



Global Lessons in Achieving Nutrition Security and Their Application to the Indian Context

April 2012



The Coalition for Sustainable Nutrition Security in India

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This report was prepared by the Public Health Foundation of India (PHFI), at the request of the Coalition for Sustainable Nutrition Security in India, to review lessons from low- and middle-income countries that have achieved significant reductions in malnutrition in a relatively short time period and to identify lessons which may be of value to India. The Coalition gratefully acknowledges the contributions of Dr Sanjay Zodpey, Ms Neha Khandpur, Ms Ambika Satija and Dr Archana Singh, whose dedicated research and analysis created this important report. The Coalition greatly appreciates the many experts who generously gave their time to review this report (see Annex).

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Foreword

Professor M S Swaminathan



The persistence of malnutrition in India is a cause for serious concern. The Prime Minister has rightly referred to the prevailing situation as a “national shame”. Malnutrition, particularly in the case of pregnant women leads to the birth of babies with a low birth weight. Such children suffer from many handicaps in later life, including impaired cognitive abilities. This is why, in 1966, I called for a movement to address the issue of under-nutrition.

India has many programmes for fighting malnutrition like Integrated Child Development Services (ICDS), School Noon Meal Programme, and Annapoorna. Nevertheless, the prevalence of both endemic and hidden hunger is not showing a downward trend. It is in this context that there is need for convergence and synergy among various programmes dealing with nutrition, drinking water, sanitation and primary health care. Nutrition literacy is also exceedingly important. To generate convergence and synergy among numerous initiatives and organisations working in this area, we formed a Coalition for Sustainable Nutrition Security in India a few years ago. The present document is a compilation of the lessons gained in achieving nutrition security at the international level with recommendations for tailoring them to the situation prevailing in our country.

I would like to express my sincere gratitude to the Vistaar Project of USAID for hosting the Secretariat for the Coalition until the beginning of this year and for doing a very valuable job in spreading nutritional literacy among policy-makers and the general public. I am also grateful to the Public Health Foundation of India for their contributions in developing this important document. I hope this report will be widely read and used.



Prof. M S Swaminathan
Chairman, Coalition for Sustainable Nutrition Security in India
Member of Parliament, Rajya Sabha
Chairman, M S Swaminathan Research Foundation



Foreword

Professor Sanjay Zodpey



In the 60 years since its birth as a sovereign democratic republic, India has achieved remarkable technological capacity and economic growth. Political and civil society's commitment to implement social and health programmes and facilitate inclusive growth has fuelled this growth. However, there is still a large segment of the population that has not benefited from the national growth, due in part to inadequate nutrition. This affects not only those deprived of the basic necessities of life, but the entire nation.

There have been significant policy and programme efforts to ameliorate this problem, but the results have been variable and have not led to significant national-level improvements, posing a critical challenge to all social, political and economic leaders. One reason for the unsatisfactory results is the diversity of our country, underscoring the need for various approaches tailored to the local context. Another is the lack of a holistic, multi-sectoral approach. For example, a comprehensive, national nutrition strategy, based on proven approaches that can be implemented at scale, is still not in place.

The Public Health Foundation of India was very pleased to have the opportunity to prepare this report for the Coalition for Sustainable Nutrition Security in India. This review of lessons from other countries that have succeeded in reducing malnutrition provides many important ideas and strategies for India to consider. The findings underscore the importance of addressing malnutrition as a national priority and taking a comprehensive approach that includes a focus on governance, literacy, equality and gender as well as improved health education and services, income generation and supplementary nutrition.

Some of the countries included in this review experienced malnutrition at levels comparable to the current levels in India, yet achieved significant reductions within five to 10 years. This is inspiring and shows that we can make progress in a relatively short span of time, with the right strategies and commitment. It is our hope that this report will provide guidance and motivation to our leaders and citizens so that we can ensure nutrition security for all in India.

A handwritten signature in black ink, appearing to read 'Sanjay Zodpey'. The signature is written in a cursive style and is positioned above a horizontal line.

Prof. Sanjay Zodpey, MD, PhD
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List of Acronyms

BINP	Bangladesh Integrated Nutrition Project
BRAC	Bangladesh Rural Advancement Committee
CNO	Community Nutrition Organiser
CNP	Community Nutrition Promoter
DFID	Department for International Development
FAO	Food and Agriculture Organization
GDP	Gross domestic product
HDI	Human development index
HNPSP	Health Nutrition and Population Sector Program
IFPRI	International Food Policy Research Institute
MCH	Maternal and child health
MDG	Millennium Development Goal
MOH	Ministry of Health
MOHFW	Ministry of Health and Family Welfare
NFNP	National Food and Nutrition Plan
NGO	Non-governmental organisation
NNS	National Nutrition Strategy
PHFI	Public Health Foundation of India
PPP	Purchasing power parity
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFP	World Food Programme

Findings and Lessons

Introduction

The eradication of malnutrition is at the top of the international health and development agenda and the global community has committed to reduce the prevalence of malnourished children under five by 2015, as part of achieving the first Millennium Development Goal (MDG) of eradicating extreme poverty and hunger. The Government of India has implemented a number of policy and programme initiatives to reduce malnutrition; however, various indicators show that the rates of malnutrition in the country are still alarmingly high. (Note: The term 'malnutrition' refers only to under-nutrition, not over-nutrition, for the purposes of this report.) Malnutrition is the underlying cause for about 50% of the deaths of 2.1 million children under five in India each year.¹

Recognising that a number of low- and middle-income countries have faced high rates of malnutrition and made significant strides to improve nutritional status, the Coalition for Sustainable Nutrition Security in India commissioned the Public Health Foundation of India (PHFI) to review and analyse the lessons from some of these countries. The countries were selected based on documented improvements in malnutrition within a short timeframe (five to 10 years) and include Bangladesh, Brazil, China, Mexico, Thailand and Vietnam.

The aim of this report is to summarise and present information on countries that have been successful in lowering malnutrition rates and to identify aspects of their approach that may be

beneficial in the Indian context, to assist policy-makers and programme leaders working toward nutrition security in India.

Methodology

The PHFI team created this report through a macro-level review of existing policy and programme information from the selected countries, collected primarily through document reviews, complemented by some consultations with key informants. The team, then, analysed the available data to identify major lessons. Finally, a number of experts reviewed and contributed to improving the report (See Annex for a list of expert reviewers).

To initiate this review, the Coalition for Sustainable Nutrition Security in India (also referred to as the Nutrition Coalition) gathered a group of experts from stakeholder organisations, including the United Nations Children's Fund (UNICEF), the International Food Policy Research Institute (IFPRI), the Global Alliance for Improved Nutrition (GAIN), World Health Organization (WHO), Department for International Development (DFID), Nutrition Foundation of India, Bill & Melinda Gates Foundation, National Institute of Public Cooperation and Child Development, Ministry of Women and Child Development (Government of India), various donor-funded health and nutrition projects, and public health and nutrition consultants. These experts worked together to agree on the review framework and select the countries to be reviewed. They outlined the review's purpose, target audience, methodology and core content areas.

The criteria for selecting countries to review included: 1) low- and middle-income countries

¹ UNICEF - *Progress for Children Report - A Statistical Review December 2007*

that achieved over 25% reductions in maternal or child nutrition indicators (such as stunting or wasting in children under five) over the last two decades, and 2) countries where sufficient data were available. The major sources of data for this review were, in priority order, reports from donors or donor-funded projects, government policy documents and programme descriptions, programme evaluations, government reports, articles in peer reviewed journals, and news reports. The PHFI team identified these data sources primarily through web-based searches. The key search words were *food security, malnutrition, nutrition, nutrition security, policy and programmes*. The team also contacted some key informants through email or by phone, mostly in an effort to identify additional documentation. These informants were primarily officials working with donor or United Nations (UN) agencies in India, such as UNICEF, the World Bank, WHO, and the Food and Agriculture Organization. The PHFI team sought information about the target populations, programme delivery, monitoring and evaluation mechanisms, short and long-term outcomes, coordination approaches, budget, the role of lead agencies, and other leadership and enabling factors (e.g., political leadership, community involvement, donor support).

Conclusions and Recommendations

This review provides valuable insights into proven approaches to reduce malnutrition in low- and middle-income countries. The major lessons identified are summarised below, in order of how frequently and prominently they featured in the data available for the selected countries:

1. **Start with political will and leadership:** In five of the six countries studied, direct patronage and significant involvement of political leaders at the highest level were evident and considered a critical factor in the success of the programme. The active role of senior political leaders underscored the importance of nutrition as a national

priority and ensured the commitment of funding and other resources necessary for effective programme implementation. Giving malnutrition high priority on the national agenda also appears to encourage national and international experts to participate in the programmes, which assists in better programme management and quality, as well as better coordination between ministries and improved governance, overall.

2. **Implement a multi-sectoral programme:** MDG 1 targets both poverty and hunger, as the two are intrinsically linked and need to be addressed together. The lessons from these countries also indicate that comprehensive national programmes, which adopt a multi-sectoral approach, achieve sustainable improvements in malnutrition. All the reviewed countries implemented comprehensive nutrition security programmes, which included a focus on gender equity, social inclusion, primary education, primary health care services, water and sanitation, agricultural reforms and/or local employment to improve incomes.
3. **Target the key populations:** An important feature of the successful country programmes reviewed is the clear identification of priority beneficiaries. It appears that national programmes are most effective if they identify and target the population segments that are most important to reach in order to break the cycle of poor nutrition. The critical target populations most commonly selected were pregnant women, lactating mothers, and children below two years of age.
4. **Support and empower women as change agents:** All of the countries reviewed focused on empowering and educating girls and women as part of their effort to improve nutrition. Evidence from these countries indicates that health education and health care services for women contributed to a substantial reduction in malnutrition,

particularly when delivered during crucial periods, including immediately before, during, and after pregnancy. Some of the countries using cash incentives found that these incentives were more effective when channeled through the women of the household, since women were more likely to invest in the family's education, health and nutrition. Overall interventions targeting women led to better outcomes, and an intergenerational effect.

- 5. Create a central coordinating and monitoring mechanism:** This review found that a central coordinating agency, with links to the highest governing level and including representatives from relevant ministries, is very important. Although the central coordinating agency usually delegated responsibility to local agencies for implementation and encouraged community involvement, this central level leadership and coordination still seemed to be quite important. Common roles of this agency included ensuring the collection and use of data for decision-making, as well as building staff capacity (focusing on frontline workers and their supervisors). Most of the successful country programmes covered in this review have a strong monitoring system based on clear and measurable nutrition indicators, and in some, the coordinating agency contracts out for regular, rigorous, and independent evaluations.
- 6. Involve communities and the private sector, including civil society:** Almost all of the countries found community engagement and empowerment contributed to achieving their nutrition objectives. In some countries reviewed, a partnership between government and civil society was very important to nutrition improvements. Public-private partnerships can serve to increase funding, strengthen monitoring, and/or improve programme implementation, especially at the community level. Working

with non-governmental organisations (NGOs) can also provide greater flexibility and a more need-based, localised approach. In addition, working with donor agencies and global developmental partners can contribute to national programmes, especially in the area of frontline worker capacity-building and support. Engaging the community can lead to increased ownership and interest in the success of a nutrition programme.

- 7. Increase accountability:** The programmes reviewed show that good governance and accountability are important factors in successfully improving nutrition. This includes high-level leadership, strong monitoring systems, clear and time-bound nutrition focused targets, and regular impact evaluations to measure the effectiveness of the interventions in changing nutrition indicators among the key beneficiaries. Oversight from senior national leaders and from a central coordinating agency (which established clear roles and responsibilities for all stakeholders) is a common approach that helps to ensure good programme governance.

The PHFI review team and external reviewers have identified these common factors associated with the impressive success achieved in these six countries. There are limitations to this desk review, and these are certainly not the only approaches or country experiences worthy of consideration. One limitation is that information on the implementation cost of the identified interventions was not available for all country programmes. However, these global lessons reinforce other findings and evidence about successful approaches and merit careful consideration by Indian policy and programme leaders. These lessons also provide hope that significant progress is possible in a short timeframe, with the right leadership, partnerships and strategies.

Country Overviews

Overview of Lessons from Bangladesh

Since its independence in 1971, Bangladesh has implemented a number of programmes to address malnutrition and its underlying causes such as poverty and gender inequality, with the help of international funding agencies including the World Bank, DFID, the Asian Development Bank, Canadian International Development Agency, United States Agency for International Development (USAID), and UN agencies. From 1985 to 2008, Bangladesh has achieved impressive decreases in the prevalence of stunting among children aged five and under (from 69% in 1995 to 43% in 2008) and in infant mortality rate (from 113 deaths per 1000 live births in 1985 to 43 deaths per 1000 live births in 2008), as well as increases in immunisation coverage and life expectancy (from 51 years in 1985 to 66 in 2007-2008). (See Table 1)

A recent World Bank review states that Bangladesh is making good progress toward the MDGs, faster than any other country in South Asia, especially in regard to the first goal, "Halve, between 1990 and 2015, the proportion of people who suffer from hunger."

The Ministry of Health and Family Welfare (MOHFW) initiated one key national programme in 1995, the Bangladesh Integrated Nutrition Project (BINP), which is a unique public-private partnership. The project was largely implemented through NGOs and activities were financed jointly by the Government of Bangladesh and a credit of US\$59.8 million from the World Bank. It was followed in 2002 by the National Nutrition Programme and other related programmes including the Health and Population Services Project (1998-2003), the Health, Nutrition and Population Sector Project (2003-2011), and the Health Population and Nutrition Sector

Development Programme (2011 to 2016). The current programme is the third sector-wide programme for overall improvement of the health, population and nutrition sub-sectors, designed to stimulate demand and improve access to and utilisation of health, nutrition and population services in order to reduce morbidity and mortality, reduce population growth rate and improve nutritional status, especially of women and children. These programmes worked to improve institutional capacity in the country in the areas of advocacy, data use and analysis, policy development, operations research, and service delivery support in order to help households and communities understand nutritional problems and find solutions to address them. The BINP targeted children, pregnant women and lactating mothers.

BINP was the first large-scale government intervention in nutrition and is largely credited with leading Bangladesh's improvements in nutritional status. The three key components of BINP were:

- **National-level nutrition activities**, including institution-building, information, education and communication, strengthening of existing nutrition activities and programme monitoring and evaluation
- **Inter-sectoral efforts**, including integrating a nutrition focus in other sectoral development plans and promoting selected activities beyond health and family planning, such as home gardening and poultry farming
- **Community-based nutrition activities**, including growth monitoring and promotion, supplementary feeding, and nutrition education emphasising behaviour change,

targeted towards pregnant women, lactating mothers and children less than two years of age

The implementation modalities followed one of two patterns depending on local capacity. The first modality was Government of Bangladesh-led and NGO-assisted, where the existing network of the MOHFW led in implementation. The second modality was NGO-led and Government of Bangladesh-assisted. BINP established a core team composed of Management Information System Assistants, Regional Managers and Programme Managers and also established Nutrition Management Committees at the district, *thana*, union and village levels. An important factor in its success was that the programme prioritised community involvement and relied on Community Nutrition Promoters (CNP) - one for every 1,000/1,500 population, with at least an eighth grade education and with well-nourished pre-school children) and Community Nutrition Organisers (CNOs - one for every 10 CNPs), who were recruited from the women of the village. The CNOs served as supervisors of the CNPs and they worked together to distribute supplementary nutrition, disseminate nutrition information and conduct growth monitoring and promotion.

BINP monitoring and evaluation systems showed positive results on knowledge and practices related to pregnancy and to the consumption of vitamin A and iron supplementation. The evidence also suggests some improvement in knowledge and practices concerning infant feeding. Major successes of the programme included raising awareness of nutrition issues within the Government and among NGOs, resulting in significant mobilisation at the community level, with especially high levels of participation in growth monitoring. The World Bank calculated the cost per life saved by BINP as approximately \$4,095. The programme was initially restricted to selected districts; in 2002, scale-up began, following methodological and targeting improvements.

Additional interventions and factors led to the country's improved nutrition status after the BINP was initiated:

- **Increasing food security:** This can be attributed to factors such as the adoption of new varieties of rice that are high-yielding and better suited to Bangladesh's climate and seasons, an expansion of irrigation infrastructure, and policies that lifted restrictions on the import of agricultural items including rice, fertilizers and irrigation equipment.
- **Government-led social safety net programmes:** These programmes provided food to targeted groups (particularly women and adolescent girls), such as the World Food Programme's Vulnerable Group Development activity, which distributed rice and fortified whole wheat flour. The programme introduced a work-based approach to food aid and was successful in increasing the proportion of households able to eat three square meals a day (which doubled between baseline and outcome surveys) and increasing household net worth.
- **Complementary programmes in related sectors:** The Government of Bangladesh also invested in activities to improve female literacy, gender equity, infrastructure development and poverty alleviation, through efforts such as micro-financing.
- **Strong leadership and supportive policies:** The Government of Bangladesh addressed the magnitude of the nutrition challenge facing the country and developed the Bangladesh National Plan of Action for Nutrition in 1997, the Interim Poverty Reduction Strategy Paper in 2002, and the Health, Nutrition and Population Sector Programme in 2003 (which includes the National Nutrition Programme).

Table 1: Country Profile - Bangladesh

No.	Indicator	Year		
		1985	1995	2007/2008
1	Population growth (%)	3	2	1
2	Life expectancy (years)	51	58	66
3	Human development index (HDI rank)	-	146	129 (2010)
4	Annual growth % HDI (1990-2010)	2.0		
5	Gross domestic product per capita, purchasing power parity (PPP) (US\$)	392	620	1,335
6	Female literacy (%)	22	24 (1994)	50
7	Prevalence of poverty (% living < \$1.25/day, PPP)	43 (1986)	59 (1996)	50 (2005)
8	Malnutrition prevalence (stunting in children under five, %)	-	69	43
9	Malnutrition prevalence (wasting in children under five, %)	-	58	41
10	Immunisation: DPT and measles (%)	2 and 1	69 and 79	95 and 89
11	Infant mortality rate (Deaths under one year of age per 1000 live births)	113	86	45/43
12	Under-five death rate (Deaths under five years of age per 1000 live births)	164	122	54
13	Improved sanitation and water source (% with access)	-	28 and 78	36 and 80

Sources:

<http://mdgs.un.org/unsd/mdg/Data.aspx>

<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>

<http://hdr.undp.org/en/reports/global/hdr2010/>



Overview of Lessons from Brazil

Since the mid 1990s, Brazil has achieved remarkable improvements across several health and nutrition indicators; notably a reduction in the prevalence of stunting and wasting by 50%, a dramatic reduction in the infant and child mortality rates, and an increase in immunisation rates. In addition, Brazil achieved a reduction in the proportion of the population living in extreme poverty in this time period. (See Table 2)

In 2003, Brazilian President Luiz Inacio Lula da Silva launched the *Fome Zero* or the Zero Hunger programme, which has been credited with contributing to the country's health and nutrition successes. *Fome Zero* takes a multi-sectoral approach, bringing existing interventions and programmes from different sectors (including health and nutrition, education, small-scale farming and social inclusion) under one umbrella. Seven ministries are involved in administering the programme, which combines short-term responses to emergency situations with medium- and long-term responses designed to address underlying determinants of malnutrition and nutrition insecurity, such as social exclusion, poor health, a lack of education and poor hygiene and environment.

The goal of *Fome Zero* is to end hunger and extreme poverty. Its objectives include improving access to food and reducing malnutrition among the poorest segment of the population through expanded food production, increased consumption of healthy foods, greater access to potable water and improved public services. *Fome Zero* includes four key components:

- Increasing access to food through conditional cash transfers and food cards,

linked to school enrolment and attendance as well as regular visits to health centres

- Supporting family farming with micro-credit programmes and technical assistance
- Strengthening income generation, mainly through vocational capacity-building
- Promoting social empowerment and mobilisation, through public-private partnerships

Access to food: This component includes cash transfers, food cards and grants to poor households. The *Bolsa Familia* or Family Stipend initiative is a major feature of the programme, and addresses both the immediate and underlying causes of hunger, through the conditional cash transfer programme for targeted beneficiaries. The programme targets extremely poor families, who receive monthly cash transfers designed to increase their family income by about 20% (US\$30 per family on average). This programme component also includes school meals for children attending public pre-school and primary schools (the National School Feeding Program), nutrition education, and construction of water cisterns to supply potable water. Some local food security programmes also support food banks and community kitchens.

Household farming: These interventions include providing small-scale farmers with micro-credit, technical assistance, harvest insurance, and purchase guarantees (the National Programme for Family Agriculture).

Income generation: *Fome Zero* supports vocational and professional capacity-building and micro-credit programmes for targeted

beneficiaries. The programme also supports income generation projects such as recycling cooperatives.

Social empowerment: *Fome Zero* increases social participation and community responsibility through interventions such as building the capacity of public representatives and forming social development councils. The private sector and NGOs have played a major role in the success of this programme.

The Brazilian Government, led by President Lula da Silva, established the National Food and Nutrition Security Council (CONSEA), a policy and advisory body with representation from both Government and civil society organisations to guide the programme on policy and design issues. Government leaders formed Coordinating Committees and Food and Nutrition Security Councils in each state, and formed Management Committees at the municipal level. Two-thirds of the CONSEA and

Management Committees are representatives from civil society.

Civil society participation in programme implementation and governance, at national and state levels, is a significant feature of this programme.

Fome Zero is credited with leading Brazil's successful effort to meet its Millennium Development Goals of reducing extreme poverty and hunger by half. A cost benefit analysis of the cash transfer component of the programme indicates that the cash transfer costs the Government US\$0.25 per person enrolled in the programme per day, or less than US\$100 per person, per year. The aggregate cost for this component was 1% of the federal budget and 0.4% of the gross domestic product (GDP). The World Bank has been a major supporter of this programme, providing loans for key components such as the *Bolsa Familia* initiative.

Table 2: Country Profile - Brazil

No.	Indicator	Year		
		1995	2004	2007/2008
1	Population growth (%)	2	1	1
2	Life expectancy (years)	68	73.5	72
3	Human development index (HDI rank)	63	84	73 (2010)
4	Annual growth % HDI (1990-2007)	0.79		
5	Gross domestic product per capita, PPP (US\$)	6,292	9,414	10,304
6	Female literacy (%)	82.5 (1994)	89	90
7	Prevalence of poverty (% living <\$1.25/day, PPP)	11 (1995)	4	5 (2007)
8	Malnutrition prevalence (stunting in children under five, %)	14 (1996)	-	7
9	Malnutrition prevalence (wasting in children under five, %)	5 (1996)	-	2
10	Immunisation - DPT and measles (%)	81 and 87	96 and 99	97 and 99
11	Infant mortality rate (Deaths under one year of age per 1000 live births)	36	25	18
12	Under-five death rate (Deaths under five years of age per 1000 live births)	44	28	22
13	Improved sanitation and water source (% with access)	73 and 86	72 and 91	77 and 91

Sources:

<http://mdgs.un.org/unsd/mdg/Data.aspx>

<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>

<http://hdr.undp.org/en/reports/global/hdr2010/>

Overview of Lessons from China

China is one of the few low- and middle-income countries to have achieved the MDG of eradicating hunger well before the target date of 2015. The proportion of under-five year olds who are wasted in China halved in the period of just a decade, from 14.5% in 1995 to 6.9% by 2005. Similarly, the proportion of the population below the minimum level of dietary energy consumption dropped from 15% in 1991 to 9% in 2004². The improvement in malnutrition indicators in the country over the past two decades can be attributed to direct nutritional interventions as well as progress made in economic development, poverty alleviation and agricultural production. China has also made significant improvements in education, life expectancy, and maternal and child health indicators since the mid 1980s. For example, maternal mortality reduced from 110 deaths per 100,000 live births in 1990 to 38 deaths per 100,000 live births in 2008³, and child mortality decreased from 45 deaths per 1000 live births in 1985 to 21 in 2007/08. (See Table 3)

China's economic growth has been the result of evidence-based and political reforms.

Research and experimentation ensured the scaled-up implementation of successful projects, and the elimination of unsuccessful pilot projects. Research organisations such as the China Development Research Group, the Chinese Academy of Social Sciences and the Development Research Center of the State Council supported national leadership in selecting and implementing the reforms. Their

research contributed to the development of new and unconventional policy measures, including economic reforms and trade liberalisation. China's rapid economic growth was **fueled by growth in the agricultural sector**, which greatly contributed to poverty alleviation.

Another reason for the improved nutritional status of the Chinese population is the **high level of political commitment and government investment in public health**, particularly maternal and child health (MCH), including nutrition. In 1995, the Chinese Government enacted the Law on Infant and Maternal Health, which mandates local governments to prioritise resources for MCH, ensure training and quality performance of health care workers, and focus on providing affordable MCH services to poor areas of the country.

Factors that led to the success of the MCH programme in China include:

- The MCH department of the Ministry of Health provides leadership and coordination of MCH services from the centre, positioning nutrition as a priority within these services
- A network of MCH services, from the central governing agency, to the city, county, township and village levels, each with its own implementation agency
- MCH centres at every county hospital
- A strong referral and follow-up system for MCH services, high quality supervision and training of health workers, and good communication between various health facilities

Another factor in China's success is the Government's **focus on girls' and women's**

² UN. *The Millennium Development Goals Indicators. Country Level Data*

³ *Trends in Maternal Mortality: 1990 to 2008 Estimates developed by WHO, UNICEF, UNFPA and The World Bank*

education. China adopted the Compulsory Education Law of the People's Republic of China in 1986, according to which the State provides free and compulsory education until a child is nine years of age. In 1995, this law was updated as the Education Law of the People's Republic of China, and stated that education is a right and duty of every citizen of the country, regardless of race, nationality or sex. It requires the Government to promote education among minorities and in remote border areas, poverty-stricken areas, and most importantly, among girls and women. This approach has contributed to the high literacy levels in the country of 91%, with women's literacy at 88.5%

and men's literacy at 96% (Census 2008).

Recognising and addressing the dependence of nutritional outcomes on factors like agricultural development, education and empowerment of women, strong rural infrastructure, public health, sanitation and hygiene have been critical to the country's progress in tackling malnutrition. Strong Government leadership, a commitment to a data-driven approach to economic growth, and a commitment to invest national resources in health, nutrition and development, complete a list of key factors that have led to China's impressive progress in improving the health and nutrition of its people.

Table 3: Country Profile – China

No.	Indicator	Year		
		1985	1995	2007/2008
1	Population growth (%)	1	1	1
2	Life expectancy (years)	68	71	75
3	Human development index (HDI rank)	-	111	89 (2010)
4	Annual growth % HDI (1990-2007)	2.0		
5	Gross domestic product per capita, PPP (US\$)	501	1,500	5,971
6	Female literacy (%)	56	71 (1994)	91
7	Prevalence of poverty (% living \$1.25/day, PPP)	-	36 (1996)	16 (2005)
8	Malnutrition prevalence (stunting in children under five, %)	-	8 (2002)	6 (2005)
9	Malnutrition prevalence (wasting in children under five, %)	19.1 (1990)	14.5	6.9 (2005)
10	Immunisation - DPT and measles (%)	78 and 88	80 and 80	97 and 94
11	Infant mortality rate (Deaths under one year of age per 1000 live births)	37	36	18
12	Under-five death rate (Deaths under five years of age per 1000 live births)	45	45	21
13	Improved sanitation and water source (% with access)	-	53 and 74	65 and 88

Sources:

<http://mdgs.un.org/unsd/mdg/Data.aspx>

<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>

<http://hdr.undp.org/en/reports/global/hdr2010/>

Overview of Lessons from Mexico

The centrepiece of Mexico's effort to address malnutrition is a large, multi-sectoral social assistance programme with a focus on health, nutrition and education, as well as poverty reduction, now called *Oportunidades* (previously called *Progresa*). It began in 1997, with strong Presidential support and the leadership of senior Government officials. During the first decade of this programme, Mexico achieved reduced stunting, wasting, increased school enrolment for girls, increased female literacy, increased life expectancy, and a significant reduction in mortality rates, particularly for infants and children under five. The infant mortality rate dropped from 31 in 1995 to 15 during 2007-2008, while the under-five death rate reduced from 37 to 17 during the same period. (See Table 4)

Oportunidades is a conditional cash transfer programme at heart, and it continues to operate as an independent programme, with support across political parties. The key components of the programme are listed below:

- **Targeting extremely poor families with children below 20 years of age**
- **Providing a fixed monthly conditional cash transfer**
- **Integrating education, health and nutrition** by requiring 1) school enrolment, 2) that the families attend health centres, which offer a free, basic health services package, at least twice in a year, and 3) that at least one adult family member attends a monthly health education session (as conditions for the cash transfer)
- **Providing free food supplementation, targeting young children, malnourished children, and pregnant and lactating mothers**, with food that is sufficient to meet 20% of their daily caloric requirements and 100% of their micronutrient requirements
- **Offering additional cash incentives for high school education**, which are larger for girls than boys

The programme has a strong gender focus, and makes the cash transfers directly to the mother in the family. The programme is funded by the Government of Mexico, and partially supported by loans from the World Bank and the Inter-American Development Bank. *Oportunidades* reached over five million poor families in 2006 with a budget of US\$3.2 billion, which amounts to about 0.3% of Mexico's GDP.

The Government appointed a National Coordination Agency which has representatives from the involved Ministries, including Education, Health and Social Development, and each state has a Technical Committee which ensures coordination across Ministries and sectors. These coordinating bodies work to ensure beneficiary involvement. For example, the programme relies on volunteers to better reach and serve the target community and to serve as link between families and the government services. The programme has a clear and comprehensive beneficiary selection process, which qualifies families for six years at a time, as well as a system of continuous monitoring, feedback and evaluation.

Evaluations of the programme by the Government of Mexico and organisations such as World Bank and IFPRI confirmed many positive outcomes, including an increase in school enrolment (especially at the secondary

level and for girls), improved health clinic attendance, more access to sanitation and potable water, and reduced prevalence of malnutrition, including infant stunting and wasting (see Table 4). Key lessons from the Mexico experience include the importance of leadership, coordination mechanisms,

beneficiary involvement, and taking a multi-sectoral approach, which includes investing in education, girls' empowerment and poverty alleviation. Conditional cash transfers, education incentives, and food and micronutrient supplementation were also part of the successful package.

Table 4: Country Profile - Mexico

No.	Indicator	Year		
		1985	1995	2007/2008
1	Population growth (%)	2	2	1
2	Life expectancy (years)	69	72	75
3	Human development index (HDI rank)	-	53	56 (2010)
4	Annual growth % HDI (1990-2010)	0.9		
5	Gross domestic product per capita, PPP (\$)	5,012	6,884	14,570
6	Female literacy (%)	88	87 (1994)	91
7	Prevalence of poverty (% living \$1.25/day, PPP)	-	7 (1996)	4 (2008)
8	Malnutrition prevalence (stunting in children under five, %)	-	22 (1999)	16 (2006)
9	Malnutrition prevalence (wasting in children under five, %)	-	6 (1999)	3 (2006)
10	Immunisation - DPT and measles (%)	40 and 64	91 and 90	98 and 96
11	Infant mortality rate (Deaths under one year of age per 1000 live births)	43	31	15
12	Under-five death rate (Deaths under five years of age per 1000 live births)	55	37	17
13	Improved sanitation and water source (% with access)	-	66 and 90	81 and 95

Sources:

<http://mdgs.un.org/unsd/mdg/Data.aspx>

<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>

<http://hdr.undp.org/en/reports/global/hdr2010/>

Overview of Lessons from Thailand

The First National Food and Nutrition Plan (NFNP) was a part of the Government of Thailand's Fourth National Economic and Social Development Plan (1977-1981) and marked the beginning of a dedicated attempt to address malnutrition. The Second NFNP (under the Fifth National Economic and Social Development Plan, 1982-1986) made improvements based on experiences under the first plan. These two plans are credited with leading to major reductions in malnutrition from the mid 1980s to the mid 1990s. Child malnutrition rates fell, with stunting reduced from 25% to 16% and wasting reduced from 17% to 7% from 1987 to 2006. During this period, Thailand also experienced a major reduction in poverty (reducing the level from 17% to only 2% living on less than US\$1.25/day) and impressive increases in GDP and female literacy. (See Table 5)

Three visionary nutrition specialists, Dr Amorn Bhummarat, Dr Aree Valyasevi and Dr Amorn Nondasuta, led the initial effort to raise awareness and built a supportive environment with key stakeholders, including senior bureaucrats from the ministries of health, agriculture and education. Political support gradually grew, especially as the NFNP's impact became evident. Support from the Thai royal family, including the King, was important for the programme. The King strongly supported rural development efforts and took a special interest in several nutrition efforts, such as the salt iodisation programme.

The NFNP evolved from a more narrow focus on nutrition to a comprehensive and multi-sectoral approach. In the Second NFNP, the Government introduced a primary health care approach, as well as increased outreach and community participation. The National

Economic and Social Development Plan also supported complementary programmes focusing on education, agricultural improvements and village development. The NFNP, the Rural Development Programme and the Poverty Alleviation Programme worked collaboratively to ensure basic minimum needs for the community, with nutrition as a top priority.

Key components of the NFNP are listed below:

- **Targeting poor and disadvantaged areas, pregnant women, and children under five years of age**
- **Focusing on essential health and nutrition services**, including nutrition education
- **Providing supplementary nutrition programmes, school lunch programmes and food fortification, including salt iodisation**
- **Expanding access to sanitation facilities and clean potable water**
- **Focusing on improving literacy and school enrolment**
- **Increasing agricultural production efforts** (e.g., improving irrigation systems, mechanisation)
- **Supporting village development projects** (e.g., creation of fish ponds, promoting home gardens)

The Government formed a National Nutrition Committee, comprising members from all concerned line agencies and responsible for programme implementation, which was chaired by the Deputy Prime Minister. This increased national-level visibility and improved coordination of the NFNP, while maintaining ownership of the various components by the

individual line agencies. The lead technical agency for the programme was the Institute of Nutrition at Mahidol University, responsible for policy advice, training and research. The National Nutrition Committee placed a strong emphasis on programme evaluation and quality control in the 1990s.

Strong Thai economic growth during this period allowed the Government to fund most of this programme itself, although some foreign assistance supplemented internal resources, including support from USAID and UNICEF. The country's economic growth was supported by robust growth in the agricultural and industrial sectors.

The Thai Government also promoted communities to contribute to the NFNP, including financially. This resulted in community autonomy and a sense of ownership and accountability. The communities were very involved in fund raising, programme planning, implementation, and monitoring, and evaluation of community-

level projects. The programme trained a large cadre of Village Health Communicators and Village Health Volunteers, selected from within the community. These volunteers led nutrition activities such as working to increase the food supply, providing guidelines on supplementary feeding to caregivers, promoting locally grown nutrient-dense foods, and conducting regular growth monitoring and growth promotion activities. They also contributed to creating a rich database on NFNP results. Overall, this approach led to significant community engagement in nutrition and empowerment.

Thailand's success in improving national nutrition status started with evidence-based advocacy, which resulted in committed leadership, and strong planning and coordination. The NFNP programme included effective targeting, community involvement, and a multi-sectoral approach. In addition, Thailand's strong economic growth complemented the NFNP efforts.

Table 5: Country Profile – Thailand

No.	Indicator	Year			
		1975	1985	1995	2007/2008
1	Population growth (%)	2	2	1	1
2	Life expectancy (years)	62	69	68	69
3	Human Development Index (HDI rank)	-	-	58	92 (2010)
4	Annual growth % HDI (1990-2010)	1.0			
5	Gross domestic product per capita, PPP (\$)	-	1,612	4,598	8,086
6	Female literacy (%)	-	88	91	92
7	Prevalence of poverty (% living \$ 1.25/day, PPP)	30	17 (1988)	2 (1996)	2 (2004)
8	Malnutrition prevalence (stunting in children under five, %)	-	25 (1987)	-	16 (2006)
9	Malnutrition prevalence (wasting in children under five, %)	-	17 (1987)	-	7 (2006)
10	Immunisation - DPT and measles (%)	-	62 and 26	96 and 91	99 and 98
11	Infant mortality rate (Deaths under one year of age per 1000 live births)	60	36	21	13
12	Under-five death rate (Deaths under five years of age per 1000 live births)	80	44	25	14
13	Improved sanitation and water source (% with access)	-	-	85 and 96	96 and 98

Sources:

<http://mdgs.un.org/unsd/mdg/Data.aspx>

<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>

<http://hdr.undp.org/en/reports/global/hdr2010/>

Overview of Lessons from Vietnam

Vietnam has made significant progress in reducing malnutrition over the last two decades, despite its global status as a relatively low-income country. The proportion of children under five who are wasted decreased from 44.9% in 1994 to 20.2% in 2006. Vietnam has also made improvements in reducing micronutrient deficiencies, infant and child mortality, and poverty rates during this period. (See Table 6)

Beginning in the 1990s, the Government of Vietnam prioritised eradicating malnutrition through various nutrition-related policies and programmes. In 1995, the Government approved the National Plan of Action for Nutrition (NPAN), the first policy action focused on nutrition. It covered the period 1995 to 2000, and was updated in 2001 and called the National Nutrition Strategy (NNS), which covered the period 2001-2010. The Strategy was also updated for the next phase, from 2010-2020.

The objectives of the NNS (2001-2010) were to: 1) increase nutrition-related knowledge, 2) improve healthy dietary practices, 3) reduce malnutrition levels among children and mothers, 4) eliminate deficiencies of vitamin A and iodine and significantly decrease the prevalence of nutritional anaemia, 5) decrease the prevalence of households with low caloric or protein energy intake levels, and 6) improve food hygiene and safety. Each objective had clear targets and goals to be achieved by 2010.

The Ministry of Health (MOH) was responsible for the overall coordination of the NNS, including developing strategies and programmes on nutrition; coordinating with other ministries and organisations; evaluating and summarising the annual implementation of the NNS, and developing the preliminary (2005) as well as

the final (2010) reviews of the strategy. The National Institute of Nutrition was assigned the responsibility of assisting the MOH in terms of technical input, monitoring and evaluation. The implementation of the strategy was carried out through steering committees established at each administrative level.

The key strategies employed include:

- **Strengthening education and training:** Beginning under the NPAN (1995 - 2000), MOH leaders improved educational programmes by targeting and tailoring them to priority groups such as women and children. They also targeted community leaders and teachers, and focused on essential nutrition practices such as breastfeeding promotion.
- **Ensuring food security at the household level:** The NNS promoted the production and consumption of nutritious food items, such as beans, sesame, and soy, as well as innovations in agriculture, such as improved seed quality, reduced use of chemicals in food production, and diversification of agricultural production.
- **Preventing protein-energy malnutrition among children:** The MOH led programmes to provide education to married women about appropriate child care and feeding practices, particularly for children less than two years of age. The programmes were tailored to the needs of different regions and socio-economic groups.
- **Preventing micronutrient malnutrition:** The MOH led a vitamin A supplementation programme for children aged 6-24 months and postpartum mothers, as well as for hard to reach areas and sick children. They also encouraged farming and

consumption of foods rich in vitamin A. To prevent anaemia, the MOH expanded iron/folic acid supplementation among women aged 15-35 years, pregnant and lactating women and deworming programmes. They also increased public awareness of the importance of using iodised salt.

- **Ensuring food safety and hygiene:** Government leaders developed a uniform legal system and uniform standards to ensure food safety. The NNS also encouraged environmental preservation and educated consumers about basic food safety and hygiene.

Although the MOH and other Government agencies led NNS related efforts, NGOs also contributed, especially through nutrition education and community mobilisation. Annually, the Ministry of Finance and the Ministry of

Planning and Investment earmarked funding from the State budget (including domestic and international funding) to ensure that the NNS activities were carried out in a sustainable and efficient manner. The MOH led progress reviews with local Government agencies every three to six months. The Prime Minister prioritised the NNS and held the MOH accountable for progress and results.

Therefore, Vietnam's impressive nutrition results are linked with committed national leadership, strong policies and plans, adequate funding, and inter-sectoral collaboration. In addition, the MOH and other Government leaders prioritised and implemented proven and effective interventions, including beneficiary targeting, nutrition education, community involvement, and increasing coverage of basic services, such as micronutrient supplementation.

Table 6: Country Profile – Vietnam

No.	Indicator	Year		
		1985	1995	2007/2008
1	Population growth (%)	2	2	1
2	Life expectancy (years)	61	69	74
3	Human development index (HDI rank)	-	120	113 (2010)
4	Annual growth % HDI (1990-2007)	1.13		
5	Gross domestic product per capita, PPP (\$)	495	989	2,787
6	Female literacy (%)	-	-	90
7	Prevalence of poverty (% living below \$1.25/day, PPP)	-	40 (2002)	24 (2004)
8	Malnutrition prevalence (stunting in children under five, %)	-	43 (2000)	36 (2006)
9	Malnutrition prevalence (wasting in children under five, %)	-	44.9 (1994)	20.2 (2006)
10	Immunisation - DPT and measles (%)	42 and 19	93 and 95	93 and 92
11	Infant mortality rate (Deaths under one year of age per 1000 live births)	39	33	12
12	Under-five death rate (Deaths under five years of age per 1000 live births)	56	44	14
13	Improved sanitation and water source (% with access)	-	40 and 64	65 and 92

Sources:

<http://mdgs.un.org/unsd/mdg/Data.aspx>

<http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2>

<http://hdr.undp.org/en/reports/global/hdr2010/>

Bibliography

General references

- UN. The Millennium Development Goals Indicators. Country Level Data. (Last accessed 2010)
- World Data Bank, World Bank (Last accessed 2010)
- United Nations Development Programme (UNDP) *Human Development Report 2010*
- *Health, Nutrition and Population Series* (2006). World Bank
- *Trends in Maternal Mortality: 1990 to 2008* Estimates developed by WHO, UNICEF, UNFPA and The World Bank
- Mason, John, Hunt, Joseph, Parker, David and Jonsson, Urban - *Investing in Child Nutrition in Asia*. Asian Development Bank (1999)
- Heaver, Richard, *Strengthening Country Commitment to Human Development: Lessons from Nutrition* (2005). World Bank
- *Improving Nutrition Issues in Management and Capacity Development*. (2002). World Bank
- Rice, A.L., Sacco, L., Hyder, A., Black, R.E. *Malnutrition as an Underlying Cause of Childhood Deaths Associated with Infectious Diseases in Developing Countries* (2000). Bulletin of the World Health Organization, 78, 1207–1221
- Mushtaque A., Chowdhury and Bhuiya A. *The Wider Impacts of BRAC Poverty Alleviation Programme in Bangladesh* (2004). J. Int. Dev. 16: 369–386
- *Programme Outcome Report on Vulnerable Group Development Activity* WFP Bangladesh (2007).
- *The Bangladesh Integrated Nutrition Project: Effectiveness and Lessons, Bangladesh Development Series, Paper No.8.* (2005). World Bank, Dhaka.
- *Maintaining Momentum to 2015? An Impact Evaluation of Interventions to Improve Maternal and Child Health and Nutrition in Bangladesh, Evaluation Country Case Series,* (2005) World Bank, Washington D.C.
- UNDP. Human Development Reports. (2009).
- *Development Strategies That Work.* (2007). Country experiences presented at the ECOSOC Annual Ministerial Review. United Nations Economic and Social Council
- *Food Security in Bangladesh.* Papers Presented in the National Workshop (2005) Dhaka, Bangladesh. WFP
- Hossain, Mahabub, Naher, Firdousi and Shahabuddin, Quazi *Food Security and Nutrition in Bangladesh: Progress and Determinants* (2005). Agricultural and Development Economics Division (ESA) FAO

Bangladesh

- *Bangladesh Case Study Integrated Nutrition Programme.* FAO. (Last accessed May 2010)
- Project Performance Assessment Report, Bangladesh (2005). World Bank

Brazil

- *A Reference for Designing Food and Nutrition Security Policies: The Brazilian Fome Zero Strategy*. FAO Regional Office for Latin America and the Caribbean October, 2009
- *Implementing the Human Right to Food in Brazil* (2008). World Hunger.
- UNICEF. Childinfo.org (Last accessed November 2009)
- WHO. *Worldwide Prevalence of Anaemia 1993–2005*. Geneva, World Health Organization, 2008
- Project *Fome Zero*. (2001) on the website of the Embassy of Brazil in Ottawa (Last accessed January 2010)
- *Brazil: Major Lessons from Fome Zero*. (2006). FAO
- *The Improvement in Child Nutritional Status in Brazil: How Did It Occur* (1993). A UN Administrative Committee on Coordination – Subcommittee on Nutrition country case study supported by UNICEF
- Ministry of Social Development and Fight Against Hunger's webpage on *The Bolsa Familia* (Last accessed May 2010)
- Lindert, Kathy, *Brazil: Bolsa Familia Program – Scaling-up Cash Transfers for the Poor*. World Bank (Last accessed May 2010)

China

- BBC News. *Changing China: In depth/Key people and events/Open door policy*. (Last accessed June 2010)
- Chen, JD. *Some nutrition policies in China*. American Journal of Clinical Nutrition, 1989; 49:1060-2
- China.org.cn, China's WTO updates. *WTO entry boosts China's economy*.
- Economic and Social Commission for Asia and the Pacific. *Income Generation and*

Poverty Reduction: Experiences of Selected Asian Countries. Development paper no. 26. 2005. New York: United Nations

- Eggleston K, Ling L, Qingyue M, Lindelow M, Wagstaff A. (2008). *Health service delivery in China: a literature review*. *Health Econ*, 17: 149-165
- WHO Global Database on Vitamin A Deficiency: China (Last accessed June 2010)
- Hesketh T, Zhu WX. *Health in China: Maternal and child health in China*. (1997). *BMJ*, 28, 314:1898
- Huang J, Rozelle S. *Agricultural Development and Nutrition: The Policies behind China's Success*. Occasional paper no. 19, November 2009. WFP
- Ministry of Education, China webpage. (Last accessed June 2010)
- Svedberg P. *Child malnutrition in India and China. 2020 Focus Brief on the World's Poor and Hungry People*. 2007. Washington, DC: IFPRI.
- The United Nations. Millennium Development Goals Indicators: The Official United Nations Site for the MDG indicators. (Last accessed June 2010)
- UNICEF. Childinfo.org. (Last accessed June 2010)
- WHO. Global Prevalence of Vitamin A Deficiency in Populations at Risk 1995–2005. WHO Global Database on Vitamin A Deficiency. Geneva, World Health Organization, 2009.
- WHO. *Worldwide Prevalence of Anaemia 1993–2005*. Geneva, World Health Organization, 2008.
- WHO Global Database on Anaemia: China (Last accessed June 2010)

- WHO Western Pacific Region, WHO Representative Office in China. *Maternal and Child Health in China*.
- Woo WT, Shi L, Ximing Y, Xiaoying HWU, Xingpeng X. *The Poverty Challenge for China in the New Millennium*. October 2004. *A Report to the Poverty Reduction Taskforce of the Millennium Development Goals Project of the United Nations*
- Ravallion, M., and S. Chen. 2007. *China's (Uneven) Progress against Poverty*. *Journal of Development Economics* 82 (1): 1–42.
- Bai Jianfeng. *Solve the Population Problem with Scientific Outlook on Development - Interview with Zhang Weiqing, The Director of the National Population and Family Planning Commission*. *China Daily*, 2004-09-07.
- Dr Yunlai, X and Dr Fengying, N. *A Report on the Status of China's Food Security* (2009). China Agriculture Science and Technology Press.
- Braun, J V, Gulati, A and Fan, S. *Agricultural and Economic Development Strategies and the Transformation of China and India. Essays: Lessons Learned from the Dragon (China) and the Elephant (India)*. 2004-05

Mexico

- UNICEF. Mexico Country Statistics (Last accessed January 2010)
- UNDP. The Human Development Report 2009
- Shanghai Poverty Conference: Case Study Summary - Mexico's *Oportunidades* Program (Last accessed March 2010)
- *Reaching Mexico's Poorest* (2006). Bulletin of the World Health Organization
- *Cash and Food Transfers for Food Security and Nutrition. Emerging Insights and Knowledge gaps from WFP's experience* (2006)
- *Conditional Cash Transfers: The Next Generation. A Case Study of Mexico's Oportunidades Program*. (2007). World Bank
- *Conditional Cash Transfers, Adult Work Incentives, and Poverty*. World Bank (Last accessed May 2010)
- *Progresa Oportunidades: Where Do We Go From Here?* (2005) Paper prepared for Poverty and Poverty Reduction Strategies: Mexican and International Experiences

Thailand

- *Thailand's National Nutrition Program. Lessons in Management and Capacity Development. Health, Nutrition and Population Discussion Paper* (2002). World Bank, Thailand.
- *Rapid growth of selected Asian economies. Lessons and Implications for Agriculture and Food Security: Synthesis Report* (2006). Regional office for Asia and the Pacific. FAO
- Tontisirin, Kraisid and Bhattacharjee, Lalita, *Community based approaches to prevent and control malnutrition* (2008). *Asia Pacific Journal of Clinical Nutrition*. 17:106-110
- Sinthuvanich, Kitisak and Chuenyong, Chitti, *Rural Poverty Alleviation in Thailand*. National Economic and Social Development Board, Bangkok. (Last accessed May 2010)

Vietnam

- *Approving the National Strategy on Nutrition for the Period 2001-2010. Decision by the Prime Minister No. 21/2001/QD-TTg*, Hanoi 22nd February, 2001.
- Nutrition Country Profiles. Vietnam: Summary. FAO (Last accessed June 2010)
- Giay T. *Utilisation of Wartime Nutrition Survival Experiences* (1998). *Asia Pacific Journal of Clinical Nutrition*, 7(3/4): 311–313

- Hop, LT, and Khan, NC. (2002). *Malnutrition and Poverty Alleviation in Vietnam during the Last Period 1985–2000*. Asia Pacific Journal of Clinical Nutrition, 11 (Suppl.): S331–S334
- Paper by Khan, Nguyen Cong. Director of National Institute of Nutrition, Viet Nam (Last accessed June 2010)
- Schettino F, Gabriele A. (2008). *Child Malnutrition and Mortality in China and Vietnam in a Comparative Perspective*. Econ Change, 41:29-59
- The National Institute of Nutrition. Nutrition Strategies (translated from Vietnamese to English) (Last accessed June 2010)
- World Bank. *Health Nutrition and Population in Vietnam*. (Last accessed June 2010)
- The World Bank. Millennium Development Goals. (Last accessed June 2010)
- The United Nations. Millennium Development Goals Indicators: The official United Nations site for the MDG indicators. (Last accessed June 2010)
- UNICEF. At a Glance: Vietnam (Last accessed June 2010)
- WHO Global Database on Anaemia: Vietnam (Last accessed June 2010)
- WHO Global Database on Iodine Deficiency: Vietnam (Last accessed June 2010)

Annex: Report Reviewers

This review of global lessons learned in reducing malnutrition was led by the Public Health Foundation of India, at the request of the Coalition for Sustainable Nutrition Security in India. USAID provided financial and management support through the Vistaar Project. The following experts reviewed and contributed to this report:

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The Coalition for Sustainable Nutrition Security in India is a group of policy and programme leaders committed to raising awareness, fostering collaboration, and advocating for improved programming to achieve nutrition security in India

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