

Halving hunger: it can be done

Summary version



Achieving the Millennium Development Goals

The UN Millennium Project is an independent advisory body commissioned by the UN Secretary-General to propose the best strategies for meeting the Millennium Development Goals (MDGs). The MDGs are the world's quantified targets for dramatically reducing extreme poverty in its many dimensions by 2015 – income poverty, hunger, disease, exclusion, lack of infrastructure and shelter – while promoting gender equality, education, health, and environmental sustainability.

The UN Millennium Project is directed by Professor Jeffrey D. Sachs, Special Advisor to the Secretary-General on the Millennium Development Goals. The bulk of its analytical work is performed by 10 task forces, each composed of scholars, policymakers, civil society leaders, and private-sector representatives. The UN Millennium Project reports directly to UN Secretary-General Kofi Annan and United Nations Development Programme Administrator Mark Malloch Brown, in his capacity as Chair of the UN Development Group.

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Summary version

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This report is an independent publication that reflects the views of the UN Millennium Project's Task Force on Hunger, whose members contributed in their personal capacity. It does not necessarily reflect the views of the United Nations, the United Nations Development Programme, or their Member States.

Preface

The UN Millennium Project established the Task Force on Hunger in 2002, with a mandate to develop a strategy for halving world hunger by 2015. This summary report sets out the task force's recommendations and interventions for achieving this target. It builds on many previous attempts to eliminate world hunger, which have cut the world's proportion of hungry people from 33 percent to 18 percent over the past 40 years. Yet 852 million people still go to bed hungry every night.

On 5 July 2004, UN Secretary-General Kofi Annan, addressing a seminar in Addis Ababa, called for a “uniquely African Green Revolution in the twenty-first century” to spearhead the fight against hunger. Excerpts from his speech are given on p. 29.



The interventions described in this report respond to the Secretary-General's call for concerted action to reduce hunger – in Africa and throughout the world. Our conclusion is that hunger can be halved by 2015 and eventually eradicated from our planet – with the deliberate and timely implementation of our recommendations. It can be done.

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17 January 2005

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The seven recommendations of the Task Force on Hunger

1. Move from political commitment to action

- Advocate political action to meet intergovernmental agreements to end hunger
- Strengthen the contributions of donor countries and national governments to activities that combat hunger
- Improve public awareness of hunger issues and strengthen advocacy organizations
- Strengthen developing country organizations that deal with poverty reduction and hunger
- Strengthen accurate data collection, monitoring, and evaluation

2. Reform policies and create an enabling environment

- Promote an integrated policy approach to hunger reduction
- Restore budgetary priority to the agricultural and rural sectors
- Build developing country capacity to achieve the hunger Goal
- Link nutritional and agricultural interventions
- Increase poor people's access to land and other productive resources
- Empower women and girls
- Strengthen agricultural and nutrition research
- Remove internal and regional barriers to agricultural trade
- Increase the effectiveness of donor agencies' hunger-related programming
- Create vibrant partnerships to ensure effective policy implementation

3. Increase the agricultural productivity of food-insecure farmers

- Improve soil health
- Improve and expand small-scale water management



- Improve access to better seeds and other planting materials
- Diversify on-farm enterprises with high-value products
- Establish effective agricultural extension services

4. Improve nutrition for the chronically hungry and vulnerable

- Promote mother and infant nutrition
- Reduce malnutrition among children under five years of age
- Reduce malnutrition among school-age children and adolescents
- Reduce vitamin and mineral deficiencies
- Reduce the prevalence of infectious diseases that contribute to malnutrition



5. Reduce vulnerability of the acutely hungry through productive safety nets

- Build and strengthen national and local early warning systems
- Build and strengthen national and local capacity to respond to emergencies
- Invest in productive safety nets to protect the poorest from short-term shocks and to reduce long-term food insecurity

6. Increase incomes and make markets work for the poor

- Invest in and maintain market-related infrastructure
- Develop networks of small rural input traders
- Improve access to financial services for the poor and food-insecure
- Provide and enforce a sound legal and regulatory framework
- Strengthen the bargaining power of the rural and urban poor in labor markets
- Ensure access to market information for the poor
- Promote and strengthen community and farmer associations
- Promote alternative sources of employment and income



7. Restore and conserve the natural resources essential for food security

- Help communities and households restore or enhance natural resources
- Secure local ownership, access, and management rights to forests, fisheries, and rangelands
- Develop natural resource-based “green enterprises”
- Pay poor rural communities for environmental services.

Acknowledgements

The Task Force on Hunger is indebted to the many individuals, institutions, and communities that have contributed to its work.

Jeffrey Sachs provided bold leadership of the UN Millennium Project; he and the Project's Secretariat staff made tremendous contributions to our work.

A number of institutions generously hosted or co-organized task force meetings, events, or study tours in Africa, India, Europe, and the USA. These include the Earth Institute at Columbia University, the International Food Policy Research Institute, the International Livestock Research Institute, the UN Millennium Project, the New Partnership for Africa's Development, the Rockefeller Foundation, the M.S. Swaminathan Foundation, the World Agroforestry Centre, the World Bank, the World Food Prize Foundation, and the United Nations World Food Programme.

The task force drew from the research and expertise of these and many other institutions, commissioning research papers on a wide range of themes. We thank our many authors and contributors, including the lead authors of the three task force reports (Sara Scherr, Don Doering, Philip Dobie, and Nalan Yuksel), and contributing authors to the final report (Lisa Dreier, Rafael Flor, and many task force members).

Donor agencies and other partners that generously supported our work include the United Nations Millennium Project Trust Fund, the United Nations Development Programme, the Canadian International Development Agency, the UK's Department for International Development, the Earth Institute at Columbia University, Development Cooperation Ireland, the Rockefeller Foundation, the Swedish International Development Cooperation Agency, the World Bank, and the United Nations World Food Programme.

The task force is also grateful for the incisive reviews of its main report, from both individuals and institutions. Their contributions enriched the report considerably.

Lastly, we thank the community members in the hungry regions we visited, who inspired us with their tenacity, innovations, and hope.

Halving hunger: it can be done

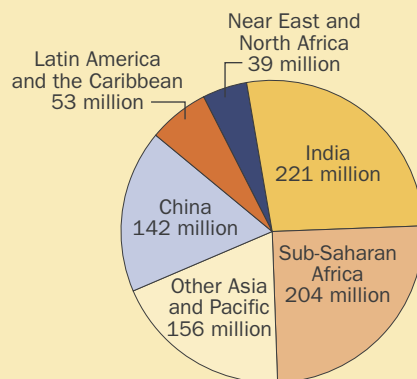
Over the past 20 years, the proportion of the world's people who are hungry has declined from one-fifth to one-sixth, while the absolute number of hungry people has fallen slightly. But 852 million people, mainly in the developing world, are still chronically or acutely malnourished (Figure 1). Most of them are in Asia, particularly India (221 million) and China (142 million). Sub-Saharan Africa has 204 million hungry and is the only region of the world where hunger is increasing. If current trends continue, this region will fail to meet the hunger Millennium Development Goal (MDG) (Figure 2).

Figure 1.

Where are the hungry?

Total numbers of undernourished people in the major regions of the developing world. A further 37 million undernourished live in the industrialized countries and countries in transition

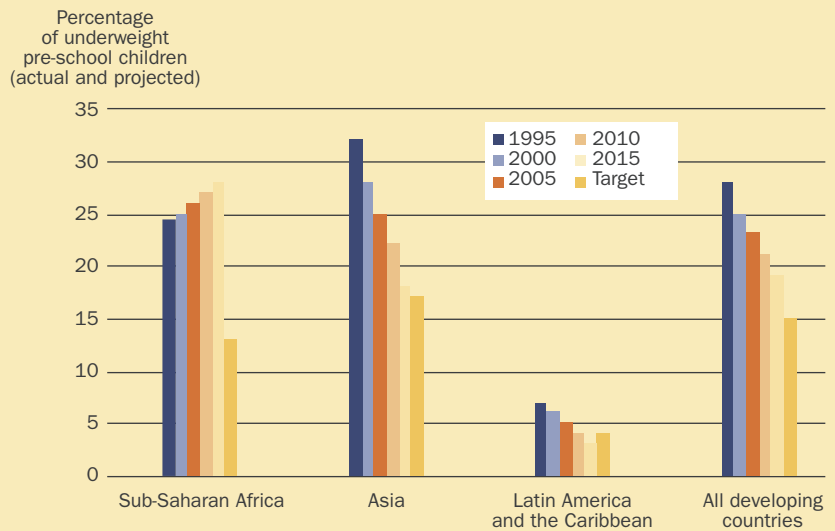
Source: FAO 2004.



Hunger continues to be a global tragedy. Its elimination requires a concerted and persistent worldwide effort. The Task Force on Hunger is convinced that hunger can be halved by 2015. Indeed, the task force will not be satisfied with the attainment of that goal; it sees reaching the hunger MDG as a milestone in the global effort to eradicate hunger.

Figure 2.
Sub-Saharan Africa
is losing the fight
against hunger

Source: WHO 2003.



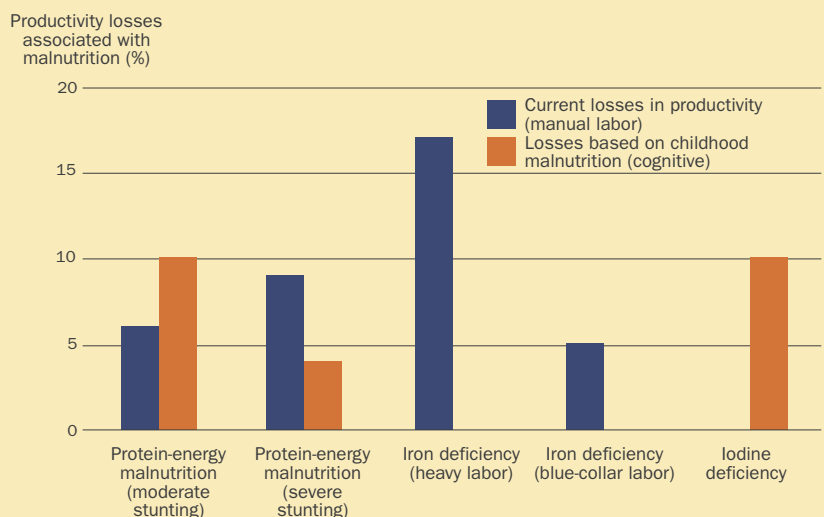
Setting the stage

Hunger is both a cause and an effect of poverty. It holds back economic growth and limits progress in reducing poverty. The negative economic impact of hunger is dramatic, with annual losses of at least 6–10 percent in labor productivity and hence in gross domestic product (GDP) (Figure 3). Poor and hungry people often face social and political exclusion. They have little access to education, health services, and safe drinking water. The challenge of halving hunger is thus closely linked with that of achieving the other MDGs. It is particularly important that hunger reduction should be a major part of poverty reduction strategies, since little progress in reducing poverty is likely as long as large numbers of people suffer from malnutrition.

Figure 3.
Malnutrition reduces
labor productivity
and national output

Study conducted in low-income Asian countries

Source: Horton 1999.



Kinds of hunger

Hunger occurs in three different forms: acute, chronic, and hidden. Most people with access to television have seen haunting images of the starvation that typically occurs during famines and disasters. But those suffering from such acute hunger represent only a small proportion – roughly 10 percent – of the world’s hungry. Most of the hungry, approximately 90 percent, are chronically undernourished. Chronic undernourishment is caused by a constant or recurrent lack of access to food of sufficient quality and quantity, often coupled with poor health and caring practices. It results in underweight and stunted children as well as high child mortality brought about by associated diseases. Hidden hunger, caused by a lack of essential micronutrients (vitamins and minerals), afflicts more than two billion people, even when they consume adequate amounts of calories and protein.

The world has demonstrated its generosity in helping the victims of acute hunger. Unfortunately the chronic and hidden forms of hunger are not as dramatic, and receive much less global attention and support.

Causes of hunger

There are many reasons why people go hungry. In analyses by the Task Force on Hunger and other researchers, the following factors emerged as strongly correlated with high levels of underweight pre-school children in developing countries: poverty, low food production, mothers’ lack of education, poor water, sanitation and health facilities, and climatic shocks.

Adequate nutrition begins at the household level, where gender discrimination, traditional practices, and inadequate nutrition awareness can limit the food intake of women and children. For example, the best nourishment for small children is exclusive breastfeeding for the first six months, then breastfeeding plus complementary foods through their first two years. Yet women may not be able to produce breastmilk of sufficient quality and quantity when they themselves are malnourished. In some parts of the world, intra-household inequalities may result in women and girls eating last, finishing what remains after the men and boys have eaten. Many women, besides having limited education, become mothers at a young age, are unable to space their births appropriately, and lack awareness of good nutrition and child nurturing practices. They often become anemic when they are pregnant due to lack of iron in their diet. This increases the risk of low birthweight in their babies, perpetuating a vicious circle of malnourishment down the generations.

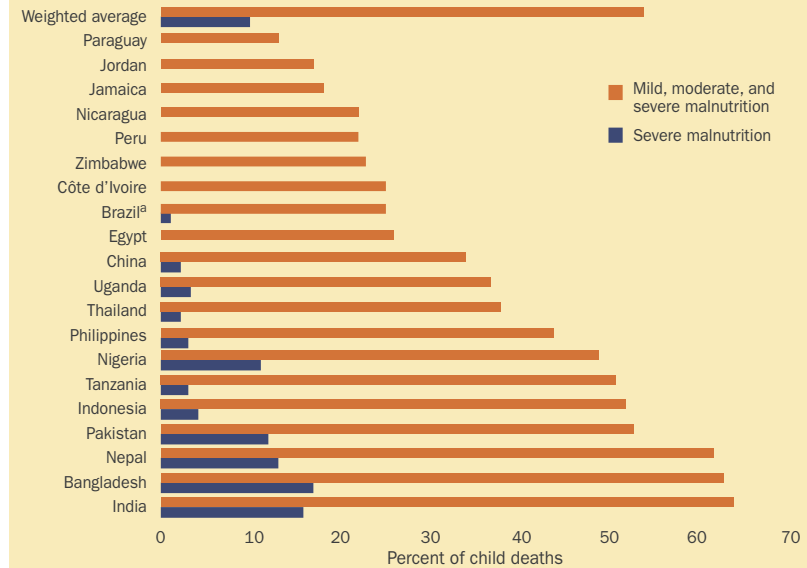


Good health, coupled with safe water and good sanitation, is vital for maintaining adequate nutrition. Common infectious diseases and parasites prevent people from absorbing and utilizing food properly. The interaction works both ways: malnutrition and hunger are the number one risk factor for illness worldwide (Figure 4). For example, malnourishment weakens the immune system and strength of those affected by HIV/AIDS, making them succumb more quickly to the disease.

Figure 4.
Malnutrition is an underlying cause of child deaths from diseases

a. Data are for northeast Brazil

Source: Adapted from Palletier and others 1995.



Poverty is a major cause of hunger. Despite the lower food prices associated with the increases in food production brought about by the Green Revolution, many poor people still cannot afford to buy sufficient food. Their poverty is often associated with macro- and micronutrient deficiencies – typically due to limited diets consisting mainly of starchy foods, with little in the way of animal products, vegetables, and fruits.

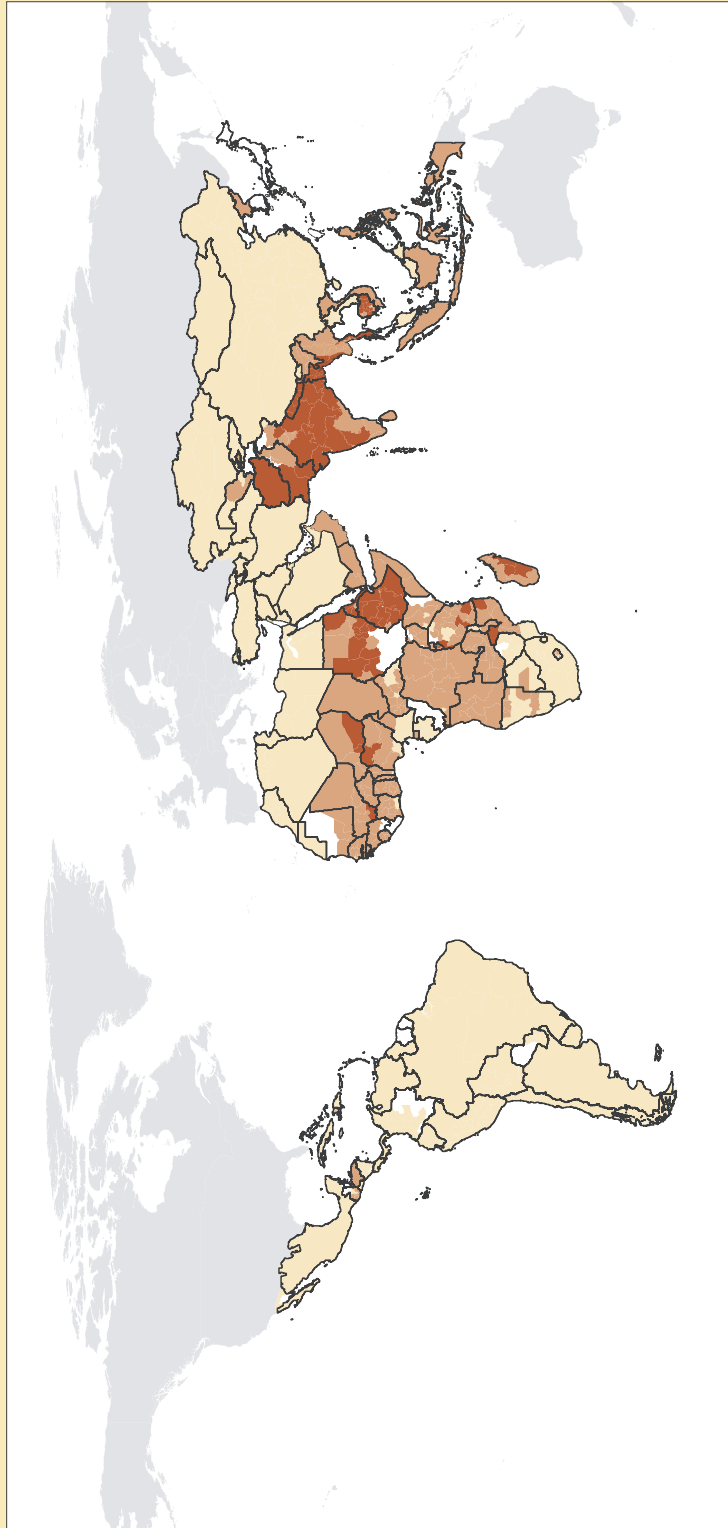
Despite gains in the yields of major food crops, low food production persists in rural areas, especially where agriculture is rainfed. The worst affected areas are those most remote from markets and/or where agricultural production is risky. Poor access to markets means that many farmers are unable to diversify into higher value commodities or add value through processing. Due to poor grain storage and the need for cash, many small-scale farmers are forced to sell their crop at a low price immediately after harvest, only to buy grain back later at a higher price in order to feed their families until the next harvest.

Who and where are the hungry?

While accurate data are scarce, estimates indicate that the majority of hungry people live in rural areas. The task force believes that about half of the hungry

Map 1
Hunger hotspots: areas with more than 20% underweight pre-school children

Source: CIESIN 2005.



□ less than 20 % ■ 20-40 % ■ above 40 % □ no data

live in smallholder farming households, while roughly two-tenths are landless. A smaller group, perhaps one-tenth, are pastoralists, fisherfolk, and forest users. The remainder, around two-tenths, live in urban areas.

Maps of hunger commonly show which countries have high levels, but not where the concentrations are within a country. The task force focused on sub-national units (states, provinces, or districts) in order to identify hunger hotspots (Map 1). These are defined as units where the prevalence of underweight children under the age of five is 20 percent or more.

Of the 605 units analyzed, the task force identified 313 that were hunger hotspots. These contain around 107 million pre-school children who are underweight – roughly 79 percent of the world’s total of 134 million.

The breakdown for the world’s three major developing regions was as follows:

- In Africa, 229 out of the 366 units analyzed were found to be hunger hotspots; these contain about 28 million underweight pre-school children – around 88 percent of the region’s total (Map 2).
- In Asia, 76 of the 172 units analyzed were found to be hunger hotspots; these contain about 78 million underweight pre-school children – around 95 percent of the region’s total (Box 1).
- In Latin America and the Caribbean, only 106 units were analyzed due to limited data; of these, only 8 were hunger hotspots; these contain about 400,000 underweight pre-school children – around 17 percent of the region’s total.

This analysis provides useful initial guidance on where to target interventions to end hunger. Poor countries are encouraged to refine the analysis. However, many countries do not collect data on hunger at present and should make this a priority.

Box 1
The South Asian enigma: high rates of child malnutrition despite economic and agricultural gains

Source:
 Ramalingaswami,
 Jonsson, and
 Rhode 1996.

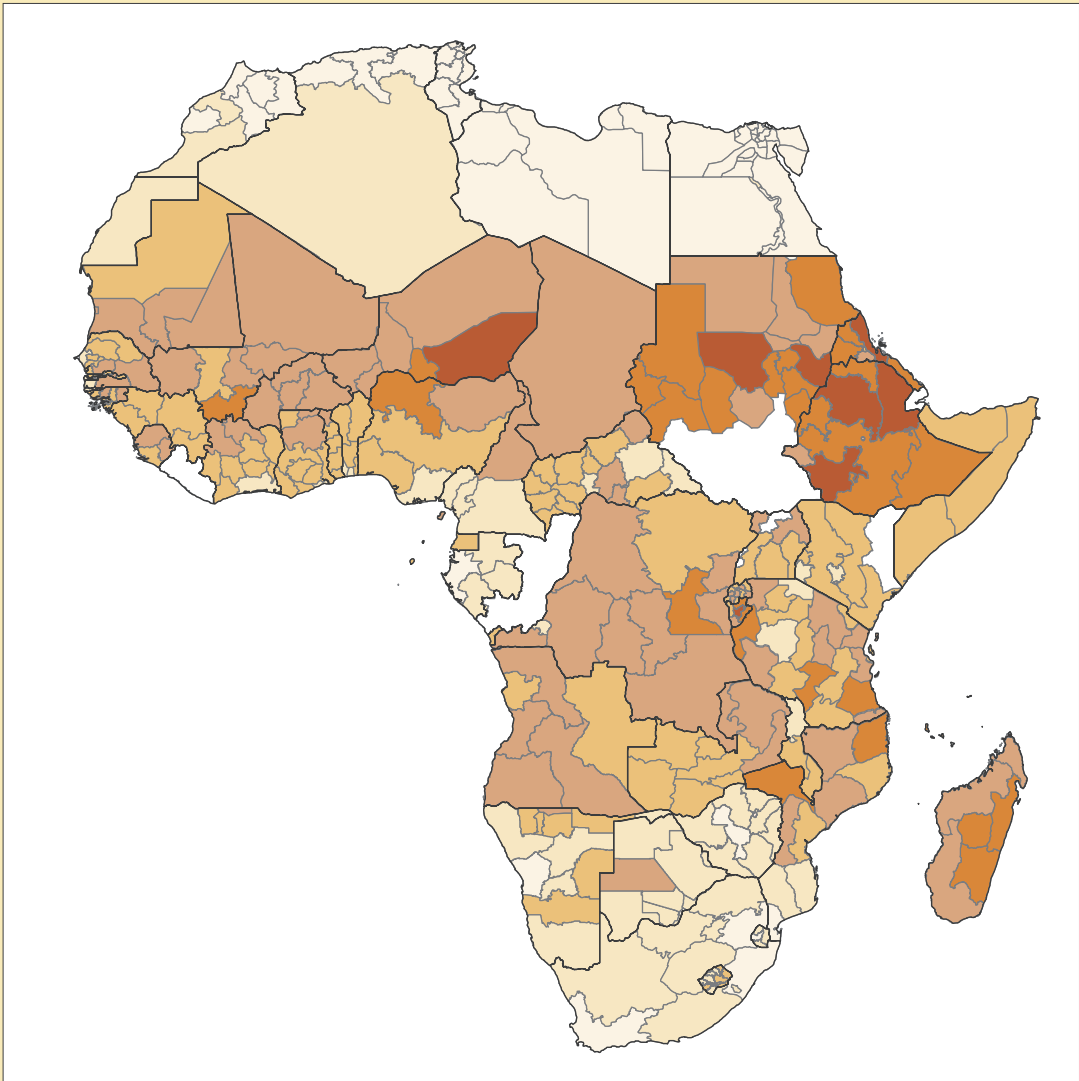
Despite higher levels of economic growth, agricultural production, infrastructure, and public services, South Asia has higher prevalence (47 percent) of underweight pre-school children than sub-Saharan Africa (31 percent). This has been called the South Asian enigma.

The low status of women is a major explaining factor. This is reflected in low birthweights, associated with high levels of anemia and low rates of weight gain in pregnant women. The health of infants often falters at four months, probably because of sub-optimal breastfeeding practices and poor sanitary conditions. The quality of child care is reduced by women’s lack of education, economic opportunity, and freedom outside the home, all of which restrict knowledge transmission, self-esteem, and income generation. A combination of poor hygiene and overcrowding heightens the incidence of infectious diseases.

Actions to address these problems include increasing girls’ education, promoting the rights and opportunities of women, providing adequate sanitation facilities, and empowering communities.

Map 2
Hunger hotspots in
Africa: areas with more
than 20% underweight
pre-school children

Source: CIESIN 2005.



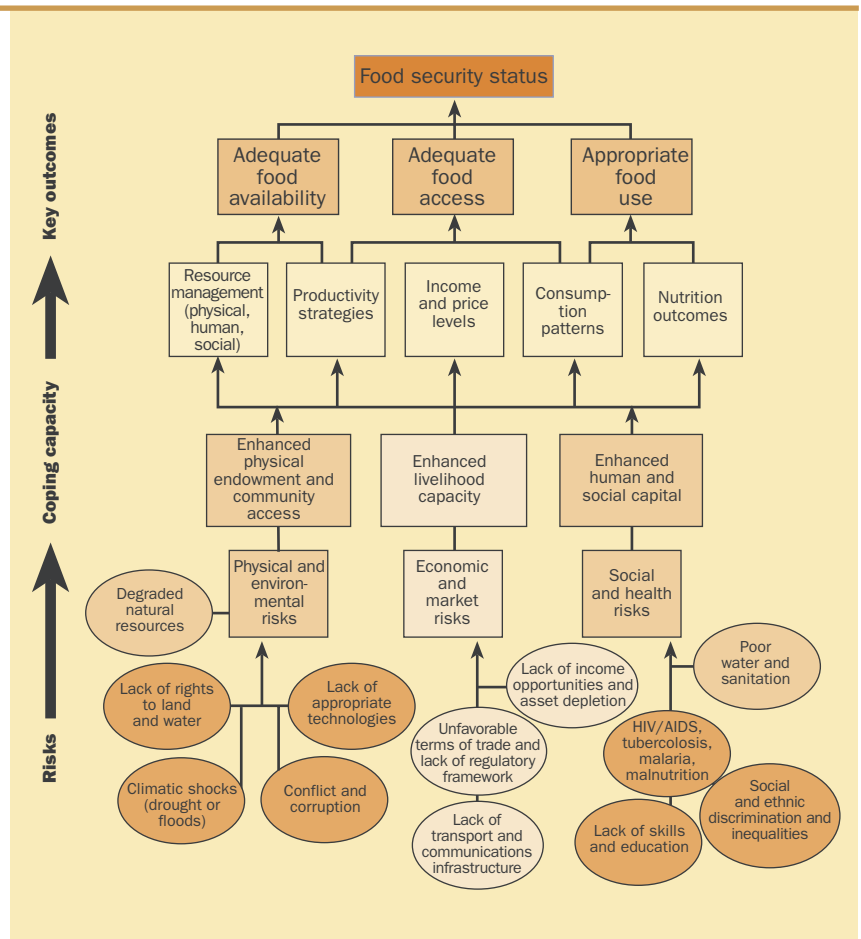
□ less than 10% □ 10–19.9% □ 20–29.9% □ 30–39.9% □ 40–49.9% □ more than 50% □ no data

Vulnerability

Hungry people are highly vulnerable to crises and hazards. The crises may be caused by natural disasters, such as major droughts or floods, or by manmade disasters, such as war. The hazards include factors such as insecure rights to land and other natural resources, lack of improved agricultural technology, inability to store produce after harvest, environmental degradation, lack of income-earning opportunities, poor health, and so on. These elements of vulnerability are the starting point for five of the seven recommendations made by the task force (Figure 5).

Figure 5.
Vulnerability and food insecurity

Source: Adapted from WFP 2002, and Webb and Rogers 2003.



Three key factors – gender inequality, HIV/AIDS, and climate change – exacerbate vulnerability in hungry countries.

Due to existing social inequalities, women are often disproportionately vulnerable to hunger. Although they are responsible for the bulk of food production – more than 80 percent in Africa – they continue to be bypassed by most agricultural programs. Women should be empowered and supported in

their multiple roles as food producers, household nutrition managers and care-givers, marketers and traders, and so on. Gender equality is not simply socially desirable; it is a central pillar in the fight against hunger.

HIV/AIDS is increasing the vulnerability of millions of chronically hungry households. The interactions of drought, hunger, and AIDS in parts of the world are leading to complex humanitarian crises that threaten long-term social and economic development. Agriculture, health, and other sectors should recognize their joint responsibilities and take action together to combat these crises.

Climate change is expected to disrupt ecosystems and hence agricultural production on a devastating scale in the years ahead. Poor food producers will suffer, but so too will urban food consumers, as prices rise.

The seven recommendations

The UN Millennium Project focuses on the simple but powerful concept of making the MDGs the centerpiece of national poverty reduction strategies supported by international processes. This requires focusing on the Goals as policy targets, with poor countries developing a coherent plan to achieve all the Goals by 2015 and rich countries supporting these plans through policy assistance and financial backing.

The Task Force on Hunger is not proposing yet another stand-alone strategy for fighting hunger. Instead, we present a plan that forms part of a larger effort to address all the MDGs simultaneously. Our recommendations, along with those of the nine other task forces, are included in the report of the UN Millennium Project, *Investing in Development, A Plan to Achieve the Millennium Development Goals*, which also contains a broader vision of how these recommendations can be implemented across all the sectors that must contribute. National governments can incorporate these multisectoral approaches into MDG-based poverty reduction strategies – strategies that too often underemphasize agriculture and nutrition at present.

Within the UN Millennium Project's framework for achieving the MDGs, the Task Force on Hunger calls for simultaneous action in seven priority areas (Figure 6).

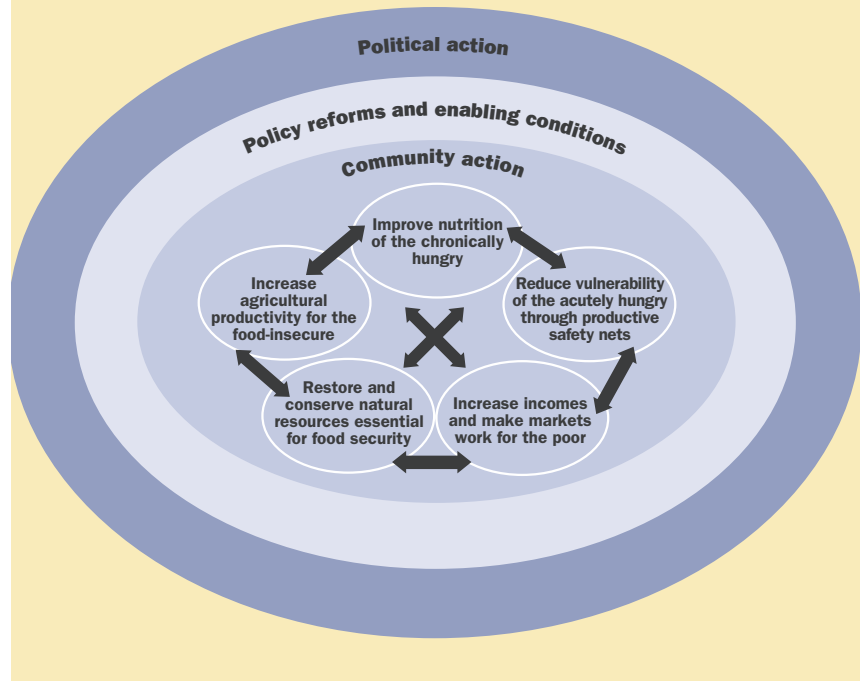
Global-level interventions

Recommendation one: move from political commitment to action

Political commitments to end hunger have been made repeatedly but have not been translated into action. All UN member countries committed themselves to halving world hunger at the World Food Summits of 1996 and 2002, the Millennium Summit of 2000, the 2002 World Summit on Sustainable Development, and the 2002 Monterrey Summit on Development Finance. The Task Force on Hunger recommends taking the next step: political action at all levels of society. The interventions recommended in this domain include:

Figure 6.

The task force's recommendations at the global, national, and community levels



- Advocate political action to meet intergovernmental agreements to end hunger
- Strengthen the contribution of donor countries and national governments to activities that combat hunger
- Improve public awareness on hunger issues and strengthen advocacy organizations
- Strengthen developing country organizations that deal with poverty reduction and hunger
- Strengthen accurate data collection, monitoring, and evaluation.

The key message for political leaders is that halving world hunger is well within our means. What has been lacking is action to implement and scale up known solutions. UN Secretary-General Kofi Annan reinforced this message in July 2004 when he called for a “uniquely African Green Revolution in the twenty-first century”. This revolution would capitalize on existing knowledge to transform the region’s agriculture, nutrition, and markets, using the pro-poor, pro-women, and pro-environment interventions embedded in this report. Variations of this approach, with greater emphasis on nutrition and markets, apply to parts of Asia and Latin America.

National governments need to be held accountable for the funding and implementation of national programs to address hunger. Establishing measurable indicators of progress and reporting them publicly can help strengthen governance and accountability.

If the hunger Goal is to be met, developed country governments must increase and improve their official development assistance, especially for agriculture and nutrition, and strengthen their commitment to capacity building. It is also imperative that they reform their agricultural and trade policies.

Developing country governments should improve the quality and increase the scale of their national hunger reduction programs, targeting hotspots where the majority of the hungry live. Brazil and China are two good examples of how this can be done. Success is greatest when governments work in partnership with nongovernmental organizations (NGOs), the private sector, and local communities to bring about change.

Building public awareness of hunger and the issues that surround it can provide political leaders with the mandate and support they need to take action. Antihunger coalitions should articulate arguments for action that are compelling both morally and practically. To build broad public support, it is necessary to create a groundswell of popular opinion at the local level.



Strengthening public advocacy is also necessary in developing countries. Local NGOs can act as facilitators, assisting food-insecure groups in voicing their concerns to government. The strengthening and networking of local community and advocacy groups over the past decade is one of the most promising developments in the struggle against hunger.

Key ingredients in working toward all the MDGs will be accurate data collection and benchmarks from which to monitor progress. Developing relevant and robust monitoring and evaluation processes and practices is challenging, not least because of the difficulty of reaching agreement on sound and uniform methodologies.

National-level interventions

Recommendation two: reform policies and create an enabling environment

Government policies in poor countries can make or break efforts to end hunger. Good governance – including the rule of law, lack of corruption, and respect for human rights – is essential for promoting food security. Policies conducive to ending hunger and poverty need to be put in place at all levels, from the local to the national. The policy reform process needs to be undertaken in partnership with all stakeholders, including civil society and the private sector. The Task Force on Hunger proposes the following interventions:

- Promote an integrated policy approach to hunger reduction
- Restore budgetary priority to the agricultural and rural sectors
- Build developing country capacity to achieve the hunger Goal
- Link nutritional and agricultural interventions
- Increase poor people's access to land and other productive resources
- Empower women and girls

- Strengthen agricultural and nutrition research
- Remove internal and regional barriers to agricultural trade
- Increase the effectiveness of donor agencies' hunger-related programming
- Create vibrant partnerships to ensure effective policy implementation.

Poor countries need to adopt a multisectoral approach to the reduction of hunger. National poverty reduction strategy processes, including the development of Poverty Reduction Strategy Papers (PRSPs), offer the best opportunities for doing so. The task force recommends that every low-income country integrate the MDGs into its poverty reduction strategy or equivalent national planning process.

The task force recommends that African governments invest at least 10 percent of their national budget specifically in agriculture, in addition to making necessary investments in rural energy, infrastructure, health, education, and conservation.

Building local capacity should be the central goal of both national government and donor-funded activities. One possible example of capacity building is the creation of a corps of paraprofessional extension workers in agriculture, nutrition, and health, residing in villages identified as hunger hotspots.

Linking nutritional and agricultural interventions, too often implemented separately at present, would also create more effective hunger reduction programs.

Increasing poor people's access to productive resources is essential for their food security. Clearly assigned and enforceable rights to own, inherit, and trade land must be established, particularly for women. Innovative tenure arrangements, such as community property rights, can also be effective.

Women's well-being, empowerment, and education are the driving factors in reducing children's malnutrition. Political leaders at all levels should work with community groups to empower women through legal, policy, and institutional reforms. Women and girls need better access to such services as credit, healthcare, and education. It is important to develop and introduce technology that will ease the workload of rural women, such as water harvesting, trees for firewood grown close to home, and implements that minimize tillage.

Agricultural research has been a major driver of hunger reduction. The task force recommends doubling investments in national research to at least 2 percent of agricultural GDP by 2010. It is also recommended that donors increase funding to the Consultative Group on International Agricultural Research (CGIAR) to US\$1 billion by 2010.

The international community has an important role to play in removing trade barriers, to allow poor farmers access to developed country agricultural markets. Developing countries could also do more to promote cross-border trade at the regional level.

Donor agencies should increase the effectiveness of their hunger-related programs. Shared country-level coordination mechanisms, agreements on



common monitoring procedures, and systems for sharing results and knowledge are some of the modest steps that could make a difference.

Community-level interventions

Recommendation three: increase the agricultural productivity of food-insecure farmers

Small-scale farming families represent about half the hungry worldwide and probably three-quarters of the hungry in Africa. Raising the productivity of their crops, vegetables, trees, and livestock is a major priority in the fight against hunger. It is also vital to enhance and sustain the productivity of forests and

fisheries, which provide the livelihoods of significant proportions of hungry people. The interventions recommended in this domain are:

- Improve soil health
- Improve and expand small-scale water management
- Improve access to better seeds and other planting materials
- Diversify on-farm enterprises with high-value products
- Establish effective agricultural extension services.

Restoring health to the soil is often the first entry point for increasing agricultural productivity, especially in Africa. This can be done by applying appropriate combinations of mineral and organic fertilizers (Box 2), using green manures to improve soil fertility, planting fertilizer trees, returning crop residues to the soil, and using improved methods of soil erosion control and water conservation.

Making mineral fertilizers available at affordable prices and using them efficiently remain major challenges. The task force believes that, in critical situations, targeted subsidy programs should be carefully designed to supply

Box 2

Mineral versus organic fertilizers

Source: Sanchez 2002.

Essential to all forms of agriculture, nutrient inputs come mainly from mineral and organic fertilizers.

When properly used, mineral fertilizers can produce high yield increases. However, most mineral fertilizers add only the three major elements – nitrogen, phosphorus, and potassium – to the soil, whereas organic inputs add all 16 essential elements, including carbon. Organic carbon is vital, since it improves the soil's water-holding capacity and is an energy source for the microorganisms that enhance nutrient cycling.

Virtually all sustainable crop production combines the use of mineral fertilizers with organic inputs. The sole application of nitrogen fertilizers accompanied by the removal of all crop residues is doomed to fail – and is not recommended.

both mineral and organic fertilizers to highly food-insecure farmers. Tamper-proof “smart cards,” redeemable at private agrodealers, are a promising way of administering targeted subsidies and avoiding the inefficiencies of past subsidy schemes. These programs require a long-term commitment if they are to ensure economic growth, but should include a sunset clause so that the subsidies are gradually phased out over a given period, say 5–10 years depending on local conditions. Efforts to improve soil health need to focus not only on small-holder rainfed systems but also on intensive irrigated systems (Box 3).

In the dry subhumid and semiarid tropics and subtropics, improving water availability can be just as important as improving soil fertility, if not more so. Various water harvesting and small-scale irrigation techniques can transform crop and livestock production in these zones. Water-related interventions depend heavily on developing the social capital to manage them at community level; solutions that rely on technology alone are unlikely to succeed.

Genetically superior crops, vegetables, trees, and animals can greatly increase the productivity of small farms. The task force supports both conventional plant breeding and transgenic research, the latter provided it is accompanied by appropriate biosafety measures. The ability to withstand such stresses as drought, salinity, poor soil fertility, pests, and diseases will particularly benefit farmers in the more marginal areas. Early-maturing varieties are especially useful in drought-prone areas. There has recently been some exciting progress in developing dual-purpose food/feed crops that enable farmers to diversify

Box 3
**Unhealthy soils in
 the cradle of the
 Green Revolution**

Source: Rattan Lal and
 Christopher Dowswell,
 personal communications.

Irrigated rice and wheat are grown on 23.5 million hectares of land inhabited by more than 1 billion people in the Indo-Gangetic plains and other fertile valleys of Asia. Yields in this system, which rose dramatically during the Green Revolution, have now reached a plateau, largely because of declining soil health.

Farmers apply too much nitrogen fertilizer and too little organic matter and other sources of essential nutrients, resulting in severe deficits of phosphorus and potassium and widespread micronutrient deficiencies. Too low a proportion of crop residues is incorporated back into the soil; animal dung is burned as domestic fuel; excessive tillage is practiced to control weeds; few or no green manures, cover crops, or agroforestry technologies are used; and rising water tables are leading to salinization.

The degradation of soil and water resources severely affects human health. Many parts of South Asia that depend on the rice–wheat system are now hunger hotspots. In addition to calorie and protein undernutrition, iron and zinc deficiencies are pervasive, particularly among nursing mothers and infants.

Agricultural productivity and human health in the region will only be improved and sustained if soil and water resources are restored and maintained. This can be done through the use of technologies such as conservation tillage and planting on raised beds, which are gradually spreading through parts of the region. Conservation tillage is now used on about 1.3 million hectares of irrigated wheat land, where the crop residues left as mulch have begun to rebuild soil organic matter.



into livestock production without jeopardizing their short-term food security.

Farmers can improve their food security by diversifying into high-value crops and products. Livestock, farm trees, aquaculture, and vegetables provide small-scale farmers with attractive options for diversifying their diets and sources of income while also enhancing the stability and sustainability of their farming enterprise. Increases in milk production, for example, can reduce malnutrition in both rural and urban settings. Recent growth in the smallholder timber sector suggests that smallholders could emerge as major timber suppliers of the twenty-first century.

Breathing new life into the moribund extension services that are typical of many developing countries is vital if the benefits of new knowledge and improved technology are to reach farmers. Despite the many shortcomings of conventional extension services, there are good extension practices and models, such as farmer field schools, that could be spread more widely. The task force recommends that every village in a hunger hotspot should have a resident extension worker trained in agriculture, together with counterparts in health and nutrition.

Recommendation four: improve nutrition for the chronically hungry and vulnerable

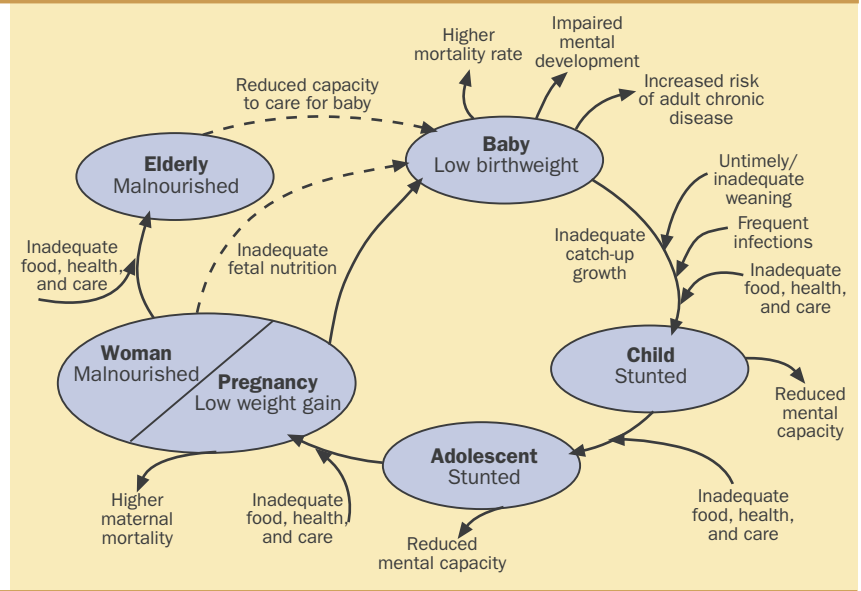
Adequate nutrition lies at the heart of the fight against hunger. A targeted life-cycle approach is recommended to reduce the prevalence of underweight children, reduce stunting, and ensure adequate micronutrients for those suffering from vitamin and mineral deficiencies (Figure 7). Particular attention should go to children under the age of two and to supplemental feeding for pregnant and lactating mothers. The five interventions recommended in this domain are:

- Promote mother and infant nutrition
- Reduce malnutrition among children under five years of age
- Reduce malnutrition among school-age children and adolescents
- Reduce vitamin and mineral deficiencies
- Reduce the prevalence of infectious diseases that contribute to malnutrition.

As the primary care providers for children and families, women are particularly important in improving nutrition for vulnerable groups. Ensuring universal access to reproductive health services is essential for improving the nutritional status of pregnant women and their children, particularly through the appropriate spacing of births. Increasing women's income and their control over family assets is also known to improve the nutritional status of their children. To promote community awareness and action in this field, the task force

Figure 7
Breaking the cycle
of intergenerational
malnutrition
is difficult

Source: UN ACC/SCN 2000.



recommends support for both formal networks of paraprofessional nutrition extension workers and informal self-help and mother-to-mother groups of nutrition and health volunteers at the village level.

To break the intergenerational cycle of malnutrition, the task force recommends supplemental feeding for underweight pregnant and nursing mothers.

Exclusive breastfeeding up to six months of age is the best way of ensuring optimum nutrition for babies. Systems need to be put in place to raise awareness of this. However, the risk of transmitting HIV through breastmilk complicates the decisions women must make to ensure good nutrition for their babies.

To reduce malnutrition among pre-school children, the task force recommends providing fortified or blended complementary foods. In addition, therapeutic care should be provided for all seriously malnourished children and women, especially in remote rural areas.

For school-age children and adolescents, the task force recommends school feeding programs, sourced where possible from locally produced foods rather than imported food aid (Box 4). Such programs can generate important synergies not only with education, by attracting pupils (especially girls) to school and by increasing their attentiveness, but also with agriculture, by stimulating local market demand (an estimated 25 percent increase in the demand for maize in sub-Saharan Africa, for example). Comprehensive community- and school-based feeding programs that offer systematic deworming, micronutrient supplementation, take-home rations, safe cooking facilities, clean drinking water, and improved sanitation, in addition to education on HIV/AIDS, health, nutrition, and hygiene, can be an excellent platform for improving schools, keeping children healthy, and reaching out to the rest of the community.

Box 4
School-based
feeding reduces
short-term hunger
and improves edu-
cation in Mexico

Source: ECLAC 2004.

Operational since 1997, Mexico's Programa de Educación, Salud y Alimentación (PROGRESA) is targeted directly to rural people living in extreme poverty. Besides school meals, the program provides cash and in-kind benefits to mothers who keep their children in school and attend health clinics. The benefits include nutritional supplements for children under five and for pregnant and lactating women.

By 1999, PROGRESA was reaching about 2.6 million poor families or 40 percent of all rural families in Mexico. Its annual budget was US\$ 77 million, about 0.2 percent of Mexico's GDP. Recently extended to cover urban areas as well, the program is serving as a model for several other Latin American countries.

Vitamin and mineral intake can be improved by increasing the consumption of micronutrient-rich foods, improving food fortification, and increasing micronutrient supplementation when necessary. All three of these mutually reinforcing actions should be promoted by village extension workers. Countries should give a high priority to promoting the local production of micronutrient-rich foods, such as vegetables and fruits. Public-private partnerships can play an important part in developing and supplying fortified foods (Box 5). Another option is the biofortification of food crops through research, an area that merits more attention.

Parallel health measures are also needed to eliminate the diseases that rob people of nutrients. All children should be fully immunized and receive prompt treatment for common infections such as diarrhea, pneumonia, malaria, and intestinal parasites. The Task Force on Hunger fully supports the recommendations of the Task Force on HIV/AIDS, including measures to ensure appropriate nutritional care for people living with or affected by HIV/AIDS.

Box 5
The private
sector and food
fortification:
iodized salt
in Ghana

Source: Unilever 2003.

Iodine deficiency affects an estimated 50 million children worldwide and is the most common cause of preventable mental retardation. Children born to iodine-deficient mothers commonly have a lower than average IQ.

To tackle the problem, the private company Unilever developed Annapurna, a brand of iodized salt. The company forged a partnership with the United Nations Children's Fund (UNICEF) and the Ghana Health Service to design and implement a campaign to promote the use of Annapurna. The campaign began with advertisements, which were needed to raise awareness of the importance of iodine in the diet but did not refer to a specific brand of salt. Next, teams went into schools to educate children about the need to raise their iodine levels. Children were invited to bring salt from their homes and to test it with a special kit to find out if it was iodized.

Iodized salt consumption by Ghanaians now stands at 50 percent, up from 28 percent in 1998. The program has been extended to cover vitamin A, zinc, and protein. Unilever's fortified foods business is being extended to Mozambique, Malawi, and Kenya. And the company has announced that it is at an advanced stage of negotiations with UNICEF to forge a global partnership to reduce child mortality.

Recommendation five: reduce vulnerability of the acutely hungry through productive safety nets

Hungry people are vulnerable to events and influences that they cannot control. These include natural disasters, armed conflicts, catastrophic illness, and political and economic instability. While investing in agriculture, education, and health remains critical to long-term food security, past gains can be threatened if people's vulnerability to short-term disasters and shocks is not tackled head on. The task force recommends the following interventions in this domain:

- Build and strengthen national and local early warning systems
- Build and strengthen national and local capacities to respond to emergencies
- Invest in productive safety nets to protect the poorest from short-term shocks and to reduce long-term food insecurity.

Mainstreaming the management of vulnerability to shocks and disasters will allow governments to protect and perhaps even enhance the returns to their investments in long-term development. That means increasing the ability to predict shocks and disasters – and to respond to them quickly when they occur. It also means managing post-crisis investments better, so that they generate assets that take people beyond where they were before the crisis.

The task force recommends that national governments, in partnership with the international community, strengthen their early warning systems, especially for hunger hotspots and pastoralist areas, which are often inadequately covered at present. Early warning systems need to be fairly sophisticated to be effective; the key to effectiveness is knowing when to intervene (Box 6).

Developing countries and the international community need to build and strengthen emergency response systems. Multiyear budgeting and increased funding for organizations such as the UN's Immediate Response Account will help meet the escalating needs for humanitarian relief. The task force recommends that, where possible and appropriate, donors provide cash instead of food aid for relief efforts, so that governments can invest more flexibly in reducing

hunger among people at risk. The additional resources needed to reduce vulnerability to shocks must not be found by drawing funds away from long-term development.

Better links are needed between actions aimed at overcoming chronic malnutrition and programs addressing acute malnutrition. The successes of relief agencies in refugee camps need to be replicated and scaled up in the broader community during post-emergency recovery periods. One novel approach is community therapeutic care, which emphasizes treating malnourished children at home rather than in rehabilitation centers.

Safety nets should be an effective protector of last resort during shocks and an economically productive tool during noncrisis years. This involves invest-



Box 6
Early warning
systems: knowing
when to intervene

Sources: Buchanan-Smith and Davis 1995, Sommer 1998, Toulmin 1995.

Most early warning systems cover food crop production, with a view to identifying probable shortfalls that will need to be covered through imports or food aid. Few extend to the rangeland areas that lie beyond cropland, where droughts are most serious.

The pastoralists who live in these areas use various strategies to cope with drought: they move their animals to wetter areas; they sell and slaughter animals; they lodge animals with relatives; and they supplement their diets and incomes through hunting and gathering or by selling their labor. These strategies can greatly reduce the need for food aid, even during a moderately serious drought. However, if the drought is prolonged or recurrent, people's capacity for survival and recovery can be fatally impaired. Families that sell their animals may be unable to rebuild their herds and so recover their livelihoods, even when rainfall improves. Poorer households may have to continue to sell their assets, sinking slowly towards destitution.

Thus there is a need not only to extend early warning systems to pastoral areas but also to refine our understanding of the dynamics of pastoral systems under stress, so that we know when and how to intervene.



ing in community activities that reduce vulnerability while increasing long-term productivity. Examples include community food banks and the rehabilitation of degraded environments through food-for-work or cash-for-work schemes. Synergy should be an important guiding principle in the design of such interventions.

Recommendation six: increase incomes and make markets work for the poor

The food-insecure either cannot produce enough food themselves or cannot afford to buy food. Properly functioning markets are critical in ensuring that people are able to earn an income, obtain the inputs they need to raise crop yields, and sell their produce at fair prices. The interventions proposed in this domain are:

- Invest in and maintain market-related infrastructure
- Develop networks of small rural input traders
- Improve access to financial services for the poor and food-insecure
- Provide and enforce a sound legal and regulatory framework
- Strengthen the bargaining power of the rural and urban poor in labor markets
- Ensure access to market information for the poor
- Promote and strengthen community and farmer associations
- Promote alternative sources of employment and income.

Markets will not develop without public investment in transport and other infrastructure. Improving rural roads would break the isolation of the rural poor from markets and other necessities. Major efforts in road building are needed in rural areas with high densities of hunger, especially in Africa (Box 7). Effective grain storage capacity at the local level will enable farmers to obtain fairer prices for their surpluses and reduce post-harvest losses to pests

and fungi. Investments in small-scale processing should quickly yield benefits in increased employment opportunities at the local level.

Networks of trained rural agrodealers are recommended as a means of reaching remote areas with agricultural inputs, especially in Africa (Box 8). The lack of working capital for traders, credit for farmers, and technical knowledge are the three main drawbacks that must be overcome for this approach to work. Agrodealers could also be used to implement targeted voucher programs to promote soil health and water availability.

Access to credit and other financial services is a particular problem for food-insecure farmers. A system of loan guarantees could encourage poor people to take the risk of borrowing and financial institutions to lend to poor people. Community groups established to borrow on behalf of their members can mitigate risk and make lending more attractive to financial institutions. A promising possibility is to integrate loans with saving services, allowing members to save regularly in small amounts.

Unequal bargaining power between producers and traders, exploitative behavior by companies, and uncertainties over the quality standards required of farmers complicate the transition from subsistence to commercial farming. A properly enforced system of grades and standards is especially important in overcoming such problems. Contract law should be enforced, preferably at the community level with community mediation and arbitration. In this and related areas, the government's primary responsibility is to provide a business-

Box 7
The challenge of
rural infrastructure
in Africa

Sources: World Bank 2003
and Spencer 1994.

Africa's lack of transport, energy, water supply, sanitation, and telecommunications infrastructure is a substantial barrier to development which, if left unaddressed, will constrain regional growth for many years to come. Much of the region is landlocked, with very poor road and rail links, resulting in extremely high transport costs and poor access to market. India's road density shortly after independence was higher than Africa's is now. A massive program of investment over several decades will be needed to close the gap.

	Africa's road density (km/'000 km ²) in the early 1990s	Density needed to match India in 1950
Benin	36	291
Cameroon	38	168
Côte d'Ivoire	94	258
Ghana	17	429
Mozambique	17	135
Nigeria	97	718
Sierra Leone	80	391
Tanzania	66	181
Zambia	36	110
Madagascar	67	137

Box 8
Establishing agro-dealers in Africa

Source: Adesina (2004).

The Rockefeller Foundation has piloted the development of networks of rural input traders in four African countries. The project's main components are as follows:

- Storekeepers are trained in order to improve their knowledge of improved seeds and other inputs. At the end of their training they qualify as certified "agrodealers"
- Agrodealers are linked with input supply companies, using a credit guarantee scheme to lower the companies' marketing risks
- All participants are trained to respect normal terms of trade and contracts between buyers and sellers
- Extension services use the agrodealers as extension nodes, thereby reaching poor farmers with vital information on new technologies.

In Malawi, 300 agro-dealers have now been trained. All the major agrochemical companies with a presence in the country are working with these dealers, who have become the major suppliers of hybrid seed, mineral fertilizer, and pesticides in rural areas. Voucher schemes are being used to subsidize inputs to the poorest.

friendly legal and regulatory framework, together with the public goods that will create the incentives for private traders and businesses to establish and operate.

The poor are often forced to accept work at very low wages. Promoting the nonfarm sector will help raise wages by providing alternative employment opportunities. The task force recommends that organizations and programs that empower the rural landless and urban poor in labor markets be strengthened. Labor groups or cooperatives may be able to negotiate higher wages, particularly when they are needed to perform such time-critical jobs as harvesting.

Lack of market information worsens the terms of trade for poor farmers. Access to modern information technology is still rudimentary in many rural areas. But the pace of change is accelerating: governments and donors are investing in Internet technology, and combinations of technology, such as mobile phones, radios, and the Internet, are being assembled to bring information to producers. Fishermen in India are now using mobile phones to seek the best price from dealers before deciding where to sell their catch.

There are significant opportunities for increasing the incomes of poor farmers by encouraging them to shift gradually from food crops to higher value outputs, such as livestock products, and to add value through processing. Out-grower schemes, whereby farmers grow crops for large producers, can provide important employment opportunities for the poor. But associations of smallholders that enter high-value



markets independently of large producers are more likely to increase the share of the final price obtained by small-scale farmers. With supermarkets becoming dominant buyers in many poor countries, governments should provide incentives for them to pursue socially responsible policies and stimulate local smallholder production.

Recommendation seven: restore and conserve the natural resources essential for food security

The degradation of natural resources, sometimes associated with reduced biodiversity, directly threatens the food security and incomes of poor people. Reversing degradation requires both community and national interventions, supported by inputs from the international community. The interventions recommended in this domain include:

- Help communities and households restore or enhance natural resources
- Secure local ownership, access, and management rights to forests, fisheries, and rangelands
- Develop natural resource-based “green enterprises”
- Pay poor rural communities for environmental services.

To achieve the greatest early impact, the task force recommends targeting investments to degraded areas where hungry people are densely concentrated.

The task force recommends that community-based initiatives for environmental restoration include rangeland rehabilitation, watershed restoration, the establishment of village ponds, the revegetation of stream banks, and the building of vegetative filters and barriers to protect water quality. Biodiversity can be protected by establishing reserves, reforesting degraded areas, and reconstituting fisheries. Key principles for success include building ownership of initiatives among all community members and ensuring short-term gains in food security in addition to long-term sustainability (Box 9).

Credible rights to land, water, forests, and fisheries are vital for facilitating investment in conservation and restoration. Many countries have legislation to enable rural communities and households to obtain such rights, but institutional constraints hamper effective implementation in many cases. Legal support services are needed to enable the poor to bring claims where their rights are denied. Media campaigns can raise awareness of such issues.

“Green enterprises” can generate valuable opportunities to generate income and strengthen livelihoods while establishing incentives to conserve. Such enterprises may trade in natural medicines, nontimber forest products, sustainably grown or certified timber, and other natural products. Success depends on fostering a combination of skills in conservation, business, and management. Access to markets is also key.



Box 9
Watershed
restoration in
Orissa, India

Source:
 Agramee 2002.

Despite abundant natural resources, Orissa is one of India's hungriest states. In 2001, some 200–300 of the state's inhabitants died of starvation.

Agramee, a local NGO, works with tribal groups to design and implement community-based programs to improve food security and restore natural resources in remote rural areas. In 2002, Agramee facilitated a bottom-up planning process in the Kodikitunda watershed that led to the following interventions:

- Reforestation of degraded ridgelines, formerly used as upland fields
- Soil and water conservation, including the construction of terraces, the creation of dams and ponds, boundary planting, and the use of stone gullies to channel runoff
- Restoration of soil fertility and infiltration capacity through the planting of nitrogen-fixing trees
- Crop diversification and intensification, covering rice, maize, cashew, spices, and fruits
- Redevelopment of barren lowlands into rice paddy fields.

By 2002, crop production had risen by 70 percent and cropping intensity by 37 percent. Villagers' incomes and health have improved markedly as a result. To complement these activities, the community has founded a grain bank to insure against food shortages, established a savings fund to provide loans and support the village school, and successfully lobbied for government funds to build a road to the village.

Programs providing payments to low-income rural communities for environmental services, though still at an early stage of development, hold great potential. They include payment for biodiversity protection, watershed protection or restoration, and carbon sequestration. Since many ecosystem services are public goods, government intervention is usually required to create a functioning market.

Implementing the recommendations

There have been many plans for ending hunger, but implementation has often been ineffective or incomplete. Because hunger is such a complex problem, the task force advocates a new emphasis on multisectoral and multistakeholder approaches that tackle the problem simultaneously, comprehensively, and in an integrated manner.

Key principles

The key principles that should underpin the implementation of hunger reduction programs include:

Identify priority interventions. Not all the task force's 40 recommended interventions will be appropriate to every country or district. An important step at the national level will be to identify the priority interventions for local conditions. For example, low food production, caused by insufficient agricultural productivity, is likely to be the primary reason for hunger in tropical Africa

and remote parts of Asia and Latin America, while poverty is considered to be the primary reason for hunger in South and East Asia, Latin America, Central Asia, and the Middle East (Table 1).

Develop a national strategy. Where national strategies do not exist, the key elements for their formulation include broad participation by stakeholders, including the private sector, NGOs, and donor agencies; thorough analysis of the scope and typologies of hunger at the national level, including identification of hunger hotspots; sound policy design and the integration of the MDGs into existing national poverty reduction strategies or, where they exist, PRSPs; and a participatory and transparent monitoring process.



Strengthen capacity. Many of the task force's recommended interventions depend on building national and local capacity. Donors and national governments will need to make long-term commitments to strengthening human, technical, managerial, and institutional capacity at all levels. Capacity building, as one of the key entry points, needs to start immediately.



Adopt a multistakeholder approach. Without local action, efforts to achieve all the MDGs will remain top-down, supply-driven – and ineffective. All stakeholders need to be involved, particularly local community members – and this will require considerable investment in the training of facilitators. Issues of gender equality should form a central component of all community action processes.

Engage the private sector. The private sector can help by providing affordable products and services, building links with and among local businesses, creating employment opportunities, building local capacity, supporting government efforts to attract foreign investment, and stimulating the domestic private sector.

Investments needed

On the basis of studies in five low-income countries, the UN Millennium Project estimates that interventions to increase agricultural productivity and reduce chronic hunger will cost on average about 5–8 percent of the total costs of achieving the MDGs. This is modest in comparison to the average investments

Table 1
Regional profiles and
priorities for investment

	Sub-Saharan Africa	East Asia and the Pacific	South Asia	Latin America and the Caribbean	Central Asia and Eastern Europe	China
Overall trend in status of underweight pre-school children	Highest number of countries with increasing rates of malnutrition	Making the best progress of all developing regions	High rates falling slowly. Total number of underweight children extremely high	Moderate levels, increasing in some countries	Moderate levels, increasing in some countries	Rates moderate, falling rapidly. Overall numbers still high
Depth of the problem	About 32 million pre-school underweight children (23% of the world's total)	About 17 million pre-school underweight children (13% of the world's total)	About 76 million pre-school underweight children (57% of the world's total)	About 4 million pre-school underweight children (3% of the world's total)	About 1.5 million pre-school underweight children (1% of the world's total)	About 3.1 million pre-school underweight children (2.3% of the world's total)
Who are the hungry	Smallholder farmers, landless, victims of conflict and extreme climate events, resource-dependent rural populations	Urban and rural poor	Women and infants in poor households, marginal groups	Urban poor, indigenous populations, marginal groups	Urban and rural poor	Rural poor, especially in western and central provinces
Insufficient agricultural production	Primary reason for hunger	Potential future risk. Productivity increases need to keep pace with growing demand	Potential future risk. Productivity increases need to keep pace with growing demand	Very important reason in the Andean region	Not important: largely food import dependent	Not important. Producing enough food
Poor nutritional status of vulnerable groups	Very important reason	Important reason	Very important reason	Very important reason	Important reason	Important reason
Lack of productive safety nets	Very important reason	Important reason	Very important reason	Very important reason	Less important	Less important
Lack of access to markets and low income	Important determinant of hunger (both markets and income)	Moderately important determinant of hunger (particularly income)	Important determinant of hunger (particularly income)	Primary reason for hunger (mainly income)	Primary reason for hunger (mainly income)	Important determinant of hunger (mainly income)
Lack of basic infrastructure	Very important determinant of hunger	Less important	Important	Less important	Less important	Not important in coastal regions; important inland
Natural resource degradation	Very important determinant of hunger and poverty, affecting agricultural productivity, water supply, and wild foods and products	Moderately important determinant of rural hunger and poverty	Very important determinant of hunger and poverty, affecting agricultural productivity and wild foods for the landless	Moderately important overall; very important determinant of hunger and poverty in mountain and forest communities	Moderately important, through impacts on water quality and agricultural productivity	Very important determinant of poverty and lost agricultural productivity (soils, forests, water)

Table 2
Per capita MDG investment needs and MDG financing gaps in Bangladesh, Cambodia, Ghana, Tanzania, and Uganda (2006–2015)

Source: UN Millennium Project 2005b.

<i>(in per capita 2003 US\$)</i> MDG investment needs	Bangladesh		Cambodia		Ghana		Tanzania		Uganda	
	2006	2010	2006	2010	2006	2010	2006	2010	2006	2010
Hunger	2	4	4	7	3	5	4	7	3	5
Education	11	17	15	19	17	19	11	13	14	15
Gender equality	2	3	2	3	2	3	2	3	2	3
Health	13	19	14	21	18	24	24	33	25	32
Water supply and sanitation	4	5	3	5	6	7	4	5	2	3
Improving the lives of slum dwellers	2	3	3	3	2	2	3	3	2	2
Energy	20	19	9	13	13	15	14	15	6	10
Roads	12	21	12	21	11	10	13	21	13	20
Other*	8	9	8	9	8	9	8	9	8	9
Total	74	100	71	101	80	94	82	111	75	100
Sources of financing										
Household contributions	8	10	9	13	9	11	9	11	8	9
Government expenditures	23	33	22	30	19	27	24	32	27	35
MDG financing gap	43	56	40	58	52	57	50	67	41	56
Shortfall in ODA for direct MDG support over 2002 level	42	55	22	40	36	41	35	52	29	44
For comparison: ODA for direct MDG support 2002**	1		18		16		15		12	

* For MDG interventions not yet included in MDG needs assessment (e.g. large infrastructure projects, higher education, environmental sustainability). Period average is US\$10 per capita in each case

** Calculated as net ODA minus technical cooperation, debt relief, aid to NGOs, emergency assistance, and food aid, using 2002 OECD data

needed in education (16 percent), health (25 percent), energy (15 percent), and roads (18 percent).

Synergistic entry points

Most of the interventions detailed in this report act synergistically – in other words, when two or more are combined, the overall effect is greater than the sum of their individual effects. Interventions may also be synergistic in the sense that they address the hunger problem in more than one way, or trigger additional innovations that further strengthen antihunger efforts and contribute to other MDGs.

The task force has identified three initiatives that form particularly promising synergistic “entry points” in the battle against hunger: community nutrition programs, “homegrown” school feeding programs, and investments in soil health and water (Box 10). For rural areas facing the dual challenge of high chronic malnutrition and low agricultural productivity, the three interventions constitute an attractive integrated program for tackling hunger. A community nutrition program will quickly make a difference to the most vulnerable groups;

Box 10 **How a smallholder** **diversified his way** **out of poverty**

Source: Stewart 2004.



Harrison Akumoye farms a hectare of steeply sloping land in Western Kenya's Vihiga District. Seven years ago he devoted most of his land to maize, the traditional food crop in his area. Yields were falling year on year, as he seldom applied fertilizer.

Akumoye's maize yields tripled when he decided to restore the health of his soils by planting nitrogen-fixing trees, spreading phosphate fertilizer, and applying the biomass of the Mexican sunflower, which he grew around field edges. Realizing that he now needed less land to feed his family, he decided to diversify into kale and tomatoes, which he sold in the nearby market town of Luanda. Akumoye also planted Napier grass, which provides a nutritious feed for livestock, and calliandra, a nitrogen-fixing tree that also produces high-protein fodder and nectar for bees. He fed the Napier grass and calliandra foliage to a high-grade dairy cow, obtained from Heifer International. Now he has several cows and sells milk to his neighbours, in addition to honey. He applies the manure from the cows to his fields, further raising crop yields. Next Akumoye planted banana, which he again fertilized with Mexican sunflower biomass. He also planted grevillea, a fast-growing tree species that can be harvested for timber and poles, and established a small tree nursery that sells saplings of fruit, timber, and fertilizer species to farmers. Fruit trees and passion vines now surround his house. His wife grows grain legumes and vegetables for home consumption.

In 1997, Akumoye estimated his income at under US\$ 1 per day. By 2002 it had risen to US\$ 10 per day. His house has a new zinc roof, which he uses for harvesting rainwater to meet domestic needs. All his children go to school, wear clean clothes and shoes, and are well nourished. Akumoye has become a leader in his church and is now building a new church for his community.

the increased production achieved by improving soil and water resources will find a ready market in the homegrown school feeding program; the latter will lead to better educational outcomes, particularly for girls, which should prove effective in improving the nutrition and health of both mothers and babies in the medium to longer term. The three interventions thus address a community's hunger from multiple angles, opening the way for other improvements.

“It can be done”

The conclusion of the Task Force on Hunger is that the hunger MDG can be achieved, but only if unprecedented levels of effort are made by all concerned.

The world has made progress in reducing hunger, but not quickly or broadly enough. As the task force's full report goes to press, more than 5.5 million children are dying of malnutrition-related causes each year. The interventions outlined in this summary version of the report, taken up by a broad coalition of stakeholders and widely applied where needed, can change that.



Africa's Green Revolution: a call to action

Excerpts from UN Secretary-General Kofi Annan's opening remarks at the seminar on Innovative Approaches to Meeting the Hunger MDG in Africa, held in Addis Ababa, Ethiopia, 5 July 2004

We are here to discuss one of the most serious problems on earth: the plague of hunger that has blighted hundreds of millions of African lives – and will continue to do so unless we act with greater purpose and urgency.

Hunger is a complex crisis. To solve it, we must address the interconnected challenges of agriculture, health care, nutrition, adverse and unfair market conditions, weak infrastructure, and environmental degradation.

In Asia, Latin America, and the Middle East, a Green Revolution tripled food productivity and helped lift hundreds of millions of people out of hunger. Africa has not yet had a green revolution of its own. This is partly because the scientific advances that worked so well elsewhere are not directly applicable to Africa. Here, we produce a wide and different variety of food crops. African farmers depend largely on rainfed agriculture rather than irrigation, leaving them vulnerable to climatic shocks. African farmers also face much higher transport costs. The soils in which they toil have become severely depleted of nutrients. Erosion, deforestation and biodiversity loss also take a toll.

The burden is borne by all of society, but women are on the front lines. Women do the lion's share of Africa's farming. It is they who grow, process, and prepare the continent's food. It is they who gather water and wood. It is they who care for people suffering from AIDS. Yet women lack adequate access



to credit, technology, training, and services. They are also denied legal rights – including, of all things, the right to own land. Africa's women and girls also suffer disproportionately in terms of nutrition. And often, after marrying early, they give birth to low-weight babies because they themselves are undernourished. Thus the plight of poverty and disease is carried forward to the next generation. We are here today to end this pattern, and to ensure that Africa's children enjoy a different inheritance.

Given the right kind of national and international support, Africa can achieve the 21st-century green revolution it needs. What would such a revolution look like?

We would see proven techniques in small-scale irrigation and water harvesting scaled up to provide more crop-per-drop. We would see improved food crops, developed through publicly funded research focused specifically on Africa. We would see soil health restored, through agroforestry techniques and organic and mineral fertilizers. We would see rural productivity increased by electrification and access to information technologies, such as cell phones. We would have social safety nets – from grain reserves to early warning systems – that protect the most vulnerable.

This list could, of course, go on. But taken one by one, such solutions are bound to remain inadequate. It makes little sense to help with soils and water, while leaving impoverished villages without improved roads, energy or seeds. And few productivity improvements will be achieved if soils are healthy, but farm families continue to die of preventable and treatable diseases such as HIV/AIDS and malaria.

Success will require each African government to commit itself wholeheartedly to the Millennium Development Goals, by developing national strategies consistent with the timeline and targets for 2015. We will need more convincing action from the developed countries to support those strategies: by phasing out harmful trade practices, by providing technical assistance, and by increasing both the volume of aid to levels consistent with the Goals, and the percentage invested in agriculture, which is half what it was two decades ago. And we will need close partnerships, with the African Union, the New Partnership for Africa's Development, civil society, the private sector and, of course, African farmers. Most of all, success will require a political breakthrough. As today's presentations will show, knowledge is not lacking. The basic policy directions are well established and widely accepted. What is lacking, as ever, is the will to turn this knowledge into practice.

So let us show the meaning of global solidarity. Let us all do our part to help Africa's farmers and their families take their first steps out of chronic poverty, and to help societies make a decisive move towards balanced and sustainable development. Let us generate a uniquely African green revolution – a revolution that is long overdue, a revolution that will help the continent in its quest for dignity and peace.

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Secretary-General Kofi Annan, Ethiopian Prime Minister Meles Zenawi, Food and Agriculture Organization Director General Jacques Diouf, Professor Jeffrey Sachs, and members of the UN Millennium Project Task Force on Hunger at the high-level seminar on Innovative Approaches to Meeting the Hunger MDG in Africa, Addis Ababa, 5 July 2004.

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The Millennium Development Goals, adopted at the UN Millennium Summit in 2000, are the world's targets for dramatically reducing extreme poverty in its many dimensions by 2015—income poverty, hunger, disease, exclusion, lack of infrastructure and shelter—while promoting gender equality, education, health, and environmental sustainability. These bold goals can be met in all parts of the world if nations follow through on their commitments to work together to meet them. Achieving the Millennium Development Goals offers the prospect of a more secure, just, and prosperous world for all.

The UN Millennium Project was commissioned by UN Secretary-General Kofi Annan to develop a practical plan of action

to meet the Millennium Development Goals. As an independent advisory body directed by Professor Jeffrey D. Sachs, the UN Millennium Project submitted its recommendations to the UN Secretary-General in January 2005.

The core of the UN Millennium Project's work has been carried out by 10 thematic task forces comprising more than 250 experts from around the world, including scientists, development practitioners, parliamentarians, policymakers, and representatives from civil society, UN agencies, the World Bank, the International Monetary Fund, and the private sector.

This report summarizes the recommendations of the UN Millennium Project

Task Force on Hunger in seven major categories: political action; national policy reforms; increased agricultural productivity for food-insecure farmers; improved nutrition for the chronically hungry; productive safety nets for the acutely hungry; improved rural incomes and markets; and restoration and conservation of natural resources essential for food security. The task force strongly endorses the Secretary-General's call for a Twenty-first Century African Green Revolution. These bold yet practical approaches will enable countries in every region of the world to halve world hunger by 2015.

