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***THE COST OF HUNGER IN AFRICA: SOCIAL AND ECONOMIC
IMPACT OF CHILD UNDERNUTRITION***

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Acronyms

AFSND	African Food and Nutrition Security Day
AMU	Arab Maghreb Union
ATFFND	African Taskforce on Food and Nutrition Development
ARNS	African Regional Nutrition Strategy
ATYS	Africa Ten-Year Strategy for the Reduction of Vitamin and Mineral Deficiencies
AU	African Union
AUC	African Union Commission
CAADP	Comprehensive African Agriculture Development Programme
CEN-SAD	Community of Sahelo-Saharan States
ChU	Child Undernutrition
CSOs	Civil Society Organizations
CAMEF	Conference of African Ministers of Economic Development and Finance
COMESA	Common Market for Eastern and Southern Africa
DREA	Department of Rural Economy and Agriculture (AUC)
DSA	Department of Social Affairs (AUC)
ECA	Economic Commission for Africa
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
FAFS	Framework for African Food Security
FAO	United Nations Food and Agriculture Organization
FTF	Feed the Future
GAIN	Global Alliance for Improved Nutrition
GDP	gross domestic product
PANI	Pan-African Nutrition Initiative
P4P	Purchase for Progress
NEPAD	New Partnership for Africa's Development
NPCA	NEPAD Planning and Coordinating Agency
MDGs	Millennium Development Goals
REACH	Renewed Efforts Against Child Hunger
REC	Regional Economic Community
SADC	Southern African Development Community
SUN	Scaling Up Nutrition
UNICEF	United Nations Children's Fund
WHO	United Nations World Health Organization
WFP	United Nations World Food Programme

A. INTRODUCTION

According to both the Economic Commission for Africa (ECA) and the African Development Bank (AfDB), and as strongly recognized at the 2011 4th Joint Meetings of the AU Conference of Ministers of Economy and Finance and the ECA Conference of African Ministers of Finance, Planning and Economic Development, there is growing evidence from across Africa that despite vibrant growth in many countries, poverty reduction and job creation have been sluggish. Moreover, hunger has spread and deepened in several areas. Experience from other parts of the world – most notably Latin America and Asia – confirms that cutting hunger and thereby achieving food and nutrition security in Africa is not only one of the most urgent needs for reducing vulnerability and enhancing resilience, it is also one of the highest return outcomes for broader social and economic development. This suggests that had more progress been made against hunger in Africa, the continent's recent growth performance would have been even more impressive, with potentially strong impacts on poverty reduction.

Recognizing that potential, the African Union's (AU) African Regional Nutrition Strategy and the Comprehensive African Agricultural Development Programme (CAADP) provide a robust framework for policy and action to address food and nutrition security in Africa. Under these AU) initiatives, African countries are encouraged to adopt comprehensive and coordinated approaches to short-term responses to the most urgent food and nutrition needs, alongside long-term development of sustainable food and nutrition development systems that can withstand external shocks such as economic crises and climate change.

This paper outlines the rationale, design, and preliminary outcomes of a multi-country initiative led by the AU Commission (AUC) and ECA, to quantify the social and economic impacts of hunger in Africa. Supported by the World Food Programme (WFP) and other partners, AUC and ECA seek to use the outcomes of the initiative known as the “*Cost of Hunger in Africa Study*” to raise awareness, build consensus and catalyze action toward reducing child undernutrition (ChU) in Africa.

A set of targeted country studies is envisioned and aimed at estimating the economic and social impact of child undernutrition, resulting from the weakened nutritional condition of populations, related expenditures on health and education, and losses in productivity. Ultimately, the study will cover 12 African countries namely: Botswana, Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Malawi, Mauritania, Rwanda, Swaziland and Uganda. Country studies have been launched in five “fast-track” countries: Egypt, Ethiopia, Mauritania, Swaziland and Uganda.

It is expected that the results of the study will become an important component of advocacy efforts toward creating policy frameworks in Africa that help avert unnecessary hunger-induced losses of human and economic potential on the continent.

The process of analysis and consultation is expected to result in the following outcomes:

- Increased understanding among key national and regional policymakers and shapers of the depth and breadth of child undernutrition on the continent, and its economic and social consequences;

- Greater awareness, dialogue and consensus among key national and regional policymakers and shapers on policy and programmatic priorities and opportunities for action toward reduced child undernutrition in different contexts;
- Coordinated national action to break the cycle of child undernutrition; and
- Increased awareness of the extent to which countries can save in economic terms if appropriate nutrition-oriented policies and programmes are implemented.

The next section details the current food and nutrition situation in Africa. The consequences and impacts of malnutrition are then outlined, along with broad costs and benefits of nutrition investments. The rationale, methodology and expected outputs and outcomes of this, as well as the organization and processes for conducting the *Cost of Hunger in Africa Study* are then described. Preliminary results from implementation of the study in Uganda are then reported. A set of recommendations rounds up the paper.

B. CURRENT FOOD AND NUTRITION SITUATION IN AFRICA

The vast and rising numbers of food insecure and undernourished people continue to pose very serious concerns in Africa. Over the past two years, global food price increases, followed by economic and financial crises have pushed more people into poverty and hunger. Globally, as many as one billion people are affected, with Africa and Asia contributing to over 80 per cent of the world's hungry people.

Efforts continue, both at continental and global levels, to address the issue of malnutrition and hunger. These include initiatives and strategies such as the Africa Regional Nutrition Strategy, the Comprehensive Africa Agriculture Development Programme (CAADP), especially CAADP Pillar 3 which focuses on reducing hunger and improving food and nutrition security, PANI, FAFS, ATYS, AFSND. At the global level, initiatives include REACH, P4P, SUN, FTF and “a 1000” days. All these efforts, pooled together, are designed to reduce hunger, malnutrition and vulnerability, in a bid to also achieve the MDGs. The Abuja Food Security Summit of 2006 also provided a platform and direction for the best approaches to address food and nutrition insecurity.

Within the framework of the African Regional Nutrition Strategy (2005-2015)¹, the objectives of the African Task Force on Food and Nutrition Development² and CAADP, the African Union and NEPAD Planning and Coordinating Agency, ECA, with the support of the World Food Programme and other partners are undertaking efforts to conduct the cost of hunger study on the social and economic impact of child undernutrition in at least 12 African countries (Botswana,

¹ African Regional Nutrition Strategy (2005-2015). Objectives I-III: I. To increase awareness among governments of the Region, regional and international development partners and the community, on the nature and magnitude of nutrition problems in Africa and their implications for the development of the continent, and advocate for additional resources for nutrition. II. To advocate for renewed focus, attention, commitment and a redoubling of efforts by member States, in the wake of the worsening nutrition status of vulnerable groups. III. To stimulate action at the national and regional level that lead to improved nutrition outcome, by providing guidance on strategic areas of focus.

² Proceedings of the 1st meeting of the African Task Force on Food and Nutrition Development (ATFFND), Addis Ababa, Ethiopia, 26-27 February 2009.

Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Malawi, Mauritania, Rwanda, Swaziland and Uganda). Country studies have been launched in five “fast-track” countries (Egypt, Ethiopia, Mauritania, Swaziland and Uganda).

There is a need to raise awareness among the general public, policymakers and development partners that countries are paying and will continue to pay for the consequences of child undernutrition. Eradicating child undernutrition is an effective investment in the human capital of a country.

This study aims at generating evidence to inform key decision makers and the general public about the cost African societies are already paying for not addressing the problem.

The results of the study undertaken in Africa will provide compelling evidence to guide policy dialogue and advocacy around the importance of fighting undernutrition. Ultimately, it is expected that the studies will encourage revision of current allocation practices towards ensuring provision of the human and financial resources needed to effectively combat child undernutrition, in particular, during the first 1,000 days of life, when most of the damage occurs.

Africa is home to about 240 million people who are undernourished (i.e. consume less than 2,100 kilocalories per day). Malnutrition is the major underlying cause of death and disability. Every six seconds, a child dies of hunger and related causes. According to WHO, over 50 million African children suffer from chronic malnutrition and 40 per cent of women are malnourished. Sixty per cent of under-five children and 50 per cent of maternal mortalities are due to malnutrition. Furthermore, a large proportion of Africa’s population does not access diets containing the essential vitamins and minerals required for optimum health and productivity.

Severe food insecurity and malnutrition have been recurrent in Africa, particularly in the Horn of Africa and the Sahel. The current food and nutrition crisis in the Horn of Africa is the most severe food security emergency in the world today. More than 12 million people in that region need urgent assistance to save lives, support livelihoods, prevent further deterioration in food security and, once again, build resilience in order to mitigate the impact of future crises. In 2012, several countries in the Sahel are once again at high risk of food insecurity and malnutrition. Erratic rains in 2011 negatively affected cereal and pasture production. Localized cereal deficits for the 2011/2012 season and sustained high food prices could place most likely 10 million of people at risk of food insecurity needing urgent response. Hunger and malnutrition are both a cause and effect of poverty.

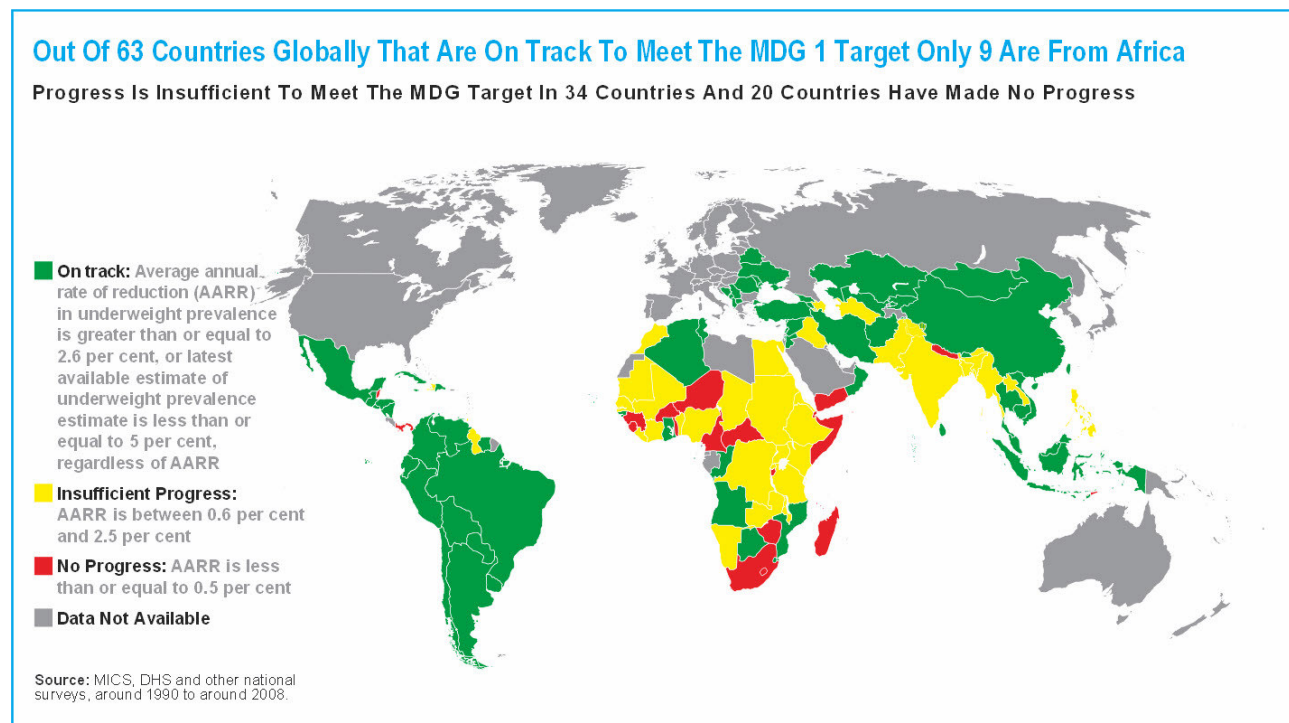
It is estimated that hunger leads to 6 to 10 per cent GDP losses due to low labour productivity. The causes of hunger and malnutrition are multiple, complex and interrelated, and therefore require multi-dimensional and multi-sectoral approaches.

The World Bank estimates that malnourished children are at risk of losing more than 10 per cent of their lifetime earning potential, while this is costing poor countries up to 3 per cent of their annual GDP. Malnutrition is thus leading to a significant loss in human and economic potential.

Improving the nutrition status is therefore a priority area that needs urgent policy attention for accelerating socio-economic progress and development in Africa.

The first Millennium Development Goal (MDG1) calls for the eradication of extreme poverty and hunger. The nutrition status of children under five years of age is one of the key indicators used to assess progress towards MDG1. Latest data show that only nine of the 63 developing countries on track to reach MDG1 (Target 1.C)³ are from Africa (using prevalence of underweight⁴ as the indicator for hunger and malnutrition). Unless coherent national strategies are urgently put into place and fully supported to orchestrate well coordinated and decisive priority actions, any small gains are likely to be reversed.

Achievement of MDG1 is crucial for national socioeconomic progress and development. Failing to achieve it jeopardizes the realization of all the other MDGs, including goals to reach universal primary education (MDG2), promote gender equality and empower women (MDG3), reduce child mortality (MDG4), and improve maternal health (MDG5).

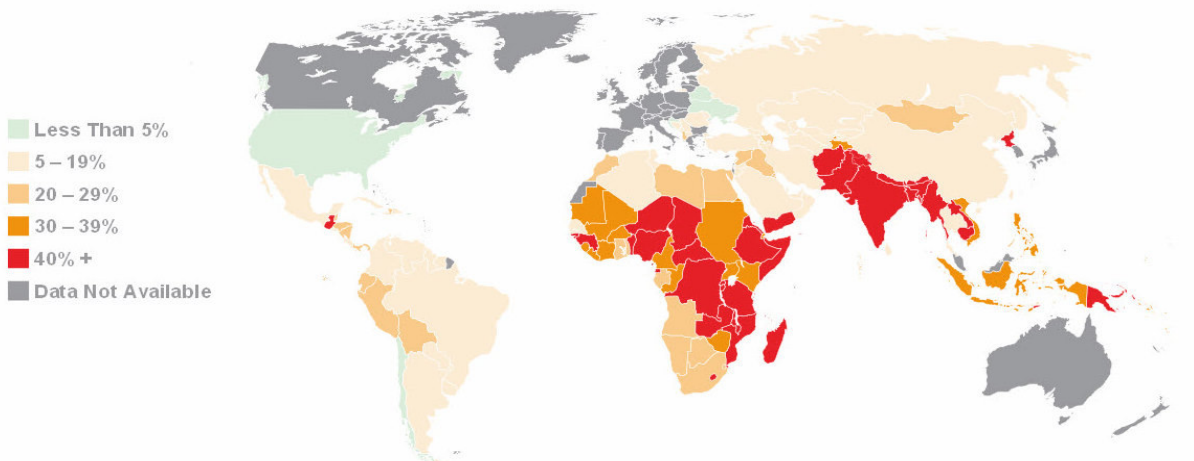


³This target calls for countries to halve hunger and malnutrition from 1990 to 2015.

⁴ Underweight (low weight for age in children under five years of age) is a composite measure of chronic (low height for age in children under five years of age) and acute malnutrition (low weight for height in children under five years of age).

Africa Has The Greatest Number Of Countries - 19 - With Critical Levels Of Stunting

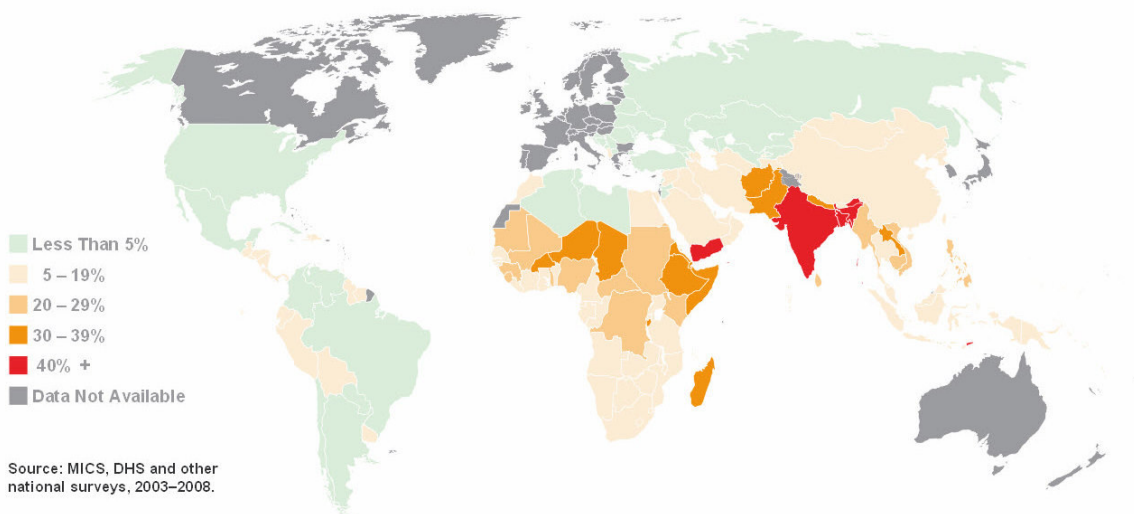
Percentage Of Children Under 5 Years Old Who Are Moderately Or Severely Stunted



Notes for all maps in this publication: The maps in this publication are stylised and not to scale. They do not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. For detailed notes on the map data, see page 42. **Sources for both maps on this page:** MICS, DHS and other national surveys, 2003–2008.

9 African Countries Have High Underweight Prevalence

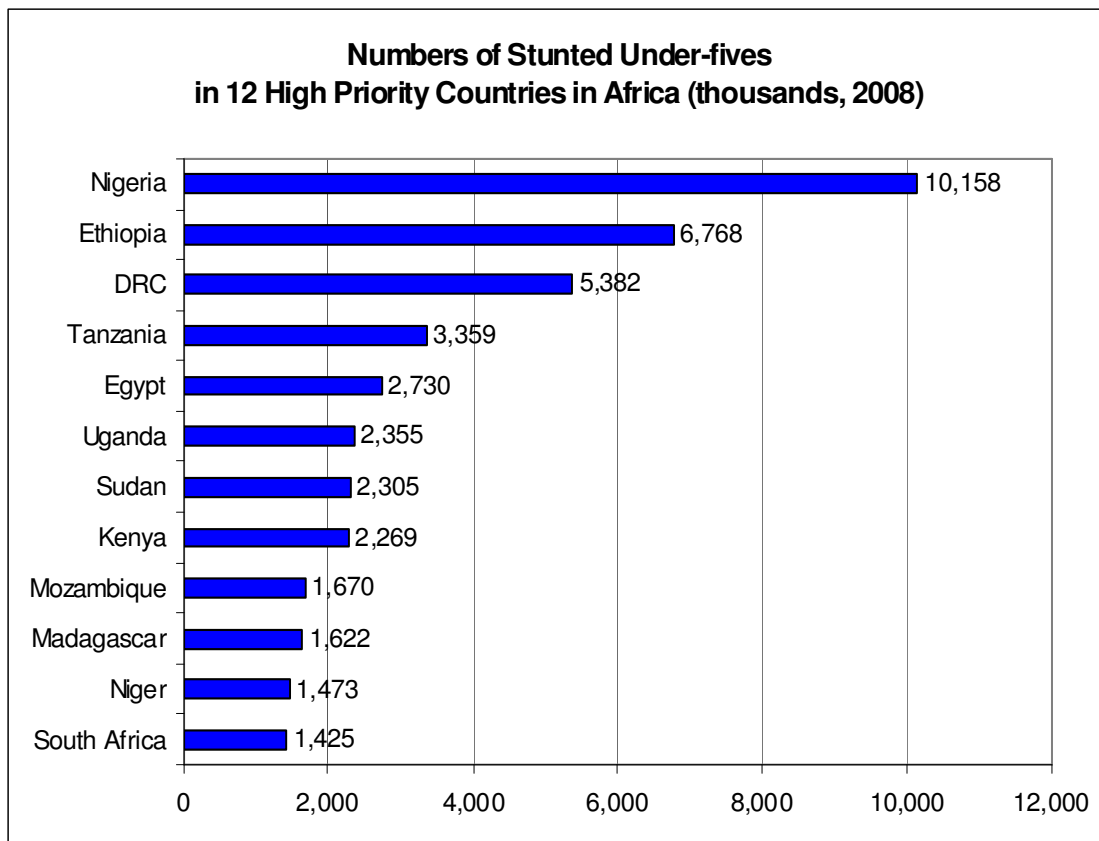
Percentage Of Children Under 5 Years Old Who Are Moderately Or Severely Underweight



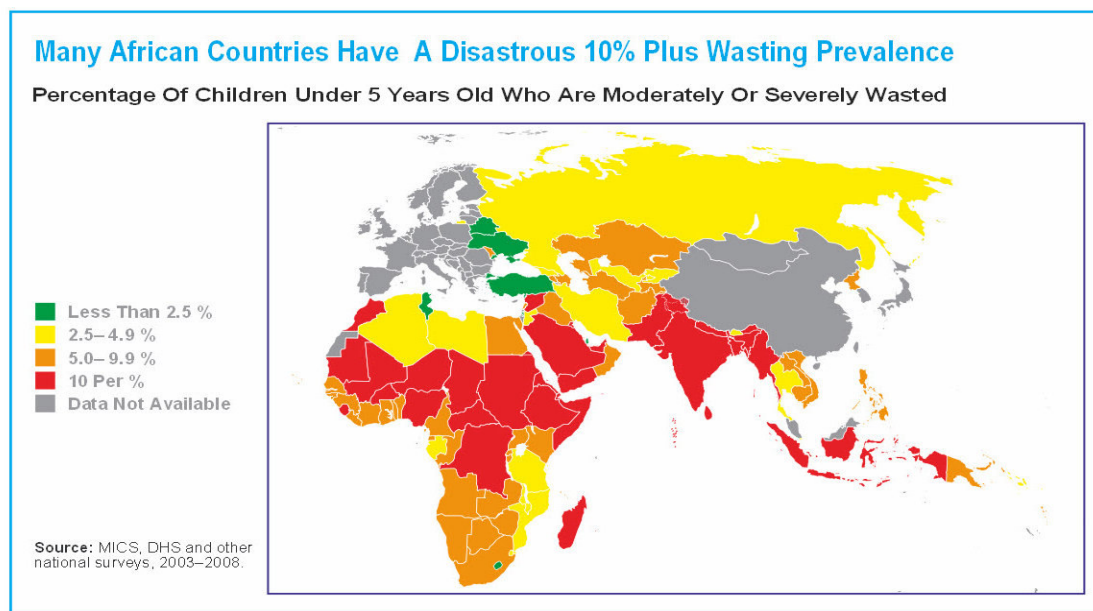
Source: MICS, DHS and other national surveys, 2003–2008.

Ultimately, the damage of malnutrition significantly imperils the progress of African communities and nations, reducing their economic productivity and growth. As such, malnutrition is leading to a significant loss of both human and economic potential. Improving the nutrition status therefore, is a priority area needing urgent policy attention for accelerating socioeconomic progress and development in Africa.

Twenty-four countries account for more than 80 per cent (or 195.1 million) of the global burden of chronic undernutrition. Half of these countries are in Africa and contribute a total of about 42 million stunted children to the global burden.



Source: Multiple Indicator Cluster Surveys (MICS), Demographic Health Surveys (DHS) and other national surveys, 2003-2008.



C. CONSEQUENCES AND IMPACTS OF MALNUTRITION

The consequences of malnutrition in children are profound, far-reaching and irreversible. Malnutrition contributes to more than 35 per cent of child deaths. It weakens the immune system, making children more susceptible to diseases, and reducing their chances of surviving illnesses, such as diarrhoea, pneumonia, and malaria. Children who do survive face a cycle of recurring illness and growth faltering, irreversibly damaging their physical development and mental capacity. As a result, they are less likely to attend school and they perform more poorly than their well nourished counterparts. By adulthood they face higher risk of diseases than those who were not undernourished as children. Their capacity to earn a decent living is diminished and they are less able to care for their children. The vicious cycle of undernutrition and poverty thus often continues across generations.

There is strong evidence on the grave consequences and high costs of nutritional deficiencies on survival, growth and development; yet, there has been limited commitment and action. As a result, it remains a low priority on the national development agendas of many countries and has been poorly funded. This is reflected in the very limited progress seen towards MDG1 in Africa. When children are deprived of the essential nutrients required, in particular, during the first “1000 days” of their life, they will suffer from permanent and irreversible physical and mental damage. Figure 1 shows a CAT scan of a normal three-year old child and the brain of a severely malnourished child of the same age.

Compared to children with adequate weight and height, malnourished children face a higher risk of dying. In Africa, the average child mortality rate is almost 180 per 1000 births, 30 per cent to 50 per cent of those deaths can be attributed to undernutrition. Children who are malnourished are also more vulnerable to infectious diseases that prolong their undernutrition and further

hinder their full cognitive and behavioural development. As a result, undernourished children have a reduced ability to learn and concentrate while in school, ending up with fewer opportunities to access better jobs. In the end, the host country suffers monumental losses in productivity and incurs increased societal costs in education and health care.

Also, obesity stemming from poor nutritional practices is increasingly presenting a formidable threat to health status on the continent, especially with the rise in the incidence of non-communicable disease. Unfortunately, children have also reportedly been affected by this malady.

Figure 1: Impact of malnutrition on a child's brain



Source: Dr. Fernando Monckeberg, Nutricion Medio Ambiente y desarrollo Cerebral
http://www.pediatraldia.cl/01Nueva_carpeta/desarrollo_a.htm

Also in <http://www.creces.cl/new/index/asp?tc=1&nc=6&imat=%20%20%20%20%20Fotos%20&art=1149>

D. COST OF MALNUTRITION VERSUS BENEFITS OF INVESTING IN NUTRITION

The benefits of investing in nutrition are known to be highly significant. Nutrition is the foundation of survival and health and national economic growth and development. It is therefore a prerequisite to the achievement of all the MDGs. Thus, investing in nutrition is justified at the political, economic and social levels.

A group of Nobel Laureates⁵ in economics recently ranked a series of core and proven nutrition interventions among the highest return on investment solutions to global development challenges, including micronutrient supplementation (Vitamin A and zinc), micronutrient fortification (iron and salt iodization), de-worming, nutrition programmes at school and community-based nutrition programmes. The per capita cost of these interventions is estimated at less than \$10; with relatively high cost-benefit returns. A global investment of \$60 million per year for vitamin A and zinc supplementation, for instance, would yield in benefits of \$1 billion.

⁵ Hunger and malnutrition: Copenhagen Consensus Challenge paper, 2008, by S. Horton, H. Alderman, J.A. Rivera, the Copenhagen Consensus Centre, Denmark. Available at www.copenhagenconsensus.com/Default.aspx?ID=1149.

It is now clear that the continued lack of attention to maternal and child nutrition will result in significant losses of human potential capacity and economic growth, ultimately leading to further economic stagnation of Africa's national economies and immense suffering of its people. High-level leadership and commitment are needed for food security and nutrition, as an integral part of a wider national development agenda on poverty elimination, and accelerated and sustainable agriculture development that will help speed up progress towards achievement of MDG1 in Africa.

E. RATIONALE FOR THE COST OF HUNGER STUDY

Human capital is the foundation of the economic development of every country. Improved nutritional status of the people has a direct impact on economic performance in terms of increased productivity and enhanced national comparative advantages.

Food and nutrition security requires a multi-sectoral approach. Achieving nutrition and food security is a prerequisite to the achievement of all the MDGs. Thus, investing in food and nutrition makes political, economic and social sense. Africa spends some \$30 billion annually on imports of agricultural products, the bulk of which is food. This expenditure is a subset of the total African staple food trade, which current estimates suggest to be worth approximately \$50 billion annually - a level that is expected to exceed \$100 billion by 2020. Even if a fraction of the expenditure on imports and food aid logistics were ploughed back into Africa's own production, the emerging internal trade could support a dynamic rural economy that could lift millions out of poverty. Intra-African trade could thus be the true motor to releasing the developmental energy of agriculture to enhance food and nutrition security.

Improving nutrition requires multiple channels, integrating contributions from the public and private sectors, to provide a strategic mix of food, health care, safe water and sanitation, education and other 'enablers' of good nutrition. Therefore, African governments, civil society, development partners and the private sector, must be compelled to invest in interventions to eradicate child undernutrition.

If the general population, policymakers and development partners understood the high price of not eradicating undernutrition, they would make the right choice by strengthening political and financial commitment, both national and international, to ensure that young children did not suffer from hunger in Africa.

Nevertheless, decision-making on food and nutrition interventions by a broad range of partners, especially political office holders and policy makers, is hampered by the inadequacy of credible data on the economic consequences of hunger and malnutrition.

Studies conducted in Latin American countries, by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) and the World Food Programme (WFP) show that undernutrition has a large impact on social indicators. For example, for every 100 cases of underweight children, there are 18 cases of underweight-associated diseases per year (10 cases of

diarrhoea, four of anaemia and four of acute respiratory infections). In terms of education, about two school years are lost due to dropout. Economic indicators in Central America show that 1.7 million working-age people (WAP: 15 to 64 yrs) died prematurely because of undernutrition (6 per cent WAP); representing 2,500 million working hours lost. Among Andean countries (Bolivia, Peru, Colombia, Venezuela and Ecuador) and Paraguay, premature deaths account for 3.6 million WAP (4.4 per cent WAP), equivalent to 5,200 million working hours lost.

These social impacts imply major costs to the national economy, which, in 2004, amounted to \$6.7 billion in Central America and the Dominican Republic and \$10.5 billion in the Andean countries and Paraguay in 2005. This accounts for some 1.5 to 11.4 per cent of the gross domestic product (GDP). One of the most interesting results of these studies was that nearly 90 per cent of this cost has to do with opportunity losses in terms of productivity.

As the Secretary-General of the United Nations, Ban Ki-Moon remarked at the launch of “The Cost of Hunger” in June 2007: *“Child hunger is a moral issue. But as this study demonstrates, it is also a critical economic concern. These findings amount to nothing short of a call to action. I hope that governments, national leaders and all interested parties will heed its warning, and push forcefully for increased and sustained allocations to fight hunger and undernutrition. As they do so, I will also urge the international community to step up and do its part as well”*

F. METHODOLOGY

Intra-uterine and child undernutrition affects health, student performance and adult productivity because of disease-related deficits and limited learning and intellectual capacity associated with deficient cognitive development. This translates into greater probabilities of: dying prematurely; having a higher risk of becoming ill; starting education at a later age; repeating grades; dropping out of school; and ultimately having lower levels of education and productivity. Each condition implies direct or opportunity costs that can be estimated through secondary data, usually available in African countries.

The Cost of Hunger study will estimate the economic cost of undernutrition to a given society by adding the direct and opportunity costs arising from having malnourished children. The study will estimate the direct costs due to additional health care and educational services resulting from having children suffering from undernutrition before age five. The study will also estimate the opportunity costs derived from premature deaths, less educational achievement and less productivity, as a result of child undernutrition.

The direct and opportunity costs are assessed in two time perspectives:

- 1. Incidental retrospective:** This method calculates the added economic costs of undernutrition in the year of analysis by measuring the direct extra health-care costs incurred as a consequence of health care services offered to malnourished children (0-59 months) in that year; plus the additional expenditures incurred by educational institutions as a result of students (ages 6-18 years) repeating grades due to impaired performance consequent to undernutrition before age five; plus the opportunity costs due to premature deaths and less productivity in working age adults (15 to 64 years) derived from the effects of undernutrition suffered before the age five.

- 2. Prospective or potential savings:** This method estimates future direct and opportunity costs to the society derived from health care and educational system expenditures, premature deaths and lower productivity associated with undernutrition prevalent at the year of analysis. The future costs are estimated according to three scenarios: (a) the prevalence of the year of study is maintained; (b) the prevalence by 2015 is halved; and (c) child undernutrition is virtually eradicated.

Expected outputs

- A valid methodology to assess the social and economic impact of child undernutrition in African countries produced;
- A set of coefficients developed to estimate the higher risk of undernourished children to suffer increasing mortality, morbidity, decreasing learning, and decreasing productivity;
- Government officials trained on using the methodology to estimate the social and economic impact of child undernutrition in 12 African countries;
- One national study conducted on the social and economic impact of ChU in 12 African countries;
- Advocacy documents available at national and continental level to raise awareness about the cost implications of undernutrition and motivate appropriate action.

Indicators

- Percentage increase in awareness among key population groups;
- Percentage increase in funding of nutrition programmes by governments and development partners;
- Percentage increase/strengthened institutional arrangements to combat ChU;
- Percentage of policy processes influenced.

Expected outcomes

- Increased understanding of the economic and social impact of ChU among key national and regional policymakers;
- Increased funding for interventions to effectively reduce ChU;
- New/strengthened institutional arrangements to combat ChU;

- Existing policy processes influenced to address the challenge of ChU.

Criteria for selection of pilot countries

- Availability of secondary data needed for the study⁶ ;
- Prevalence of poverty and undernourishment;
- Prevalence of ChU;
- Country willingness to contribute to the study;
- Subregional coverage. At least one country will be selected to represent each of the regional economic communities (RECs) (CEN-SAD, COMESA, ECCAS, ECOWAS, IGAD, SADC and AMU);
- Existence of national platform on malnutrition and hunger.

G. ORGANIZATION AND PROCESS

The African Union Commission, Department of Social Affairs and the NEPAD Planning and Coordinating Agency (NPCA) are leading the initiative. ECA will coordinate the implementation, and WFP, UNICEF and other actors will support the process.

In order to strengthen national capacity and obtain a quality product, the study process - as important as the final outcome - will be widely participative and supported by:

The Steering Committee: A high-level Steering Committee chaired by AUC and NPCA will convene each partner organization to approve the study design and action plan. It will oversee the implementation of the study and dissemination of results. The steering committee will also offer political support to the initiative.

The National Implementation Team: The core implementer of the study will be a national team organized in each participating country, drawn from relevant governmental institutions such as Ministry of Health, Ministry of Education, Ministry of Social Development, Ministry of Planning, Ministry of Finance, and the National Statistics Institution. A broader reference group can also be developed to include other actors and United Nations agencies, WFP, UNICEF and WHO. The WFP country office will facilitate the process according to specific country situations and will support coordination of the team when needed. Data collection, data analysis and report drafting will be supported by the project.

⁶ This includes at least two accurate, nationally representative survey data on fertility, family planning, maternal and child health, gender, HIV/AIDS, malaria and nutrition. Availability of at least two Demographic and Health Surveys.

The Secretariat: The secretariat, based at ECA, will work through a small technical team drawn from ECA, NEPAD, UNICEF, WFP, ECLAC and other relevant organizations to support study preparation, implementation and dissemination as well as to facilitate smooth and quality work of the National Teams and Expert Committee. The Secretariat will report to the Steering Committee and will be in charge of executing the study budget in support of the different activities.

H. IMPLEMENTATION PLAN

The study will be conducted in 12 African countries namely: Botswana, Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Malawi, Mauritania, Rwanda, Swaziland and Uganda. It will be conducted in two phases. The first phase will be conducted in five “fast-track” countries namely: Egypt, Ethiopia, Mauritania, Swaziland and Uganda, in order to produce results within three to four months. The remaining countries will be covered in the second phase.

The study is in three stages. The first one will define the details of the study design and prepare and train national teams. The second stage will implement the study and the third will disseminate the results. Activities will be focused at the national level but strong support and backstopping will be provided from the regional level as needed, in particular, data analysis and quality assurance.

I. PRELIMINARY RESULTS

The five fast-track countries will provide the opportunity to highlight the problem of undernutrition, and validate the methodology for the African context while providing a mechanism to test the robustness and performance of the model and produce preliminary results and reports, thereby facilitating action for improved nutrition in those countries.

The implementation of the study has also provided an opportunity for interdisciplinary and multi-sectoral coordination and collaboration in addressing food and nutrition challenges while ensuring capacity-building and accountability by each sector. Results of the first five countries are expected to be available in the second quarter of 2012 while the other seven countries commence the data collection. Below is an example of some of the preliminary findings of the analysis of the data collected from Uganda:

- In 2009, the prevalence of underweight (16%) children would have increased the demand to the health sector to provide care services for 1.8 million of cases of diseases such as diarrhoea, acute respiratory infections and malaria, related to underweight among children under five years old;
- The cost of providing health services to this incremental demand is estimated at 390 million dollars. This is equivalent to the Public Health expenditure in Uganda per annum, and represents 2.3 per cent of GDP;

- The country has lost 4 per cent of the economically active population due to underweight and its consequences. Estimates are being carried out to measure the impact of these losses on productivity and the country's GDP;
- Similar estimations are under analysis for the education sector to see its effects on productivity for Uganda and the other four fast-track countries.

J. RECOMMENDATIONS

Apparently, the preliminary findings indicate an adverse effect of undernutrition on the economy, even in Africa. Consequently, within the framework of the African Regional Nutrition Strategy (ARNS) and CAADP, the following actions are recommended to improve nutrition security on the continent:

To member States

1. Facilitate the adoption of the study and utilization of the results for enhanced policy and programme design and implementation;
2. Establish inter-ministerial coordination mechanism to oversee and provide direction for implementation monitoring and evaluation of programmes related to food and nutrition;
3. Review, update and adopt comprehensive national nutrition policies to establish plans to meet national targets with priority attention on stunting reduction;
4. Ensure that economic and social benefits of nutrition security are reflected and supported in other sectors including agriculture, water resources, industry and education;
5. Contribute support to strengthen nutrition capacity at all key levels. Advocate for and support increased public sector budget for nutrition, aiming for at least 2 per cent in key sectors such as agriculture, health, water resources, industry and education, and build human resource capacity in nutrition across key government sectors such as agriculture, health, education, trade and industry and social welfare. Also, ensure that one responsible person/champion/institution is assigned to oversee the nation's nutrition;
6. Strengthen national food and nutrition information and surveillance systems with links to early warning, to update their emergency preparedness and response plans with support from humanitarian partners;
7. Strengthen capacity for design and implementation of direct interventions to address the nutritional needs of vulnerable groups, especially young children and pregnant and nursing mothers;

8. Support the establishment of integrated data systems to enable cross referencing of nutrition interventions with sectoral investments in infrastructure, production and social sectors;
9. Allocate adequate national budgetary resources and mobilize external funds for the implementation of food and nutrition security programmes.

Development partners

1. Align donor support to national and regional priorities;
2. Support capacity-building, targeting food and nutrition programme design and delivery, including scaling of proven interventions;
3. Support a well-coordinated approach with key public and private sectors to assure quality food fortification and marketing as per national standards, to promote good nutrition and healthy lifestyle, consumption of diversified diet, fortified foods, hygiene and safe food preparation practices, particularly among women before and during pregnancy;
4. Strengthen national capacity to effectively identify and respond to problems of under nutrition throughout the lifecycle, especially in pre-pregnancy and pregnancy, moderate and severe acute malnutrition in all countries using facility and community-based approaches, with the aim to expand and sustain/institutionalize the programme.

Regional and subregional institutions

1. Continue to motivate member States to follow through on continental and sub-continental commitments;
2. Coordinate stakeholders and development partners at the continental level to ensure that critical synergies are created to deliver set results on nutrition within member States;
3. Facilitate the monitoring and evaluation of continental national status as well as initiatives such as CAADP and ARNS to strengthen the evidence base for decision making.