www.irlgov.ie/iveagh/irishaid/overview/default.htm</a></p>	<ul style="list-style-type: none"> <li>• Programs and projects to meet the basic needs include food security, health care, education, and clean water supplies.</li> </ul> <p>Report of the Ireland Aid review committee, February 2002</p> <p><a href="http://www.irlgov.ie/iveagh/irishaid/irlaidreview.pdf">http://www.irlgov.ie/iveagh/irishaid/irlaidreview.pdf</a>:</p> <ul style="list-style-type: none"> <li>• It endorses its food security program.</li> <li>• No nutrition-specific strategy.</li> </ul> <p>Reaching the UN Target—A millennium decision for Ireland, Ireland Aid, 2000</p> <p><a href="http://www.irlgov.ie/iveagh/irishaid/2000report/IrelandAid.pdf">http://www.irlgov.ie/iveagh/irishaid/2000report/IrelandAid.pdf</a></p>
USAID	<p>USAID places the highest priority on alleviating undernutrition and is focused on improving nutrition through sectoral programs in agriculture, health, food aid, population, and education as well as direct nutrition programs.</p>	<p>USAID'S strategy incorporates nutrition through its development assistance program by:</p> <ul style="list-style-type: none"> <li>• Identifying projects based on nutrition and food consumption problems.</li> <li>• Including nutrition as a factor in project design in: <ul style="list-style-type: none"> <li>• Agriculture projects.</li> <li>• In health through primary health care.</li> <li>• In food aid through targeting appropriate rations to at-risk groups.</li> <li>• In population by complementing family planning services.</li> <li>• In education through promotion of nutrition education in schools, training community health workers, providing advanced training for professionals.</li> </ul> </li> <li>• Targeting sectoral projects at individuals/households who are at risk to developing nutrition problems.</li> <li>• Monitoring and evaluating nutrition impacts of projects.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
USAID, cont.		<ul style="list-style-type: none"> <li>• Complementing sectoral projects with nutrition projects.</li> <li>• Utilizing the private sector in food programs where feasible.</li> <li>• Encouraging the development of national policies.</li> <li>• Coordinating with less developed country (LDC) governments/donors to reach nutrition goals.</li> <li>• USAID has also developed a strategy to provide food and nutrition assistance in HIV/AIDS programs. Country programs include:               <ul style="list-style-type: none"> <li>• <b>Rwanda:</b> USAID provides assistance to NGOs to provide food to approximately 29,000 children affected by HIV/AIDS as part of a comprehensive package of services.</li> <li>• <b>Uganda:</b> USAID has a five-year, \$30 million program, which is the largest of its kind in the world. The program targets approximately 60,000 individuals who have HIV/AIDS or live in households where providing HIV/AIDS care is undermining the ability to meet food and nutrition needs. The target population receives intensive nutrition education in addition to food aid. The program involves communities in food distribution to raise awareness, reduce stigma, and mobilize community involvement in HIV/AIDS activities.</li> </ul> </li> </ul>
U.K. Department for International Development (DFID)		<p>DFID's strategy for achieving the MDG target of reducing hunger by 2015:</p> <ul style="list-style-type: none"> <li>• Promote a shared analysis of the causes of hunger and malnutrition and of progress towards the hunger MDG.</li> </ul>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
DFID, cont.		<ul style="list-style-type: none"> <li>• Better integration of food security into poverty reduction efforts.</li> <li>• Promote the development of human capital.</li> <li>• Promote trade reforms that strengthen the food security of poor.</li> <li>• Better response to drought, conflict, and emergencies.</li> <li>• Better systems to identify who is hungry, where, and why.</li> </ul> <p>No explicit nutrition strategy. Proposed global nutrition priorities for DFID based on existing gaps (International Food Policy Research Institute [IFPRI] study, 2003):</p> <ul style="list-style-type: none"> <li>• Embed nutrition components within development actions.</li> <li>• Manage and generate practical knowledge at the intersection of livelihoods, the life-course, and lifestyles.</li> <li>• Develop capacity to integrate nutrition within sector initiatives.</li> <li>• Use and develop nutrition indicators to measure progress of nonnutrition activities</li> <li>• Highlight the key role of nutrition as both a driver of development and a nonexclusive investment opportunity.</li> </ul>

**Private Sector/NGOs**

Academy for Educational Development (AED) (Funding mainly from USAID and other partners)	AED helps communities secure stable food sources and improve their overall health and well-being.	<p>AED is involved in several large projects, mostly funded by USAID, which outline its strategy for addressing the different aspects of nutrition:</p> <ul style="list-style-type: none"> <li>• <b>CHANGE PROJECT</b>—develops tools and strategies to facilitate individual and social behavior change relevant to child health, maternal health, infectious disease, and HIV/AIDS. A major focus is improving individual and household behaviors.</li> </ul>
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## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
AED, cont.	<p>With programs addressing issues such as breastfeeding, malnutrition, and food security, AED helps foster healthy communities around the world.</p> <p>AED is a leader in applying behavior change and social marketing methodologies to public health nutrition problems, particularly in breastfeeding, infant feeding, feeding of infants born to HIV-positive mothers, and micronutrient deficiencies. Over the last five years, AED has built up one of the largest concentrations of public health nutrition experts outside academia.</p>	<ul style="list-style-type: none"> <li>• <b>Ethiopia Child Survival and Systems Strengthening Project (ESHE)</b>—Focus of the project is to increase the survival rates of young children in Ethiopia through improved vaccination and nutritional supplementation. The program provides vitamin A, iron, and folate supplementation coverage for women and children and promotes exclusive breastfeeding for infants and continued breastfeeding to at least 24 months of age.</li> <li>• <b>Food and Nutrition Technical Assistance Project (FANTA)</b>—Supports integrated food security and nutrition programming. Helps integrate nutrition into the strategic planning process; provides analyses for food security and nutrition policy development, and shares information and knowledge with partners.</li> <li>• <b>LINKAGES</b>—This program focuses on increasing breastfeeding and related practices to improve maternal and reproductive health through technical assistance and training.</li> <li>• <b>Preventing Type II Diabetes (STOPP-T2D)</b> (funded by George Washington University)—This initiative is to design a social marketing strategy and communications program for middle schools in the United States to promote physical activity and healthy food choices.</li> <li>• <b>PROFILES</b> (multiple funders)—Engages national leaders in policy dialogue and public health nutrition. It has been credited with raising awareness about nutrition, building consensus, building capacity, and developing leadership skills of nutrition advocates.</li> </ul>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
AED, cont.	Areas of focus include policy analysis and advocacy, evaluation and monitoring, and comprehensive planning for food security.	<ul style="list-style-type: none"> <li>• <b>Support for Analysis and Research in Africa (SARA)</b>—Provides assistance to African institutions to develop and promote policies to increase sustainability, quality, efficiency, and equity of a variety of health services, including nutrition.</li> <li>• <b>Useful tools and publications:</b> <ul style="list-style-type: none"> <li>• Breastfeeding and maternal nutrition: Frequently asked questions.</li> <li>• Child health counseling cards, Dominican Republic.</li> <li>• Community health worker incentives and disincentives: How they affect motivation, retention and sustainability.</li> <li>• Food and nutrition implications of ART in resource limited settings.</li> <li>• HIV/AIDS Mitigation: Using what we already know.</li> <li>• Quantifying the benefits of breastfeeding: A summary of the evidence.</li> </ul> </li> </ul>
Hellen Keller International (HKI)	Provide technical assistance, training, and M&E for homestead food production (gardening, fisheries, poultry, and animal husbandry).	<ul style="list-style-type: none"> <li>• Research and Development: Development of dietary assessment methods; testing plant varieties and gardening methods; and developing and testing postflood gardening rehabilitation practices. Compliance with international code of breastfeeding.</li> <li>• Provide advice to agriculture ministries within countries to think about production of nongrain foods and appreciate the importance of food for better health.</li> <li>• Provide technical assistance and training to support ongoing programs with local partners in six countries in Africa and Asia.</li> <li>• Conduct surveillance and program monitoring to monitor anemia and iron deficiency, evaluate program coverage and the impact of homestead food production on nutrition status, household income, food consumption, and women’s empowerment.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
HKI, cont.		<ul style="list-style-type: none"> <li>• Conduct food surveys, including FRATs, to determine food patterns for fortification and the impact of iron-fortified candy.</li> <li>• Provide assistance to countries to develop guidelines, training, and materials to implement new policies on vitamin A supplementation for children postpartum and sick children.</li> <li>• Conduct operational research on anemia programs for school-age children and young infants and help develop national surveys to identify iron deficiency and the impact of interventions on anemia.</li> <li>• Integrate malaria and vitamin A in program interventions.</li> <li>• Monitor breastfeeding practices and evaluate program impact,</li> </ul>
MI	<p>The Micro-nutrient Initiative (MI) is a not-for-profit organization specializing in addressing micronutrient malnutrition. MI is governed by an international Board of Directors. MI supports and promotes food fortification and supplementation programs in Asia, Africa, and Latin America and</p>	<ul style="list-style-type: none"> <li>• Support for the Fresh Food Initiative (FFI), planning and implementation of national food fortification programs for iron, folic acid, and other nutrients, and technical guidelines.</li> <li>• Research and development: efficacy and effectiveness studies. Promote use of red palm oil by households and school feeding programs in West Africa; promote cultivation and use of orange-fleshed sweet potatoes in Southern Africa; efficacy of carotene-rich sweet potatoes in improving vitamin A staples; efficacy of double-fortified salt; impact of iron supplements on school performance.</li> <li>• Procure premix and equipment.</li> <li>• Conduct national and subnational impact evaluations.</li> <li>• Conduct vitamin A stability studies.</li> <li>• Provide program planning/implementation and technical assistance to governments and oil refining in core countries.</li> </ul>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
	<p>provides technical and operational support in those countries where micronutrient malnutrition is most prevalent. MI carries out its work in partnership with other international agencies, governments, and industry.</p>	<ul style="list-style-type: none"> <li>• Pilot and scale up programs for production and distribution of complementary foods, as well as conduct research on the efficacy/ effectiveness of complementary foods.</li> <li>• Procure vitamin A capsules and support program implementation; design oral dropper technology; and develop field methods for biochemical assessment.</li> <li>• Promote and conduct impact studies on the effect of multiple micronutrient supplements for special feeding programs.</li> <li>• Provide expert training workshops and capacity building for understanding how to develop effective fortification programs.</li> <li>• Provide technical guidelines for flour fortification.</li> </ul>

**Private sector**

Manoff Group	<p>The Manoff Group provides assistance in communications and behavior-centered planning, management, and evaluations for health, nutrition, and population projects.</p>	<p>The Manoff Group addresses nutrition through a variety of programmatic approaches.</p> <ul style="list-style-type: none"> <li>• Strategic program design.</li> <li>• Consultative research: Trials on improved practices (TIPs) is the core method for the consultative research process. TIPs offers:                             <ul style="list-style-type: none"> <li>• In-depth understanding of child feeding practices.</li> <li>• Adaptation of feeding recommendations to specific situations.</li> <li>• Understanding the motivations and constraints to change behavior.</li> <li>• Flexibility.</li> <li>• Quick and inexpensive field research.</li> <li>• A bridge between the nutrition program and the family and community.</li> <li>• Training in nutrition counseling.</li> </ul> </li> </ul>
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## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
Manoff Group, cont.		<ul style="list-style-type: none"> <li>• Community mobilization: The Manoff Group has a variety of approaches, including community-based growth promotion model, community surveillance, and behavior change approach.</li> <li>• Product marketing: This is driven by a behavior change strategy based on formative, consultative research. Examples of products that Manoff Group projects have promoted are:             <ul style="list-style-type: none"> <li>• Iron tablets in Indonesia, Pakistan, India, and Bolivia, among other countries.</li> <li>• Vitamin A capsules in Thailand, Indonesia, and El Salvador, among other countries.</li> <li>• Vitamin A–fortified sugar in Zambia, Bolivia, and El Salvador.</li> <li>• Iron-fortified wheat products in Nicaragua.</li> </ul> </li> <li>• Country program experience includes:             <ul style="list-style-type: none"> <li>• Communicating importance of breastfeeding to families in Pakistan and Indonesia.</li> <li>• Identification of/education on nutritious weaning foods in El Salvador, India, and Zambia.</li> <li>• Community counseling on importance of nutrition for growth in Honduras and the Dominican Republic, among other countries.</li> <li>• Micronutrient supplementation and nutrition education programs for school children in Egypt and Indonesia.</li> <li>• Young child feeding in El Salvador, India, and Guatemala.</li> </ul> </li> <li>• Manoff Group has produced useful resources for general health and nutrition communication, micronutrient malnutrition, maternal health, and environmental health.</li> </ul>

**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
Global Alliance for Improving Nutrition (GAIN)	<p>GAIN’s mandate is to forge an alliance of public, private, and civil society partners committed to eliminating vitamin and mineral deficiencies globally. GAIN has adopted the goals for country level operations from the United Nations General Assembly Special Session on Children in May 2002 to:</p> <ul style="list-style-type: none"> <li>• Achieve sustainable elimination of vitamin A deficiency by 2010.</li> <li>• Reduce anemia prevalence, including iron deficiency, by one-third by 2010.</li> <li>• Eliminate IDD by 2005.</li> <li>• Accelerate progress toward reduction of other vitamin and mineral deficiencies through dietary diversification,</li> </ul>	<p>GAIN will combine the strengths of public and private sector organizations to:</p> <ul style="list-style-type: none"> <li>• Mobilize private industry, international donors, and foundations in support of food fortification initiatives in low-income countries.</li> <li>• Tap the expertise and resources of the corporate sector in technology transfer, business development, trade, and marketing.</li> <li>• Work with the UN and other multilateral agencies to set international standards and establish systems for quality assurance and control.</li> <li>• Utilize public sector capabilities to address legislative and regulatory barriers to food fortification.</li> <li>• Develop a broader role for NGOs and civic organizations in food fortification.</li> <li>• Link food fortification efforts with other essential interventions, such as micronutrient supplementation and dietary diversification.</li> </ul> <p>N.B.: Fortification of staple foods and condiments is determined by country situation and not by GAIN.</p> <p><i>Research and development:</i></p> <ul style="list-style-type: none"> <li>• GAIN will prioritize research needs (global and regional) as well as capacity development.</li> <li>• GAIN follows a code of fortification and is developing a global advisory group on fortification within the context of the already existing WHO IMAGE.</li> <li>• Elevate nutrition on national agendas and further the MDGs.</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
GAIN, cont.	food fortification, biofortification, and supplementation.	<ul style="list-style-type: none"> <li>• Provide support to the National Food Authority (NFA) building partnerships.</li> </ul>

### Research Institutions

IFPRI	<ul style="list-style-type: none"> <li>• IFPRI's mission is to provide policy solutions that cut hunger and malnutrition. This mission flows from the CGIAR mission: "To achieve sustainable food security and reduce poverty in developing countries through scientific research and research-related activities in the fields of agriculture, livestock, forestry, fisheries, policy, and natural resources management." Two key premises underlie IFPRI's mission. First, sound and appropriate</li> </ul>	<p>IFPRI uses four sets of criteria to determine its priorities as part of its nutrition strategy:</p> <ol style="list-style-type: none"> <li>1. The work program must conform to IFPRI's mission to provide policy solutions that reduce hunger and malnutrition.</li> <li>2. Research and outreach should address emerging issues that most directly affect food security, nutrition, and poverty.</li> <li>3. Research, capacity-strengthening, and policy-communications activities should be based on IFPRI's dynamic comparative advantage to produce results applicable to many countries—that is, international public goods.</li> <li>4. Stakeholders and partners should be consulted to identify food policy research that all parties believe will help develop policies to reduce hunger and malnutrition.</li> </ol> <p>These criteria work as a decision tree: Research and outreach activities must meet all four criteria in order to be included on IFPRI's agenda.</p> <p>IFPRI places a high priority on activities that benefit the greatest number of poor people in greatest need in the developing world. In carrying out its activities, IFPRI seeks to focus on vulnerable groups, as influenced by caste, class, religion, ethnicity, and gender.</p>
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**Mandate and focus of development partners in nutrition**  
*(continued)*

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
IFPRI, cont.	<p>local, national, and international public policies are essential to achieving sustainable food security and nutritional improvement. Second, research and the dissemination of its results are critical inputs into the process of raising the quality of the debate and formulating sound and appropriate food policies. IFPRI's mission entails a strong emphasis on research priorities and qualities that facilitate change.</p>	<p>IFPRI is also committed to providing international food policy knowledge as a global public good; that is, it provides knowledge relevant to decision makers both inside and outside the countries where research is undertaken. New knowledge on how to improve the food security of low-income people in developing countries is expected to result in large social benefits, but in most instances the private sector is unlikely to carry out research to generate such knowledge. IFPRI views public organizations and the private sector in food systems both as objects of study and as partners. Given the large body of national and international food policy research, IFPRI's added value derives from its own cutting-edge research linked with academic excellence in other institutions, such as other Consultative Group on International Agricultural Research (CGIAR) centers, universities, and other research institutes in the South and North, and from its application of this knowledge to national and international food policy problems.</p>
HarvestPlus	<p>Biofortification is a strategy of getting plants to fortify their seeds/roots through plant breeding. An interdisciplinary global alliance of research institutions and implementing</p>	<ul style="list-style-type: none"> <li>• Research and development is the main focus of HarvestPlus.</li> <li>• Conducts research on food and agricultural policies that impact the dietary quality of the poor; conducts cost benefit analyses of alternative interventions and efficacy trials.</li> <li>• Develops social marketing messages such as encouraging consumers to switch from white to consumption of yellow/orange varieties in breeding</li> </ul>

## Mandate and focus of development partners in nutrition (continued)

<i>Institutions</i>	<i>Mission statement/ mandate</i>	<i>Nutrition strategy</i>
HarvestPlus, cont.	agencies has been assembled to develop bio-fortified varieties and to disseminate them to farmers in developing countries. HarvestPlus is the name of this global program.	vitamin A carotenoids; develops messages to promote food and agricultural policies that enhance dietary quality. <ul style="list-style-type: none"> <li>• Collaborates with government extension agencies, NGOs, and private sector to disseminate biofortified varieties by working through established seed markets and developing new seed markets as necessary.</li> </ul>

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## Annex 5.4

# Deciding how to invest in nutrition: A framework for making policy choices

Deciding how best to improve nutrition can be a controversial process because:

- Many different interventions can have an effect on nutrition.
- At least 10 variables need to be taken into account in deciding what to do.
- Needs, priorities, and constraints vary between countries, between regions and population groups within countries, and over time, so generalizing is impossible.
- People see different priorities for action, depending on their understanding about what causes malnutrition and their knowledge about the range of possible interventions.
- There are often vested interests in expanding one type of program rather than another.

The biggest impact on malnutrition comes from multisectoral programs that include most of the menu of nutrition interventions set out in table 3.1 of the main volume of this report. But for various reasons—because they lack the commitment, or the funds, or the managerial capacity—most countries where malnutrition is serious cannot expect to implement a broad, multi-sectoral nutrition program on a national scale, at least in the short and medium term. The issue is how such countries, which cannot do everything, should decide what to do as a priority.

Here are six sets of questions that provide a framework for decision making. While it makes sense to consider them initially in the order presented, the decision-making process needs to be iterative, since the answers to some later questions may require reconsideration of earlier questions. Who addresses these questions is as important as how they are addressed. The more stakeholders that are involved in the policy choice process, the more chaotic and difficult it is likely to be. On the other hand, the more stakeholders that have been involved and hence understand the rationale for policy decisions, the greater the likelihood of commitment to implementing the chosen policies.

## **Question 1: How does the environment constrain what can be done, and what opportunities does it offer?**

The different nutrition options need to be considered in the context of the political, cultural, institutional, and financial environment. A situation analysis is therefore the first step in the policy choice process, focusing on both constraints and opportunities.

### *Constraints*

Questions to ask include:

- Is government commitment to poverty reduction, to human development, and to improving nutrition real, or mainly rhetoric?
- Are politicians committed to nutrition programs (some food subsidy programs, school feeding) that bring political benefits, but have little impact on nutrition?
- How far do public expenditure constraints limit what new initiatives can be taken?
- How far do managerial constraints limit what new initiatives can be taken?
- Do governance problems hamper the implementation of social sector programs?
- What are the limitations of the available nutrition data and the capacity to analyze it?

### *Opportunities*

Questions to ask include:

- What policies and programs do politicians favor, and how might investing in nutrition further their goals?
- What cultural values might support increased attention to nutrition, and what community organizations or mutual help traditions might facilitate program implementation?
- What small-scale nutrition interventions exist that might be made more cost-effective and scaled up?
- What existing nutrition-related programs—in health, agriculture, social protection, and water and sanitation—have institutional capacity that can be built on?
- What institutional capacity is there outside government—NGOs, social research institutes, commercial consultants?

## Question 2: What makes the most technical and economic sense?

The variables to be taken into account here are epidemiology and cost-effectiveness.

### *Epidemiology*

The type of malnutrition problem, its extent and seriousness, what causes it, and who suffers from it (age groups, sex, and geographical location) all need to be reviewed. Countries vary greatly in their epidemiological needs:

- In many middle and high-income countries, overnutrition is the main manifestation of malnutrition, and interventions in nutrition education and food policy are the corresponding priorities.
- Micronutrient malnutrition is a problem in more than 55 countries, both low and middle income. Food fortification is a solution for the population at large, but supplementation is needed for high-risk groups—for example, for anemic pregnant women who need more iron than they can absorb just from fortified foods.
- Protein-energy malnutrition (PEM) is a problem in more than 60 countries. Here, looking at what causes it is crucial. The most common cause of PEM is parents' poor child feeding and caring practices, and the corresponding solution is growth monitoring and education about breastfeeding and weaning, as well as better diets for pregnant and lactating women. But if disease is an important cause of malnutrition, then health, water, or sanitation interventions can be as important; and if food security is a problem, then indirect interventions against malnutrition should be considered (see below). UNICEF's food-health-care framework for understanding the causes of malnutrition is useful here (UNICEF 1990).
- Both micronutrient malnutrition and PEM are a problem in more than 50 countries.

### *Cost-effectiveness*

The direct interventions against malnutrition are all cost-effective. But relative cost-effectiveness varies between interventions and in different country circumstances, for example:

- While both PEM and micronutrient interventions are cost-effective ways to reduce malnutrition, micronutrient interventions are relatively more cost-effective (Lomborg 2004) because they cost less per client and are easily added to existing health programs.

- If a country has already invested in one type of program, it is often more cost-effective to improve or expand that, rather than create a new, different type of program because extra investment at the margin of an existing program to remove bottlenecks to performance usually has a very high payoff.

Cost-effectiveness and epidemiological considerations need to be balanced. Globally, growth promotion programs focusing on improving caring practices have been neglected because there have been lobbies for investing in health and agriculture, but not in care. Yet poor caring practices are probably the biggest worldwide cause of PEM. So countries need to be careful about investing only in cheap micronutrient programs or in expanding food security programs because they are already in place if they have a caring practice problem that is not being systematically addressed.

### **Question 3: What will actually work on the ground?**

The key variables here are commitment, capacity, and affordability.

#### *Commitment*

Nutrition programs get off the ground, and get sustained, only if key politicians, officials, and local communities are committed to them. So investment decisions should not be taken only on the basis of what is technically and economically rational, but also on the basis of what is politically rational. For example, investments in children are often politically popular. So tackling malnutrition through child development programs can make political sense, as well as reaping benefits from the synergy between improving health, nutrition, and early stimulation simultaneously. Approaches for assessing commitment are suggested in Heaver (2005b).

#### *Capacity*

Countries' limited technical capacity often constrains their ability to design nutrition programs, and limited management capacity often constrains their ability to expand programs, ensures their quality, and makes service providers accountable for results. When capacity is limited, it makes sense to start with nutrition interventions that build on existing capacity. It is usually possible to build on existing health system capacity: one example is incorporating vitamin A supplementation into outreach services for immunization; another is incorporating nutrition into health clinic services using the IMCI approach. Food fortification uses the existing capacity of

private sector food manufacturers and distributors. And several governments have successfully used existing NGO capacity to deliver growth promotion outreach services.

### *Affordability*

Sometimes nutrition interventions can have a high impact and be highly cost-effective without being affordable at scale. Small-scale, donor-financed projects frequently develop effective but expensive interventions without considering whether they can be scaled up. So it is essential for governments and development partners to get together and decide to test out in projects only things that have a chance of going to scale. Examples of interventions that usually are affordable at scale because they are relatively cheap are vitamin A and iodine supplementation, food fortification, and IMCI.

#### **Question 4: What is the right balance between direct and indirect interventions?**

The direct interventions are usually the most cost-effective way to improve nutrition. A list of what are commonly defined as the direct (short route) interventions is given in table 3.1 of the main volume of this report.

There is some confusion about where food stands as an intervention. Traditionally, food security interventions are classified as indirect, because, while they improve *household* food security, they may not directly affect the nutritional status of *at-risk family members*—infants, for example. But it seems inappropriate to classify food as an indirect intervention where it does directly improve nutritional status, as with, for example:

- Food supplements targeted on growth-faltering children under age three in the TINP (Heaver 2003a). These both directly improved their nutrition and taught mothers about the nutritional benefits of feeding small amounts of extra food.
- Food supplementation targeted on low-BMI pregnant women in Bangladesh (Pelletier, Shekar, and Du forthcoming), which substantially improved their nutritional status.
- Food aid geographically targeted on families in drought-affected areas of Ethiopia, which likewise had direct nutritional benefits (Yamano, Alderman, and Christiaensen 2004). Food aid for families uprooted by conflict, or without able-bodied adults due to war or AIDS, is another example.

- Food-for-work schemes that are targeted seasonally so families can maintain their food consumption during the preharvest lean season, or when harvests fail.

Targeted food supplementation can therefore be direct intervention. A useful review of advantages and disadvantages of different food-based safety nets can be found in Rogers, Lorge, and Coates (2002).

The indirect interventions are usually a second order investment priority for improving nutrition. But they can be first order priorities under certain country circumstances. For example:

- Immunization is a priority wherever coverage is low, since the common infectious diseases cause children's growth to falter.
- Oral rehydration is a priority wherever diarrhea is a leading cause of malnutrition, and water supply and sanitation programs can also be effective in reducing diarrhea (Fewtrell and Colford 2004).
- Treatment for malaria and intestinal parasites may be a high priority wherever high parasite loads weaken children's ability to absorb nutrients.

Otherwise, the relative cost-effectiveness of the indirect interventions seldom justifies financing them in preference to direct interventions on purely nutritional grounds. For example, stimulating economic growth improves nutrition, but it takes so long to change nutritional status that it is not a priority nutrition intervention—although, of course, economic growth is needed to reduce income poverty, and to finance the taxes that pay for direct nutrition programs. But governments finance many indirect interventions anyway, with the aim of reducing income poverty. Where such interventions are already being financed, steps can often be taken to design them so they have an impact on nutrition as well as incomes. For example:

- By targeting livelihood creation programs on families suffering from malnutrition, as with the poultry-rearing activities in Bangladesh's National Nutrition Program.
- By combining microcredit/income generation programs with nutrition education, which increases the likelihood of some of the extra income being spent on improving nutrition.
- By coordinating the implementation of water and sanitation and health and nutrition programs so as to maximize their synergy, as in Honduras's Nutrition and Health Project (World Bank 1992) and Senegal's Community Nutrition Project (World Bank 2001b).

## Question 5: Who gets how much?

The key variables here are coverage, intensity, quality, and targeting.

### *Coverage, intensity, and quality*

Governments are often preoccupied with program coverage, both because they want to reach as many needy clients as possible and because of the political rewards of extending programs into new geographic areas. But when resources are scarce, there is a significant trade-off between a program's coverage and its intensity and quality. Intensity is measured by the amount of money spent per beneficiary, or the number of workers for a given client population. Mason and others (forthcoming) argue that to get a reasonable level of quality and impact, community nutrition programs need to spend in the range of \$5–\$10 a child per year, and have about one full-time worker (or a correspondingly larger number of part-time workers) for every 500 target families. Many programs have gone for high levels of coverage at the expense of intensity and quality. India's Integrated Child Development Services (ICDS) program, whose quality and impact is low, and which spends only about \$2 a child per year on nutrition, is an example.

### *Targeting*

There is therefore a trade-off, often unacknowledged, between getting a low-quality program to a large number of clients, and getting a higher quality program to a smaller number of clients. From an epidemiological and economic perspective, it is rational to target a higher-intensity, higher-quality program on limited geographic areas or high-risk population groups with high levels of malnutrition, rather than to seek universal, low-quality coverage. Targeting on the basis of highest need is not only equitable, but often the fastest way to get results because it is easier to reduce malnutrition from high to medium levels than from medium to low levels. For example, TINP, which was targeted on vulnerable children under age three, was able to reduce severe malnutrition from about 8 percent to about 4 percent in the first two years the program came into a new geographic area.

But while targeting high-intensity programs on the neediest may be epidemiologically and economically rational, benefiting only the most disadvantaged—who are seldom influential voters—may not be politically rational. The trade-off between tight targeting and political and community support can be resolved in various ways. In the case of TINP, a program in which food supplementation was tightly targeted on malnourished children under age three, only 25 percent of children received food

supplementation at any given time; but because children whose growth was faltering received supplementation, and because most children's growth faltered at some time or other, 75 percent of children benefited from supplementation at one time or another—thus ensuring wide community support for the program (Heaver 2003a).

### **Question 6: How should things evolve over time?**

If there aren't the funds to get adequate-intensity, adequate-quality programs to everyone, and if tight targeting on the neediest is politically difficult, another way to resolve this trade-off is to postpone more expensive, higher-intensity interventions and concentrate in the short run on less costly interventions that can reach more people. In practice, this usually means concentrating on micronutrient programs (see Question 2), which can often satisfy financial and political rationalities at the same time. Since micronutrient malnutrition is widespread and serious, these programs are an epidemiological priority too.

The problem is that PEM also has to be tackled in poor countries, where it contributes to as many as half of child deaths, as well as to disease, low school enrollment, and poor school performance. Because programs to promote child growth are those where many countries have invested least, and since growth promotion programs are fairly expensive, deciding what to do about PEM, and when, often presents the hardest of policy choices for very poor countries. Four rules of thumb can be applied to help decide how things should evolve over time.

#### *Short-run plans should be pragmatic*

Priorities for the next five years should be pragmatically determined, based on a mix of criteria: what is epidemiologically important; what will get political support; what is cost-effective and affordable; and what can be implemented given existing management capacity, and taking into account where past investment has gone and hence where there is a base for doing more. Box 5.2 in the main volume of this report gives some examples of what countries might do in the short run when commitment or financial and managerial capacity are weak.

#### *A long-term vision should be developed*

This should set out the desired type and coverage of nutrition programs, and the policies, institutions, commitment, capacity, and finance that need to be put in place over a 10- to 15-year period to enable and support them.

Levels and trends in malnutrition and its causes (food insecurity, poor health, and inadequate caring practices) should be used to define what interventions are needed.

*Foundations for the future should be laid*

An implementable set of additional activities required to move the country along the path to its long-term vision should be built into the short-term plan. These might include policy analysis; building the data and evidence base; advocacy and alliance-building to strengthen commitment to the next generation of programs (see Heaver 2005b for details); and action research through small-scale projects to test service delivery strategies, and in particular to find out what intensity of resource use is required to reach an acceptable level of quality and impact.

*Hard decisions about reorienting expenditures  
should not be ducked*

The process of preparing PRSPs is supposed to facilitate prioritizing the actions that will do most to reduce poverty. But currently, though most PRSPs identify malnutrition as an important symptom of poverty, they either fail to include actions or budgets for improving nutrition; include funds only for micronutrient programs; or include as nutrition interventions actions such as school feeding that actually have little impact on nutrition (Shekar and Lee 2005).

Since malnutrition is both a major cause of income poverty and a key manifestation of poverty itself, if the PRSP process is to be meaningful, it should be used to reallocate resources from uses that have less impact on poverty to tackling malnutrition. This will mean working to ensure that:

- Items that do not do much to benefit nutrition are not included in the nutrition budget (for example, school feeding, which primarily benefits school enrollment, should be funded from the education and not the nutrition budget).
- Resources are reallocated from lower-impact indirect interventions to higher-impact PEM interventions targeted on high-risk groups if there is not enough government budget for both (for example, reallocations might be made from general food subsidies or from livelihood creation programs with no direct impact on food security and nutrition).
- Resources are reallocated to nutrition programs from other sectors with less direct impact on poverty (for example, by reducing power subsidies or selling state-owned manufacturing enterprises).

## Annex 5.5

# Methodology for constructing the country prioritization matrix

The construction of the matrix in figure 5.2 (see page 125) is based on the available prevalence data<sup>2</sup> for underweight (WAZ<2), stunting (HAZ<2), overweight (WHZ>2), iron deficiency anemia (IDA), and subclinical vitamin A deficiency (VAD) among children in World Bank client countries. Information on prevalence of wasting (WHZ<\_2) and iodine deficiency disorders (IDD), measured by total goiter rate, is also included.

Out of 146 countries eligible for Bank financing, data are available from 126 countries for stunting and/or underweight, 82 countries have overweight data, and 80 countries have IDA and VAD data. Wasting and IDD data are available for 120 and 70 countries respectively. However, trend data are available for most countries only for underweight and stunting rates.

### Cutoffs used to identify nutrition problems of public health significance

Category of public health significance	Stunting <sup>a</sup>	Underweight	Wasting	Overweight <sup>b</sup>	IDA <sup>c</sup>	VAD <sup>c</sup>	IDD <sup>c</sup>
Severe	≥40	≥30	≥15	≥10	≥40	≥20	≥30
Moderate	30–39	20–29	10–14	5–9	20–39	10–20	20–29
Mild	20–29	10–19	5–9	3–4	5–19	2–9	5–19

<sup>a</sup>WHO (1995, 2000).

<sup>b</sup>By definition, only 2.3 percent of the children should have weight-for-height Z score >2. Countries with more than 1, 2, or 3 time(s) higher than this normal prevalence are, respectively, categorized as having mild, moderate, and severe levels of overweight.

<sup>c</sup>WHO (2000).

For the purposes of this prioritization of countries for action in nutrition, we used cut-offs corresponding to moderate malnutrition for underweight, wasting, IDA, VAD, and IDD. However, in view of the fact that stunting is an indicator of chronic undernutrition, and in view of the longer-term consequences of even mild stunting on economic productivity (see chapter 1), as well as the emerging nature of the noncommunicable disease (NCD) problem, we used lower cut-offs (corresponding to mild stunting and mild overweight) to identify countries where these agendas need to be pursued through development partner support. See figure 5.2 and accompanying text.

## Annex 5.6

# Nutritional status of children

<i>ARC* in Country</i>	<i>U5MR</i>	<i>Stunting</i>	<i>Underweight</i>	<i>Wasting</i>	<i>Overweight</i>	<i>VAD</i>	<i>IDA</i>	<i>IDD (TGR)</i>	<i>ARC* in stunting</i>	<i>ARC* in underweight</i>
<b>AFR</b>										
Angola	260	45.2	30.5	6.3		55	72	33	-0.033	-0.057
Benin	151	30.7	22.9	7.5	1.3	70	82	4	0.041	-0.049
Botswana	110	23.1	12.5	5.0		30	37	17	-0.056	-0.080
Burkina Faso	207	36.8	34.3	13.2	1.6	46	83	29	0.017	0.008
Burundi	208	56.8	45.1	7.5	1.1	44	82	42		
Cameroon	166	29.3	22.2	5.9	2.9	36	58	12	0.017	0.055
Cape Verde	38	16.2	13.5	5.6						
Central African Rep.	180	28.4	23.2	6.4	0.8	68	74	11		-0.010
Chad	200	29.1	28.0	11.2		45	76	24	-0.107	-0.109
Comoros	79	42.3	26.0	11.5	3.8				0.031	0.031
Congo, DR	205	38.1	31.0	13.4		58	58		-0.028	-0.017
Congo, Rep.	108	27.5	23.9	5.5		32	55	36		
Côte d'Ivoire	191	25.1	21.2	7.8	1.5				0.006	-0.023
Equatorial Guinea	152									
Eritrea	80	37.6	39.6	12.6		30	75	10	-0.047	-0.007
Ethiopia	171	51.5	47.2	10.5		30	85	23	-0.028	0.003
Gabon	85	20.7	11.9	2.7		41	43	27	0.005	-0.008

### Nutritional status of children (*continued*)

<i>ARC* in Country</i>	<i>U5MR</i>	<i>Stunting</i>	<i>Underweight</i>	<i>Wasting</i>	<i>Overweight</i>	<i>VAD</i>	<i>IDA</i>	<i>IDD (TGR)</i>	<i>ARC* in stunting</i>	<i>ARC* in underweight</i>
Gambia, The	126	19.1	17.1	8.2		64	75	20	-0.114	-0.107
Ghana	97	25.9	24.9	9.5	1.9	60	65	18	0.000	-0.018
Guinea	165	41.0	33.0	9.1		40	73	23	0.041	0.034
Guinea-Bissau	211	30.4	25.0	10.3		31	83	17		
Kenya	122	33.0	22.1	6.1	3.5	70	60	10	-0.003	-0.008
Lesotho	132	45.4	17.8	5.4		54	51	19	0.045	0.003
Liberia	235	39.5	26.5	6.0		38	69	18		
Madagascar	135	48.6	33.1	7.4	1.0	42	73	6	-0.008	-0.023
Malawi	182	49.0	25.4	5.5	6.7	59	80	22	0.000	-0.013
Mali	222	38.2	33.2	10.6	1.3	47	77	42	-0.048	0.042
Mauritania	183	34.5	31.8	12.8		17	74	21	-0.050	-0.040
Mauritius	19	9.7	14.9	13.7	4.0					
Mozambique	205	35.9	26.1	7.9		26	80	17	-0.213	-0.017
Namibia	67	28.5	26.2	8.6	3.3	59	42	18		
Niger	264	39.7	40.1	13.6	1.1	41	57	20	0.002	0.000
Nigeria	201	33.5	30.7	15.6	3.3	25	69	8	-0.026	-0.019
Rwanda	203	42.6	24.3	6.8	2.1	39	69	13	-0.017	-0.024
São Tomé and Príncipe	118	28.9	12.9	3.6						
Senegal	138	25.4	22.7	8.4	2.6	61	71	23	-0.012	0.005
Seychelles	16	5.1	5.7	2.0	3.5					
Sierra Leone	284	33.8	27.2	9.9		47	86	16	-0.003	-0.005
Somalia	225	23.3	25.8	17.2						
South Africa	65	22.8	9.2	2.5	6.7	33	37	16	-0.108	
Sudan	94	34.3	40.7	13.1						0.026

Swaziland	149	30.2	10.3	1.3		38	47	12		
Tanzania	165	43.8	29.4	5.4	2.5	37	65	16	0.002	0.003
Togo	140	21.7	25.1	12.3	2.5	35	72	14	-0.225	0.139
Uganda	141	39.1	22.8	4.1	2.8	66	64	9	0.003	-0.019
Zambia	182	46.8	28.1	5.0	3.3	66	63	25	0.016	0.018
Zimbabwe	123	26.5	13.0	6.4	4.2	28	53	9	0.043	-0.035
<b>EAP</b>										
Cambodia	138	44.6	45.2	15.0		42	63	18	-0.045	-0.012
China	38	14.2	10.0	2.2	4.3	12	8	5	-0.111	-0.078
Fiji	21	2.7	7.9	8.2	1.2					
Indonesia	43	42.2	24.6		4.0	26	48	10		-0.046
Kiribati	69	28.3	12.9	10.8	11.1					
Lao, PDR	100	40.7	40.0	15.4		42	54	14	-0.024	-0.009
Malaysia	8		20.1							-0.047
Marshall Islands	66									
Micronesia, FS	24									
Mongolia	71	24.6	12.7	3.6	3.9	29	37	15	-0.010	0.003
Myanmar	108	41.6	28.2	8.2		35	48	17	0.007	-0.002
Palau	29									
Papua New Guinea	94	43.2	29.9	5.5	1.6	37	40			
Philippines	37	32.1	31.8	6.5	0.8	23	29	15	-0.017	-0.006
Samoa	25	3.8	4.2							
Solomon Islands	24	25.7	21.3	6.6	1.1					
Thailand	28	13.4	17.6	5.4	1.2	22	22	13	-0.089	-0.028
Timor-Leste	126	46.7	42.6							
Tonga	20	1.3		0.9						
Vanuatu	42	20.1	12.1	5.5					0.051	
Vietnam	26	36.5	33.8	8.6	0.7	12	39	11	-0.045	-0.029

## Nutritional status of children (*continued*)

<i>ARC* in Country</i>	<i>U5MR</i>	<i>Stunting</i>	<i>Underweight</i>	<i>Wasting</i>	<i>Overweight</i>	<i>VAD</i>	<i>IDA</i>	<i>IDD (TGR)</i>	<i>ARC* in stunting</i>	<i>ARC* in underweight</i>
ECA										
Albania	24	31.7	14.3	11.1					0.097	0.284
Armenia	35	12.9	2.6	1.9	6.3	12	24	12	0.017	-0.075
Azerbaijan	96	19.6	16.8	8.0	3.7	23	33	15	-0.031	0.127
Belarus	20									
Bosnia-Herzegovina	18	9.7	4.1	6.3						
Bulgaria	16									
Croatia	8	0.8	0.6	0.8	5.9				0.067	-0.077
Czech Republic	5	1.9	1.0	2.1	4.1					
Estonia	12									
Georgia	29	11.7	3.1	2.3		11	33	21		
Hungary	9	2.9	2.2	1.6	2.0					
Kazakhstan	99	9.7	4.2	1.8	4.3	19	49	21	-0.122	-0.170
Kyrgyz Republic	61	24.8	5.8	3.4		18	42	21		-0.160
Latvia	21									
Lithuania	9									
Macedonia, FYR	26	6.9	5.9	3.6	5.0					
Moldova	32									
Poland	9									
Romania	21	10.1	3.2	2.3	2.3				0.023	-0.060
Russian Federation	21	11.0	5.5						-0.074	0.054
Serbia and Montenegro	19	5.1	1.9						-0.072	0.043
Slovak Republic	9									
Tajikistan	116	30.9		4.9		18	45	28	0.000	

Turkey	41	16.0	8.3	1.9	2.9	18	23	23	-0.050	-0.047
Turkmenistan	86	22.3	12.0	5.7		18	36	11		
Ukraine	20	15.9	3.2	6.2						
Uzbekistan	65	31.3	18.8	11.6	14.4	40	33	24		
<b>LAC</b>										
Argentina	19	12.4	5.4	3.2	7.3				0.485	0.522
Belize	40		6.2							
Bolivia	71	26.8	7.6	1.3	6.5	23	59	4	0.000	-0.053
Brazil	37	10.5	5.7	2.3	4.9	15	45	4		
Chile	12	1.5	0.8	0.3	7.0		8		-0.121	-0.052
Colombia	23	13.5	6.7	0.8	2.6				-0.021	-0.045
Costa Rica	11	6.1	5.1	2.3	6.2					0.083
Dominica	15									
Dominican Republic	38	6.1	4.6	1.5	2.8	18	25	11	-0.110	-0.090
Ecuador	29	26.4	14.3	2.4						
El Salvador	39	18.9	10.3	1.4	2.2	17	28	11	-0.021	-0.008
Grenada										
Guatemala	49	46.4	24.2	2.5	4.0	21	34	16	-0.017	-0.024
Guyana	72	10.0	11.8	11.4	2.3					-0.046
Haiti	123	22.7	17.3	4.5	2.8	32	66	12	-0.040	-0.044
Honduras	42	29.2	16.6	1.1	1.4	15	34	12	-0.029	-0.008
Jamaica	20	4.4	3.8	3.8	6.0				-0.068	-0.061
Mexico	29	17.7	7.5	2.0	3.7				-0.217	-0.271
Nicaragua	41	20.2	9.6	2.0	2.8	9	47	4	-0.010	-0.013
Panama	25	18.2	8.1	1.0	3.7				0.122	0.057
Paraguay	30	13.9	3.7	0.3	3.9	13	52	13		
Peru	39	25.4	7.1	0.9	6.4	17	50	10	-0.028	-0.051
St. Kitts and Nevis	24									
St. Lucia	19	10.8	13.8	6.1	2.5					

### Nutritional status of children (*continued*)

<i>ARC* in Country</i>	<i>U5MR</i>	<i>Stunting</i>	<i>Underweight</i>	<i>Wasting</i>	<i>Overweight</i>	<i>VAD</i>	<i>IDA</i>	<i>IDD (TGR)</i>	<i>ARC* in stunting</i>	<i>ARC* in underweight</i>
St. Vincent and the Grenadines	25	23.5	19.5							
Suriname	40	9.8	13.2	6.5						
Trinidad and Tobago	20	3.6	5.9	4.4	3.0					
Uruguay	15	9.5	4.4	1.4	6.2					
Venezuela	22	12.8	4.4	3.0	3.0	5	41	10	0.002	-0.032
<b>MNA</b>										
Algeria	49	18.0	6.0	2.7	9.2				-0.001	-0.063
Djibouti	143	25.7	18.2	12.9						
Egypt, Arab Rep. of	39	18.7	4.0	5.1	8.6	7	31	12	-0.045	-0.057
Iran, Islamic Rep. of	41	15.4	10.9	4.9	3.3	23	32	9	-0.068	-0.122
Iraq	125	22.1	15.9	5.9					0.002	0.032
Jordan	33	7.8	5.1	1.9	5.7				-0.101	-0.033
Lebanon	32	12.2	3.0	2.9		20	21	11		
Morocco	43	23.1	9.5	2.2	6.8	29	45		-0.009	-0.011
Syrian Arab Republic	28	18.8	6.9	3.8		8	40	8	-0.044	-0.089
Tunisia	26	12.3	4.0	2.2	3.5				-0.101	-0.148
Yemen, Rep. of	114	51.7	46.1	12.9	4.3	40	59	16	0.024	0.061
<b>SAR</b>										
Afghanistan	257	47.6	49.3	16.1	4.0	53	65	48		
Bangladesh	73	44.7	47.7	10.3	1.1	28	55	18	-0.030	-0.023
Bhutan	94	40.0	18.7	2.6	2.0	32	81			
India	90	44.9	46.7	15.7	1.6	57	75	26	-0.024	-0.024
Maldives	77	36.0	45.0	20.0	1.2				0.060	0.031

Nepal	83	50.5	48.3	9.6	0.5	33	65	24	-0.016	0.001
Pakistan	101	36.3	38.2	14.2	3.1	35	56	38	-0.104	-0.005
Sri Lanka	19	20.4	32.9	13.3	0.1				-0.077	-0.015

ARC=Annual rate of change.  
See also Figure 2.12 and Maps 1.1-1.4

## Notes

1. Epidemiology, cost-effectiveness, commitment, capacity, affordability, where past investment has gone, who should benefit, coverage, intensity, timing.

2. Stunting, underweight, wasting, IDD data from SCN (2004). VAD and IDA data from UNICEF and MI (2004b). Overweight data from De Onis and Blossner (2000).