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## Diet-related Chronic Diseases and the Double Burden of Malnutrition in West Africa



*Features the*  
10<sup>th</sup> Annual ECOWAS  
Nutrition Forum

# SCN NEWS

Developments in International Nutrition

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# Secretary's Round Up

The last semester has been a busy one for the SCN, with many new faces and activities. In August Ann Veneman, the Executive Director of UNICEF, took over as the Chair of the SCN, and Denise Coitinho, the WHO representative on the Steering Committee became Vice Chair. Rainer Gross, Chief of Nutrition at UNICEF and the UNICEF representative on the Steering Committee sadly passed away in September and an obituary is on page 44 of this edition. Kaia Engesveen joined the Secretariat as the SCN News Editor in November, and will seek ways to strengthen Secretariat linkages with the Working Groups feeding material into the SCN News, the SCN Website and SCN Nutrition Policy Papers, now published in the Food and Nutrition Bulletin. Nishida Chizuru of WHO became the UN Co-Chair in the Nutrition in the Life Cycle Working Group.

This issue of the SCN News features the papers presented at the Nutrition Forum meeting in Cape Verde. This is the results of a new collaborative arrangement between the SCN and the West African Health Organization (WAHO) of the Economic Community of Western African States (ECOWAS). The Nutrition Forum of ECOWAS brings together the nutrition focal points of the countries in ECOWAS for a biannual gathering, and is supported by a partners group of international agencies active in the region. This year the meeting was hosted by Cape Verde government and held in Mindelo on the island of Sao Vicente. The SCN was asked by WAHO to facilitate the technical update for the meeting, which was on the topic of diet related chronic diseases and the double burden of malnutrition. The SCN team that went to Sao Vicente and facilitated the technical update session included representatives from FAO, IPGRE, WHO, World Bank, IUNS and UNU. The meeting agreed on a participants statement which made a series of recommendations to WAHO, the governments of ECOWAS and to the partners group for tackling the double burden of malnutrition in Western African States (page 43). The SCN looks forward to providing continuing support to ECOWAS in future meetings of the Nutrition Forum, which is a model that other regional country groupings should consider emulating.

Other issues covered in this edition include child malnutrition of both types: under and overnutrition. A special feature article by Sylvie Chamois describes the experience of scaling up the management of severe acute malnutrition in Ethiopia (pages 45-48). It is worth mentioning here that the SCN Nutrition Policy Paper No. 21 on the Community Based Management of Severe Malnutrition has just been published in the Food and Nutrition Bulletin, and can be downloaded from the SCN website. Also in this edition we are featuring a request from the International Obesity Task Force for feedback on a set of guiding principles for reducing the commercial promotion of foods and beverages to children (The Sydney Principles, pages 76-77), as well as the recent European Charter on Counteracting Obesity adopted by member states in the WHO European Region (pages 71-75).

The 34<sup>th</sup> SCN annual Session will be held in Rome at the FAO headquarters from 26 February to 1 March 2007, and will be co-hosted by FAO, IFAD and WFP. The focus of the Session is on the theme "Working Together". The Symposia will look at how each of the SCN constituencies can work better together and contribute to ending child hunger and undernutrition within a generation. During the last six months the SCN has become increasingly involved in the ending child hunger and undernutrition initiative (ECHUI), the development of which is being led by UNICEF and WFP. An Advisory Group meeting of the initiative concluded that the SCN should take on a Technical Advisory Committee role. Further ways to support the initiative are being explored by the SCN Steering Committee, and will be the focus of discussions at the Annual Session.

The spotlight in this edition is on Professor Tola Atinmo from Nigeria, giving us a West African perspective on the SCN. Speakers corner features George Kent from the University of Hawai'i on the missing global strategy for ending hunger and malnutrition (pages 59-61). For our readership in selected developing countries, we also include with this edition a CD-ROM of the World Health Organization. The contents of the CD-ROM entitled Water, Sanitation and Health include publications from the substantive field of water and sanitation, important underlying causes of malnutrition.

*Roger Shrimpton*  
Secretary SCN

# Spotlight

## Interview with Professor Tola Atinmo



Prof. Atinmo obtained his PhD in Nutrition from Cornell University in Ithaca, New York. He was a member of Council of the International Union of Nutritional Science (IUNS) from 2001-2005 and is currently the President of the Federation of African Nutrition Societies (FANUS). He is a fellow of the International Academy of Food Science and Technology (FIAFoST) of the International Union of Food Science and Technology (IUFoST). He is the chairman of the Department of Human Nutrition, College of Medicine at the University of Ibadan, Nigeria. He serves on the expert panel of the World Cancer Research Fund International (WCRFI) and the Advisory Council of the Beverage Institute of Health and Wellness.

*How long have you been associated with the SCN and how do you view it has evolved over the last five years?* I could say wholeheartedly that my association with the SCN has spanned close to a decade. It is important to state that my relationship and interest have been kept alive this long because of the quality of information made available through the publication over the years. It is one thing to have access to information and it is another thing for the information to be relevant, timely and of great value. The SCN News publications have subscribed to these qualities. In terms of evolution of SCN News publication in the last 5 years, the evaluation can be better assessed by considering the transformation in the contents of the present issues, which is simmered with flavours of the latest issues on nutrition when compared with the edition 5 years ago. Nobody should be left in doubt about the level of improvement in each publication, especially with the positive comments that have been made by other colleagues having access to the publication! The ever increasing information on latest publications on food and nutrition materials including the availability of software has been very stimulating and educative I always look forward to this section. In addition, the briefs on conferences and their websites for more information have added value to the current issues of the SCN publication apart from the general restructuring of the contents. Over the last five years, the SCN has become more visible, open, inclusive and participatory. It has promoted constructive engagement with private sector and healthy discourse with its three collaborating partners - UN agencies, Bilaterals and CSO/NGOs.

*This SCN News features the double burden of malnutrition in West Africa in collaboration with the ECOWAS forum. Do you think this collaboration is a good idea?* Past experiences have shown that one of the surest ways to promote nutritional activities is through collaboration with the identified local body. Addressing the problem of double burden of malnutrition in West Africa cannot be effectively executed in isolation. Therefore, the collaborative effort between the SCN and ECOWAS Forum was a move in the

right direction. It is however expected that the collaboration would go beyond rhetoric and metamorphosed into palpable action that will benefit the region in terms of reduction in the problems of double burden of disease leading to serious malnutrition. With the high level of technical expertise at the disposal of the SCN, the ECOWAS Forum stands to benefit tremendously in this collaboration. I sincerely consider the working relationship between the SCN and ECOWAS Forum a very welcome development. However, this collaboration needs to be extended to other parts of Africa especially to other regions where diet-related problems are creating a most disastrous impact.

*How do you see this work of the SCN helping nutrition efforts in your region and how could we do better?* The global spread of the SCN News is not in doubt. More so, the issues that are presented in relation to the development of nutrition, especially in the developing countries are very relevant. Information provided in the SCN News is being used to develop nutrition programmes at the local, state and national levels. In addition, the academia world over find the information very useful and sometimes incorporate such information into their lecture notes. I need to mention again that SCN News information on school feeding programmes and mainstreaming nutrition have supported efforts in Nigeria to re-launch nutrition as developmental issues. I suggest SCN can become more involved in national nutrition programmes if they could consider the issue of capacity building and create a section in the publication where they can focus on a country's efforts at promoting nutrition. The

need to engage political leaders in interviews on the state of national nutritional issues is equally important. Publishing such interviews will go a long way in sensitizing the political will to become more involved in nutrition national programmes.

*What other advice do you have for the SCN?* SCN should focus more on winning the attention of political leaders to the course of nutrition. Subsequent publications should deliberate on nutrition programmes that the national government needs to consider as priority. National government with high level of concern for nutrition should be celebrated in feature articles. The need to encourage young nutritionists to be more committed to their professional callings is also necessary because some brilliant ones are easily drifted away once they cannot see the future prospect in the field. Columns may be created for established nutritionists to provide words of encouragement to the young nutritionists. Mentorship and educational support opportunities should be made available in the SCN publications.

*Are there any other issues you would like to raise and bring to our attention?* SCN must become more proactive in engaging developing countries in Africa on issues of good governance, poverty reduction and food security. At present, there are very few Africa countries involved in the bilateral group of the SCN. Conscious efforts should be made to involve more African countries in this section. The future of Africa has grave implications for the rest of the world. The persistence of poverty, hunger, food insecurity and malnutrition in Africa is a threat to democracy, prosperity and security in other parts.

# Features



## 10th ECOWAS Nutrition Forum



### on Nutrition and Diet Related Chronic Disease

*Kabba Joiner  
WAHO Director General*



The West African Health Organization (WAHO), The Specialized Agency for Health, of the Economic Community of the West African States (ECOWAS). The ECOWAS Nutrition Forum, established in 1996, as the West Africa Nutrition Focal Points network, brings together nutrition actors from 15 member states of ECOWAS. The Forum is coordinated by the West African Health Organization, the specialized health agency for ECOWAS.

The purpose of the Forum is to provide a framework of exchange and multisectoral dialogue amongst various stakeholders and partners in the field of nutrition in order to address malnutrition and its consequences.

The ECOWAS Nutrition Forum (ENF) was the subject of an evaluation that highlighted significant progress in the development of nutrition in the sub region. Achievements of the forum include: strengthened national nutrition programs particularly in the area of micronutrient nutrition, enhanced human and institutional capacities, and a clearer common vision of the nutrition problems in the sub region.

The Forum has enabled partners to contribute to the control of malnutrition through support to member countries in a number of ways, using a synergistic approach and conforming to national and sub regional priorities. These collaborative efforts between partners and members of the Forum have yielded encouraging results in the fight against vitamin A deficiency, promotion of exclusive breastfeeding, advocacy for nutrition, the adoption of the Essential Nutrition Actions approach, identification of Best Practices for anaemia control in West Africa, encouraging mandatory food fortification in the sub region and promoting maternal and child health.

The ENF held on a biannual basis aims to provide technical update on a major public nutrition issue in West Africa, facilitate information exchange on the level of implementation of the recommendation of the previous meeting and the dissemination of tools and approaches in different areas of nutrition.

The 10th Forum held in Sao Vicente, Cap Verde focused on “The Double Burden of Malnutrition”. Now the sub region is increasingly having to face this problem whereas in the past, interventions were focused on undernutrition. According to WHO, 23% of all deaths in Africa are due to chronic disease (WHO 2005), and an estimated 28 million people will die in the next 10 years due to these conditions. The major causes are linked to poverty, globalization, the adoption of western dietary patterns, facilitated by advertising for the consumption of unhealthy foods and lack of physical activity.

To tackle this double burden of under and over nutrition, it is necessary to increase awareness among policy makers through advocacy and implement integrated programs, such as agriculture and health sector, taking into account the Life Cycle Approach at all levels including schools and communities.

The collaboration between WAHO and the SCN, which started during the 33rd Session of the SCN, was strengthened during the Cap Verde meeting. It was an opportunity, to share a common vision with the UN system working in health, nutrition and agriculture, and with others partners.

WAHO will continue, to collaborate closely with the UN system, through SCN, in the implementation of the Participants Statement of the Forum as well as the one of the 33rd Session of SCN. WAHO will use its comparative advantage by focusing on its operational principles of Advocacy, Brokerage, Catalytic and Dissemination (ABCD), to make the collaboration effective and synergistic.

We thank all our partners and for their kind support before and during the Forum, and anticipate future close collaboration with all participants.

The next meeting is planned for Bobo Dioulasso, in September 2007, to evaluate how countries have progressed with the implementation of the 10th Forum recommendations.

#### Reference

WHO *Preventing Chronic Disease a vital investment*. WHO, Geneva, 2005.



### The double burden of malnutrition and diet related chronic disease in West Africa

The feature article series in this SCN News reflect presentations held in Cape Verde 18-22 September 2006 during the recent ECOWAS Nutrition Forum of the West African Health Organization (WAHO). The papers focus on different aspects of the double burden of malnutrition and diet-related chronic disease in West Africa.

In his introductory note on the previous page, **Kabba Joiner**, Director General of WAHO, how West African countries are increasingly faced with both under- as well as overnutrition. Whereas most efforts in the past have been directed towards undernutrition, policy makers now need to focus on integrated approaches involving multiple sectors and addressing all forms of malnutrition. Dr Joiner emphasized the increased collaboration with UN and other partners in the area of nutrition through the SCN as one opportunity for effective and synergistic interventions.

The current rates of non-communicable disease (NCD) in the region are described by **Ismael Thiam, Kinday Samba and Dorcas Lwanga** as being not only high (causing 23% of all deaths) but also on the rise (estimated to increase by 27% over the next 10 years). People living in urban areas and women are hardest hit. The concomitant high rates of HIV/Aids, tuberculosis and malaria in the ECOWAS countries make the double burden phenomenon particularly important. Although data from the region is scarce, the authors present an impressive variety of data on obesity, diabetes and cardiovascular disease. The situation is discussed in light of the particularities of the region where few people can afford expensive hypertensive drugs, and where there is a culture of appreciating overweight rather than leanness.

**Roger Shrimpton** discusses the paradoxical coexistence of under- and overnutrition from a lifecycle and gender point of view. Adolescent pregnancies, which are common in the ECOWAS region, make a special contribution to the double burden of malnutrition. He explains how teenage mothers get small low-birth weight (LBW) babies while themselves becoming fatter, and how this repeats across generations. Interventions must address nutrition in young as well as adult life, and importantly, care for women, respect for their rights and elimination of child marriage and teenage pregnancies. Regrettably, the three existing Global Strategies (on Infant and Young Child Feeding, on Diet, Physical Activity and Health, and on Reproductive Health) are separate and largely ignore the close linkages between maternal nutrition and NCDs.

Increased collaboration between the agriculture and health sectors to address the double burden of malnutrition is called for by **Florence Egal and Christina Lopriore**. This is particularly urgent in West Africa, as the diversity within and between traditional diets, e.g. the 'hungry season' in Sahel and the differences between inland and coast, is slowly disappearing as result of urbanization and industrialization. The authors appeal for more attention to be given to the food and agriculture sector in order to improve nutrition in a sustainable manner, with revival of indigenous knowledge in both food production and processing.

**Chizuru Nishida** gives a chronological overview of the food and nutrition policy developments at the global level with respect to conceptualization and understanding of the double burden of malnutrition. A comprehensive listing of core food and nutrition documents and events from the World Food Conference in 1974 up to now is provided.

**Ifeyironwa Fransisca Smith, Pablo B. Eyzagirre, Oscar Eyog Matig and Timothy Johns** highlight management of biodiversity as one key strategy to ensure food and nutrition security and to counteract the double burden of malnutrition through enhancing dietary diversity. The paper presents a range of traditional food plants in West Africa. The authors suggest ways to manage biodiversity, such as improving seed quality, processing, handling and demand in local communities, but emphasise that truly sustainable solutions to preserve indigenous foods and food systems can only be found locally.

**Anna Lartey, Mercedes de Onis and Adelheid Onyango** describe how poor feeding in early childhood results in adult overnutrition and NCD. The new WHO Child Growth Standards are presented as one important tool to detect child overweight and obesity. The Standards are based on a longitudinal multi-country study of infants and young children fed according to WHO recommendations, thus representing a norm for how children should grow. The authors discuss how countries can go about adopting the Standards, and in which ways development partners can contribute material and technical support.

The economic costs of malnutrition are substantial and multidimensional. Returns from investing in nutrition are very high, yet it often has low priority in national budgets. **Menno Mulder-Sibanda** outlines how nutrition can be sustainably funded through Poverty Reduction Strategies as long-term programmes rather than on a project-by-project basis as is the current trend in most ECOWAS countries. The World Bank has identified a set of conditions that significantly improve the chances of successful nutrition programmes, from which an index for a Country's Readiness for Investment in Nutrition



(CRIN) has been developed. The index is used by the Bank to determine what kind of support a country should receive.

One argument throughout the papers is that the change in dietary patterns and subsequent increase in NCD in West Africa is a result of abandonment of traditional foods in connection with urbanization and lifestyle change. In their paper on NCD and processing, labelling and marketing of food, **Roger Shrimpton and Corinna Hawkes** elaborate on problems and risks associated with industrialization of the food chain. Although in fact many processed foods are fortified, industrialization typically results in food that is more energy dense, has less favourable macronutrient composition and is poor in micro-nutrients. The authors describe trends in the marketing and labelling of processed foods, which provides an important opportunity to influence consumer choice in the purchase of such products.

Human resources within the field of public nutrition are often scarce, particularly in developing countries. In his paper on capacity building efforts in the region, **Fré Pepping** presents a range of training opportunities in and outside Africa, including web sites and contact details. He reflects on common challenges, such as the problem of securing long-term funding.

Following the feature articles is the **participant's statement** from the 10<sup>th</sup> ECOWAS Nutrition Forum in Cape Verde. It describes and acknowledges the problem of the double burden of malnutrition in the region, and also suggests solution and specific priority recommendations to WAHO, countries and development partners.

## The ECOWAS Nutrition Forum Partners

Shawn K. Baker

Vice President and Regional Director for Africa, Helen Keller International

The *West African Health Organization* (WAHO), covering the 15 countries of the Economic Community of West African States (ECOWAS - Benin, Burkina Faso, Cap Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Mauritania was originally a member but withdrew in 1999) was born out of the fusion of two prior regional health structures, and nutrition is one of the pillars of its programs. This is the result of many years of investment from a number of partners and member countries to put nutrition at the centre of the development agenda in West Africa. The ECOWAS region covers a population of over 230 million - over one fourth of all of Africa, and countries with three working languages, English, French and Portuguese.

Since 1995, USAID through the SARA, SANA and BASICS projects, supported organization of annual meetings of nutrition focal points of the nine French-speaking countries of West Africa (Benin, Burkina Faso, Côte d'Ivoire, Guinea, Mali, Mauritania, Niger, Senegal and Togo). Over the years, the number of partners involved in supporting these focal points meetings has grown, as has the role of the focal points themselves. The nutrition focal points are the head nutrition authorities of their countries. These countries had been organized in the regional health structure called the *Organisation de Coordination et de Coopération pour la Lutte Contre les Grandes Endémies* (OCCGE - Organization for Coordination and Cooperation for Control of Endemic Diseases). A decision by ECOWAS in 1987 and the 1993 revision of the ECOWAS treaty called for the fusion of regional health structures, which included the OCCGE and the *West African Health Community* (WAHC - covering Nigeria, Ghana, Sierra Leone, Liberia and The Gambia) to create the *West African Health Organization*. Nutrition took a leadership role in successful implementation of this fusion. The nutrition community took the lead in organizing the first ECOWAS-wide nutrition meeting in Niamey, Niger, September 20-24, 1999 the first concrete activity to put the WAHO directives into application.

In recognition of the growing importance of these meetings, they were re-organized into the ECOWAS Nutrition Forum, which now takes place every two years. The most recent was held in Mindelo, Cabo Verde, in September 2006. The family of partners supporting the nutrition focal points meetings has grown over the years and now includes: USAID, UNICEF, the UN Standing Committee on Nutrition, the Micronutrient Initiative, the World Health Organization, the World Bank, the UN Food and Agricultural Organization and Helen Keller International.





## Diet related Chronic Disease in the West Africa Region

Ismael Thiam,<sup>1</sup> Kinday Samba,<sup>2</sup> and Dorcas Lwanga<sup>3</sup>

1. Child Survival and Nutrition Adviser, WAHO, 2. Public Nutrition Consultant, 3. Africa 2010/Academy for Educational Development

### What is the Current Situation in the Region?

The role of diet and nutrition as determinants of chronic disease is well documented. Chronic diseases related to diet and nutrition include diabetes, hypertension, obesity, cardiovascular disease (CVD), cancer, osteoporosis and dental disease. For many years, these have been mainly characterized as the developed world's "disease of affluence". However, in many parts of Sub-Saharan Africa, notably among urban dwellers, there has been a marked increase in the prevalence of obesity - especially among women, as well as hypertension, diabetes and CVD. Obesity and diabetes are showing particularly worrying trends, not only because they are affecting large proportions of the population, but also because they have begun to appear earlier in life. Chronic diseases are now seen as global epidemics that pose a great public health challenge in Sub-Saharan Africa.

In this region, more than in any other part of the world, these chronic diseases co-exist with high rates of communicable diseases such as HIV/AIDS, malaria and tuberculosis and other infectious maladies creating what is termed the "double burden of malnutrition".

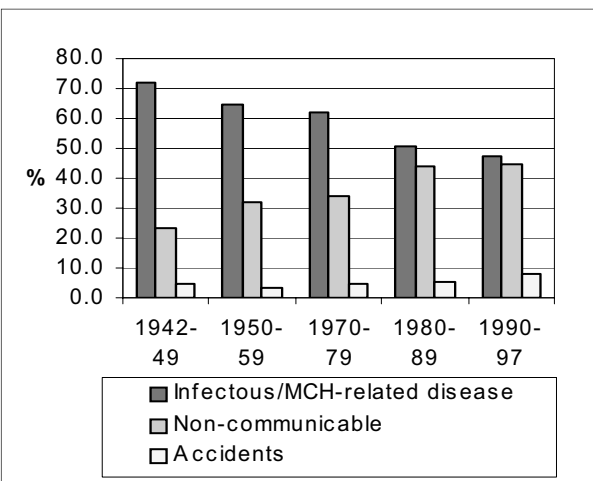
Data on chronic disease in the region is limited. However, for those countries where data is available, such as Ghana, the Gambia, Nigeria and Senegal, there is indication that chronic diseases are becoming increasingly common. The rapid change in disease pattern has occurred as a result of shifts in diet and physical activity patterns, termed the "nutrition transition", and the adoption of a more westernized lifestyle, due to economic development and market globalization (WHO/FAO 2003). These changes are, on the one hand, due to improvements in standards of living, expansion and diversification in food availability with increased access to services, and on the other, a result of inappropriate dietary patterns and decreased physical activity.

Very little data is available on dietary trends in West Africa, but the Africa Rice Centre (WARDA)<sup>1</sup> has recorded rice supply since 1960. Although per capita supply of calories has remained stagnant in Sub-Saharan Africa, there has been an increasing demand for milled rice during the period (WARDA 2005). In urban West African populations, milled rice has become the staple diet, replacing the traditional cereals that are much higher in dietary fibre content.

### Impact of Chronic Disease in Africa

In Africa, unlike most developed parts of the world, deaths from communicable disease still outstrip those from chronic diseases. Chronic diseases were projected to account for 23% of all deaths in 2005 and the deaths of 28 million people in the next 10 years (WHO 2005). Whilst deaths from infectious, maternal and perinatal conditions and nutritional deficiencies combined will increase by 6% in next 10 years, deaths from chronic disease are expected to increase by 27%.

Data on chronic disease and its impact in the West Africa region is scanty. But for the few countries where data is available, there is an indication that chronic diseases are becoming increasingly common. In The Gambia, an analysis of causes of mortality in Banjul over a 55 year period showed a rise in death from non-communicable diet-related disease, along with a concomitant decline in death from infectious and maternal child health related disease (Figure 1). In Nigeria and Cape Verde, more than 24% and 26% of the disease burden is attributable to chronic disease (WHO 2005, 2006a). In other words, one in four persons is dying from chronic disease.



An estimation of the economic impact of chronic non-communicable diseases in selected countries revealed a substantial loss in national income as a result of chronic disease-related deaths (Abeguble and Stanciole 2006). For 2005, Nigeria was projected to lose an estimated USD 0.4 billion of its national income as a result of heart disease, stroke and diabetes, representing an estimated 0.5% loss in GDP. By 2015, this figure is predicted to accrue to USD 7.6 billion. Two major factors account for these figures: the labour units lost due to deaths from chronic disease and the expenditures to treat chronic disease. The cost of treating diabetes accounts for approximately 10% of the national income of most countries in sub-Saharan Africa. In The Gambia, a review of admissions and treatment of diabetes cases over a one year period revealed that 3.6% of the health budget was spent on alleviating diabetes alone (Rolfe et al. 1992).

Figure 1: Causes of death by disease groups in Banjul 1942–97 (van der Sande et al. 2001)

1. WARDA was constituted as the West Africa Rice Development Association in 1970. It was renamed in 2003, when the WARDA Council of Ministers designated it as the *Africa Rice Center* in recognition of its increasing and leading role in rice research and development in all Sub-Saharan Africa.





**Obesity in West Africa**

In Sub-Saharan Africa, overweight (BMI≥25) and obesity (BMI≥30) are becoming a problem especially among adult women. Although the prevalence of these two indicators varies from country to country, a review of available data shows that between 10-30% of men and 15-45% of women in West Africa are either overweight or obese (Figure 2).

An analysis of the social distribution of obesity looking at anthropometric and socioeconomic data from 37 developing countries of which eight were from the West Africa region, concluded that, in these countries, where GNP was less than USD 745 per capita, obesity in women was directly related to socio-economic status (Monteiro et al. 2004). In other words, richer women were more often obese.

Though little information is available, there is indication that the prevalence of childhood obesity is increasing in countries in the region. Obesity in children is an important predictor of adult obesity. According to WHO/FAO (2003), 60% of children who are overweight have at least one additional risk factor for CVD, such as hypertension, cardiovascular disease or hyperinsulinaemia. Obese children are at increased risk of type 2 diabetes, previously considered an adult disease. Stunting in children is associated with an increased risk for obesity due to impaired fat metabolism and other metabolic shifts. There is also evidence that a longer period of exclusive breastfeeding decreases the risk of developing obesity later in childhood.

The health problems associated with obesity in adults are well known and include: diabetes, hypertension, stroke, CVD and some cancers. The higher the weight the greater the risk of developing any of these conditions.

Another indicator is the waist circumference, or abdominal adiposity, which is associated with excess abdominal fat and total body fat. Abdominal adiposity is defined as a waist circumference of ≥102 cm for men and ≥88 cm for women. The risk of CVD and type 2 diabetes increased in men and women with abdominal adiposity (WHO 2000). In a study of abdominal adiposity in six populations of West African descent (Nigeria, Cameroon, Jamaica, St Lucia, Barbados and the United States), the prevalence of hypertension in these populations was tightly linked to abdominal adiposity (Okosun et al. 1999). Further, prevalence of abdominal adiposity and hypertension was much more common in women than men.

The primary cause of obesity is an imbalance between energy intake and energy output leading to an accumulation of fat in the body. Table 1 presents a summary of factors for which there is strong evidence of linkage with increase or decrease in weight gain and obesity in an individual or population. There is very convincing evidence that lack of physical activity and high intake of foods rich in fat or sugar foods increase the risk of weight gain or obesity.

WHO/FAO (2003) make the following recommendations are made for preventing obesity:

- Median BMI of the adult population should be in the range of 21-23. At the individual level, BMI should stay in the range 18.5-24, excessive weight gain (more than 5 kg) should be avoided.
- Increasing physical activity is important to maintaining a healthy body weight. At least one hour per day of moderate to intense activity such as brisk walking 3-5 days per week is necessary, especially for people with sedentary occupations.
- Total energy intake should also be taken into account. A reduced intake of foods high in fat and /or sugar and increased intake of low energy foods such as fruits, vegetables and whole grain cereals high in fibre and water are recommended.

**Diabetes in West Africa**

Of the two types of diabetes, type 1 and type 2, most cases worldwide are type 2 also known as non-insulin dependent diabetes or adult-onset diabetes. Type 2 diabetes has increased especially in areas that have seen major changes in eating patterns, decreases in physical activity and increases in overweight and obesity.

As with obesity, data on the prevalence of diabetes in West Africa is scanty. More information is available on type 2 than type 1, Motala et al. (2003) therefore suggest a lower frequency and later age of onset than in the developed world.

A new Diabetes Strategy for Africa has been developed by the International Diabetes Federation

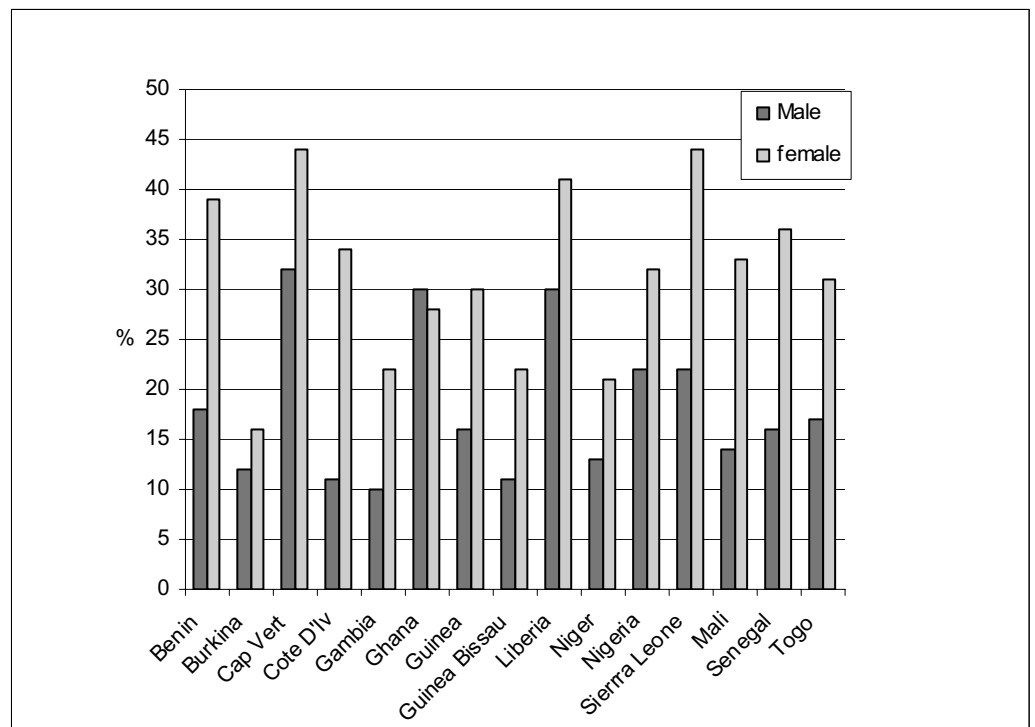


Figure 2: Prevalence of overweight (BMI≥25) in ECOWAS countries (WHO 2006b)



## 8 Features

	Decreases risk	Increases risk
<b>Most convincing evidence</b>	Daily physical activity High intake of dietary fiber	Sedentary lifestyles High intake of high fat, high sugar and high starch (energy dense foods) High intake of micronutrient poor foods
<b>Probable evidence</b>	Environment that support healthy food choices for children Breastfeeding	Sugar-sweetened soft drinks and fruit juices High intake of energy-dense foods and fast foods Adverse social and economic conditions for women

Table 1: Risk factors for obesity and weight gain (WHO/FAO 2003)

	Decreases risk	Increases risk
<b>Most convincing evidence</b>	Voluntary weight loss in overweight and obese people Physical activity	Overweight and obesity Abdominal obesity Physical inactivity Maternal diabetes
<b>Probable &amp; possible evidence</b>	Non-starch polysaccharides Whole grain cereals Fruits and vegetables Low glycaemic index foods Breastfeeding	Saturated fats Intra Uterine Growth Retardation

Table 2: Risk factors for Type 2 Diabetes (WHO/FAO 2003)

	Decreases risk	Increases risk
<b>Most convincing evidence</b>	Regular physical activity Linoleic acid Fish and Fish oils Vegetables and fruits Potassium Low to moderate alcohol intake	Myristic and Palmitic acids Trans fatty acids High Sodium Overweight High alcohol intake
<b>Probable evidence</b>	$\alpha$ linolenic acid Oleic acid Non-saturated polysaccharides Whole grain cereals Nuts (unsalted) Folate	Dietary cholesterol Unfiltered boiled coffee

Table 3: Risk factors for Cardiovascular Disease (WHO/FAO 2003)

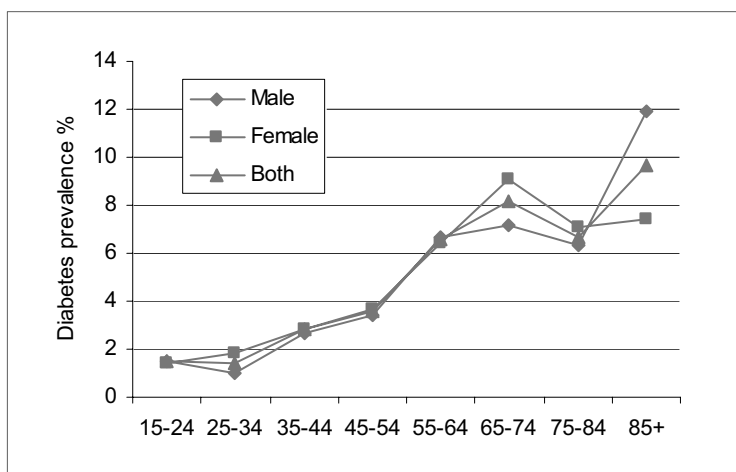


Figure 3: Diabetes prevalence in Nigeria

(IDF) in partnership with the World Health Organization and the African Union. The aim is to counter diabetes and its associated health risks. The prevalence of diabetes in the region ranges from 2-3.5% (IDF 2006). However, these figures are expected to double in the next 25 years. More worrying is the fact that 80% of people living with diabetes in Africa are undiagnosed and deaths due to diabetes are expected to double over the next 10 years.

The evidence for a relationship between excessive weight gain, a high waist-to-hip ratio and development of type 2 diabetes is strong. The waist circumference is a stronger predictor of risk for type-2 diabetes than BMI (WHO/FAO 2003). It appears that in many Sub-Saharan countries, particularly in urban areas, there is marked increase in the prevalence of obesity in women, hypertension, diabetes and cerebrovascular disease. In a study of Ghanaian subjects above 25 years of age in the greater Accra area, the prevalence of diabetes was found to be 6.3% (Amoah et al. 2002). The risk of diabetes was associated with increasing age, BMI and systolic and diastolic blood pressure. The highest diabetes prevalence (13.6%) was found in the 64+ age group. A national study of non-communicable disease in Nigeria showed that 2.8% of the population had diabetes (MOHSS, 1997). The prevalence was higher in females and in those with increasing age (Figure 3).

Children born to women who had gestational diabetes are more likely to develop obesity in childhood and are, therefore, at increased risk for developing type-2 diabetes at an early age (WHO/FAO 2003). A number of studies mainly from developing countries have shown an association between intrauterine growth retardation and low birth weight and the development of insulin resistance (*ibid*). It is thought that this may have been advantageous for surviving famine but with increased energy intakes and decreased physical activity this is rather enhancing insulin resistance and type 2 diabetes. Rapid post-natal catch-up growth is also associated with an increased risk of type 2 diabetes in adulthood.

There is also some evidence of the role of genetic and immunological factors in the pathogenesis of diabetes. African-Americans with West African origins were found to be less sensitive to insulin and, as a result, more susceptible to type 2 diabetes. Studies from five West African communities in Nigeria and Ghana have identified genes within populations that create susceptibility to diabetes (Rotimi et al. 2001).

Table 2 presents a summary of convincing and probable evidence of factors that may increase or decrease the risk of diabetes in an individual or population. The association between excessive weight gain resulting in obesity and abdominal obesity is convincing and voluntary weight loss and physical activity have been shown to reduce the risk of progression from impaired glucose tolerance to type 2 diabetes. Offspring born to mothers with diabetes have a three times higher risk of developing type 2 diabetes in later life. High intake of saturated fats is also linked with a high risk of impaired glucose tolerance.



WHO/FAO (2003) suggests the following recommendations for preventing diabetes:

- Improve nutrition, promote appropriate growth, decrease the intake of energy dense foods and increase physical activity in young children
- Promote exclusive breastfeeding and optimum linear growth and prevent overweight and obesity in infants and young children
- Aim measures at reducing overweight and obesity to help reduce the risk of developing type 2 diabetes and its complications
- Increase physical activity and include an endurance activity at moderate to great level of intensity such as brisk walking 3-4 times per week
- Decrease intake of saturated fat, which should not exceed 10% of the total energy intake
- Increase the intake of fibre as found in whole grain cereals, legumes, fruits and vegetables. A daily intake of 20g is recommended.

### **Cardiovascular Disease (CVD) and hypertension in West Africa**

WHO estimates that CVD is the leading cause of deaths due to chronic disease and accounts for 10% of all deaths. Hypertension is a major risk factor for developing coronary heart disease and stroke (WHO/FAO 2003). In West Africa, there has been an increase in the prevalence of some cardiovascular risk factors, particularly hypertension.

A study of blood pressure and hypertension in populations in rural and urban Sierra Leone (Lisk et al. 1999), revealed rates of raised blood pressure of 18% and 22.8% in men and women older than 15 years. More than 50% of those over 65 years old were found to be hypertensive. In Senegal, a number of studies (Astagneau et al. 1992, Kane et al. 1998) have shown that 10-20% of the population over 15 years of age are hypertensive. Risk factors among West African populations have been identified as age, obesity, high sodium and low potassium intake, and being female (Cooper et al. 1997, van der Sande et al. 1997, Amoah et al. 2002).

In a Ghanaian study of factors associated with hypertension awareness, treatment and control, the overall prevalence of hypertension was 29.4% (Agyemang et al. 2006). Of these, 34% were aware of their condition, 28% were receiving treatment and 6.2% were adequately controlled. Multivariate analyses showed a close association between hypertension and age, education level (those with no formal education), obesity and alcohol use. Persons over 50 and those overweight were more likely to be aware of their hypertension diagnosis. However, older adults were less likely to have their blood pressure adequately controlled, suggesting that despite being more aware, they lack financial means to afford costly antihypertensive drugs. Traders were found to be more likely to control adequately their blood pressure, reflecting their ability to afford antihypertensive medication. In another report, non-compliant hypertensive patients cited unaffordable drugs as the main reason for non-compliance.

Table 3 presents a summary of convincing and probable evidence of factors that may increase or decrease the risk of CVD. Convincing associations for reduced risk of CVD include consumption of fruits and vegetables, fish and fish oils, foods high in linoleic acid such as soy bean and sunflower oil, foods high in potassium, as well as physical activity and low to moderate alcohol intake.

The following recommendations are made for reducing the risk of CVD and hypertension:

- A high intake of saturated fats is associated with cardiovascular risk. However, with the existing high rates of too low energy intake, the amount and type of fat needs to be considered. For saturated fat, the intake should not exceed 10% of the total energy intake.
- The risk of hypertension is also related to high sodium or salt intake. Intake of dietary sodium from all sources should be limited to reduce the risk of CVD and stroke.
- Fish consumption has been shown to protect against CVD and stroke. Eating fish regularly, about 1-2 times per week, is recommended.
- Daily intake of fruits and vegetables is also recommended to help reduce the risk of coronary heart disease, stroke and hypertension.

### **Conclusion**

Nutrition is now recognized as a major modifiable determinant of chronic disease. There is abundant scientific evidence to show that changes in diet have both positive and negative influences on health throughout life. Most importantly, dietary adjustments may not only influence one's present health, but may also determine whether or not an individual will develop diseases as cancer, CVD and diabetes later in life (WHO, 2005).

However, in spite of this knowledge, due to the high burden of undernutrition in many countries in the region insufficient priority is given to addressing the rising public health problems associated with chronic disease. In these countries, health care systems and resources are limited and often concentrated on treatment rather than prevention.

Further, data on the prevalence of obesity, diabetes, CVD and hypertension is still limited and most countries lack policies and strategies to deal effectively with chronic disease.



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Finally, cultural and traditional values are also posing a challenge to the prevention and management of obesity. In a number of communities in the region, overweight is equated with affluence and happiness. With modernization and urbanization, nutritionally superior traditional and indigenous foods are being replaced by modern processed foods.

## Immediate Actions Recommended

The following are some first steps that can be taken to strengthen the prevention and control of chronic diseases. Public health approaches to prevent chronic diseases and other nutrition and diet related diseases should be complementary.

- Advocacy to policy-makers, planners and service-providers on the costs to nations of the current and projected epidemic of chronic disease and the need to commit financial, human and material resources towards effective concerted action
- Develop or strengthen systems for collecting data on obesity and chronic diseases including surveillance of trends and socio-economic patterns of major risk factors
- Public health education focusing on youth to promote healthy lifestyles with an emphasis on major risk factors
- Reduction of advertising or positive cultural representations of known risk factors—e.g. tobacco or unhealthy foods
- Promote the production and consumption of nutritious traditional and indigenous foods
- Operations research to identify ways of applying current knowledge within prevention programs

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## Life Cycle and Gender Perspectives on the Double Burden of Malnutrition and the Prevention of Diet Related Chronic Diseases

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### The nutrition transition and the paradoxical double burden of malnutrition

Increasingly all developing countries in the world, including those in ECOWAS, have both an undernutrition and an over-nutrition problem, i.e. the double burden of malnutrition. This transition towards the double burden of malnutrition is associated with economic development, industrialization and urbanization. As countries develop economically these two contrasting types of malnutrition increasingly co-exist, at first more in urban than rural areas, but then increasingly in the same communities and eventually even in the same households (SCN 2006). Having overweight parents (typically mothers more than fathers) and underweight children in the same household, is a paradox (Doak et al. 2005). To gain more insight into this seemingly absurd contradiction we need to explore and understand better the lifecycle and gender dimensions of the double burden of malnutrition and the nutrition transition.

### Consequences of growth failure across the life cycle

Poor early nutrition, both in the womb and in early childhood, has short and long term negative consequences across the life course that impact on the individual as well as society as a whole (James et al. 2000). The most immediate consequence is death, with about five million of the ten million child deaths that occur globally each year having undernutrition, or growth failure, as an underlying cause (Caulfield et al. 2004). Most of these deaths are due to diseases that do not normally kill children, but early undernutrition impairs immunity such that these infections are of more serious consequence. Those that survive are left with a variety of short term consequences, including compromised brain development, reduced growth and body mass with a changed body composition, and “metabolic programming” that changes the way sugars and fats are handled in the body. These early impairments of growth and development have an impact on body function throughout the rest of the life course. Small body size and muscle mass reduce capacity to do physical work as an adult. Immunity is also affected, with early adult mortality from infectious diseases such as malaria greater in those born during the hungry season when low birth weight rates are highest (Moore et al. 1997). Even in children born in the UK, constraints on brain development early in life have negative impacts on cognitive function and educational performance that are measurable through into adulthood (Richards et al. 2001). Poor nutrition and constrained growth in the womb and early childhood, especially if followed by accelerated weight growth later in childhood, leads to increased risk of diabetes, obesity, heart disease, high blood pressure, and stroke in adulthood (Barker 1995). It is this latter set of consequences that is of greatest relevance to the nutrition transition and the double burden of malnutrition and gives an indication as to how the double burden paradox maybe be explained in terms of the life course.

### When growth fails in the life cycle

While the failure of growth which leads to underweight and/or stunting is largely concentrated in the first two years of life, the failure to grow adequately which leads to overweight and obesity largely occurs latter in the course of life. The potential to grow in early childhood is the same for all children, regardless of race and geographic location (see paper by Lartey in this edition), and the difference in size of children observable across continents is largely due to differences in growth in the first two years of life (Shrimpton et al. 2001). As shown in Figure 1, the difference in children’s weight at two years of age is more a reflection of the differences in weight at birth, than differences in weight growth during infancy. Indeed even among normally growing children of the USA, babies born with lower birth weights are the shorter children at five years of age (Binkin et al. 1988). The foetal and infant period of the life cycle seems to be when growth and development most commonly fails, and when failure has the most critical consequences.

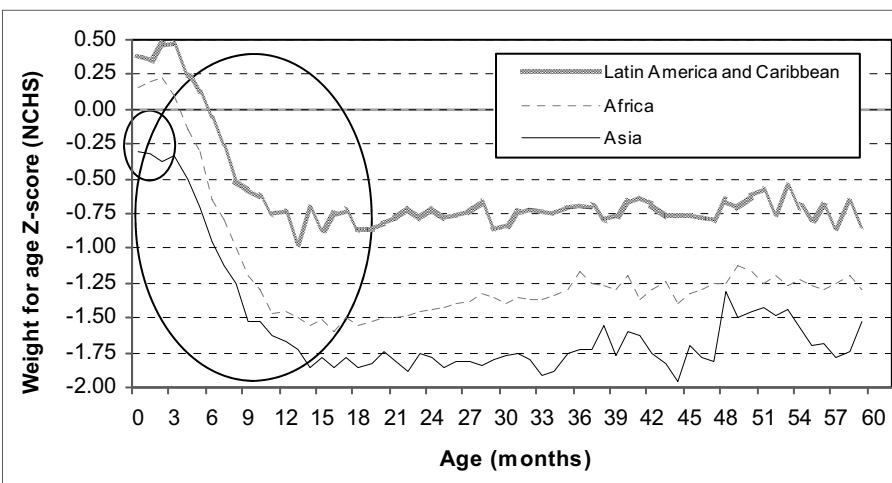


Figure 1: Window of opportunity (Shrimpton et al. 2001)

Growth failure during the adolescent period of the life cycle can contribute to growth failure across generations. The importance of teenage pregnancy in the inter-generational cycle of growth failure is well recognized (ACC/SCN 1992). Short maternal stature is a major determinant of low birth weight (ACC/SCN 2000), and as shown in Figure 2, a teenage mother is more



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likely to have a low birth weight baby because as she herself has not yet finished growing, she is shorter and lighter than if she were an adult. Although growth begins slowing for girls in USA by the age of approximately 14y, linear growth particularly of the long bones is not complete until the age of 18y, and peak bone mass is not achieved until the age of 25y. Girls in developing countries commonly continue growing to 20y. If the pregnant adolescent mother herself is still growing, there is a competition between her own growth needs and the growth needs of the foetus, and the foetus loses.

The potential role of teenage pregnancy for increasing fatness of mothers has only recently become apparent. Studies in the US show that although weight gain during pregnancy is often normal in adolescent mothers, if they are still growing themselves their babies can be up to 200g lighter, and the associated energy is diverted to the mother as fat (Scholl et al. 2000). Cohort studies in Brazil have also shown that pregnancy during adolescence is associated with increases in maternal body fat (Gigante et al. 2005).

Teenage pregnancy is likely to be an important part of the double burden of malnutrition problem in ECOWAS, as it is a common phenomenon in most if not all of these countries. Child marriage rates, i.e. the percentage of married women aged 20-24y that were married when they were aged less than 18y, are higher than 40% in rural areas of all countries in ECOWAS, and even in urban areas are at least 20% (UNICEF 2005). According to the Demographic and Health Survey data the mean age of first marriage in ECOWAS ranges from 15.1y in Niger to 19.4y in Ghana, and the percentage of teenagers aged 15-19y that had already been pregnant ranged from 43.1% in Niger and 40.4% in Mali to 13.8% in Ghana (Demographic and Health Surveys 2006). Being married as a child obviously increases the likelihood of the mother getting pregnant while still a child herself, with the increased likelihood of having a child that will be underweight and stunted, and of herself becoming fatter.

Rapid urbanization rates are also likely to be contributing to the double burden of malnutrition paradox. Over half of the ECOWAS countries already have more than 40% of the population living in urban areas, and average annual rate of growth of the urban population is 4.6%. Adolescent mothers moving from the rural to urban areas in search of work and increased opportunities become exposed to increasingly obesogenic environments, with greater access to cheap energy dense and nutrient poor foods and less exposure to heavy physical work. Pregnant adolescents in the US consuming diets high in sugar have been shown to have an increased risk of bearing small for gestational age babies with reduced birth weights (Scholl et al. 2004). In urban areas mothers are more likely to bottle feed instead of breastfeed their babies for numerous reasons including the demands of urban employment and commercial pressures to buy breastmilk substitutes. In poor peri-urban environments the bottle-fed infant is more likely to become stunted than a breastfed baby, and with a greater risk of becoming obese later in the course of life

Thus it seems that teenage marriages and early pregnancies as well as energy rich and nutrient poor urban diets all potentially contribute to growth failure during the foetal-infant period and help explain how fatter mothers can coexist in the same household as stunted children. If the young mother that accumulates fat during pregnancy then doesn't breastfeed her infant, and bottle feeds instead, the infant is even more likely to die, and if they survive to be stunted. These complex demographic and social changes are all likely to be contributing to the transition to the double burden of malnutrition in ECOWAS countries.

### Conceptual frameworks for analysing the causes of malnutrition across the life cycle

The UNICEF conceptual framework for analysing malnutrition problems, points importantly to the different levels of causality, with immediate, underlying and basic causes (UNICEF 1990). At the immediate or individual level both the adequacy of nutrient ingestion and the presence of infectious disease can cause malnutrition, i.e. it is not just food alone. The underlying causes operating at the family and community level are three, including the availability food; the availability of health facilities and sanitation; the maternal and child caring practices. Each of these three sets of causes is an essential but alone insufficient cause of malnutrition, and programmes to improve nutrition have to take all three into account in order to be effective. The basic causes of malnutrition operating at the societal level include natural resources, infra-structure, political institutions, cultural heritage and education.

However analysis of causality of child malnutrition carried out with the UNICEF framework gives little or no consideration to the issue of temporality. The analysis concentrates much more on the period when weight growth falters, i.e. from six months to twenty four months of age, or preschool children, than on the period when the damage was being done, i.e. prior to and during pregnancy. The UNICEF Care Initiative (UNICEF 1997) further delineated the underlying maternal and child caring practices in the conceptual framework. The Care Initiative included a component on "Care for Women", with seven dimensions to be considered, including: education, a reasonable workload and time, autonomy and respect in the family, good mental health and self confidence, adequate physical health and nutritional status, healthy reproduction, and successful

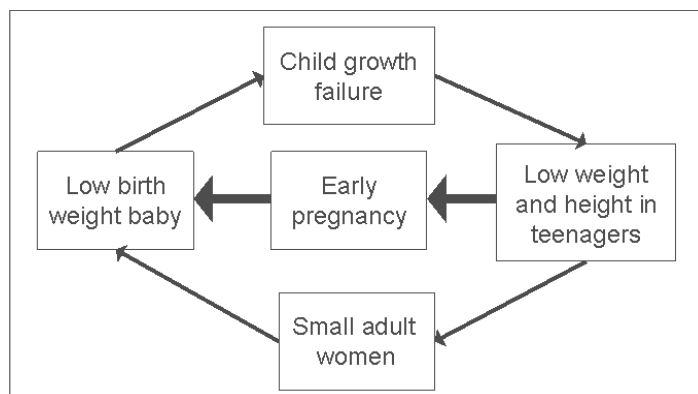


Figure 2. The importance of teenage pregnancy in the intergenerational cycle of growth failure (ACC/SCN 1992)



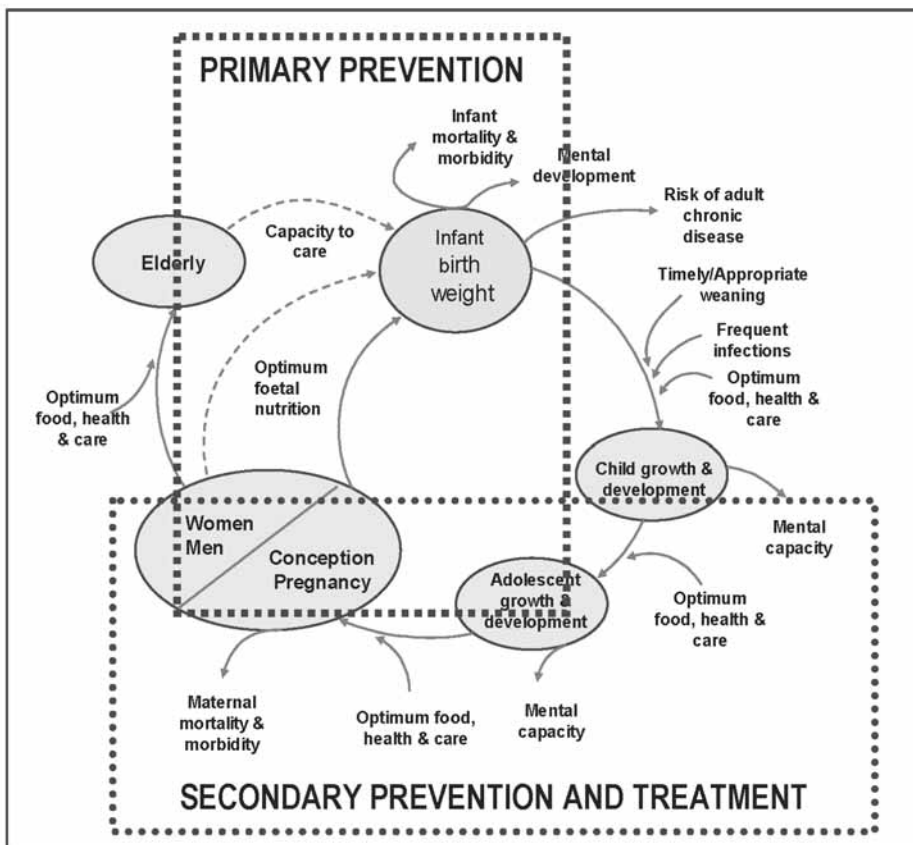
pregnancy and lactation. These are all dimensions of women's rights to food, and to health, and to not be discriminated against, as stipulated in the UN Convention on the Elimination of all forms of Discrimination Against Women (CEDAW). Despite including these important gender dimensions, the framework does not facilitate an analysis of causality that gives sufficient importance to these maternal nutrition dimensions of foetal and infant growth failure.

In Indonesia the conceptual framework has been utilized by the Indonesian government to assess the causes of the malnutrition at different periods of the life cycle (Betke 2001). The conceptual framework was used for doing analysis of causes separately for the different periods of the life cycle, namely: early childhood (0-2y and 3-6y), youth (adolescent and school age) and womanhood (pregnant and lactating women, reproductive age women and adolescent girls). These assessments and analysis were carried out at the provincial level, in order to develop provincial plans of action for promoting maternal and child survival growth and development. It is essential to develop provincial plans, as the underlying and basic causes of malnutrition at the different stages of the life cycle are very context specific and differ greatly across the 27 provinces of this immense archipelago nation.

**Prevention and treatment of malnutrition at different stages of the life cycle**

WHO has two strategies that are aimed at each trying to control malnutrition across the life course, one being the Global Strategy on Infant and Young Child Feeding, and the other the Global Strategy on Diet and Physical Activity (see paper by Nishida in this edition). These two strategies however are often pursued and promoted independently, as if the two problems were independent of each other. Despite the strong evidence base showing that breastfeeding patterns influence the subsequent emergence of childhood obesity, these dimensions of diet related chronic disease are largely ignored by public policy recommendations on non-communicable diseases (WHO 2005). Furthermore, recognition that the prevention of diet related chronic diseases is related to improved health and nutrition of the mother prior to and during pregnancy is largely absent from such policy documents. The WHO Reproductive Health Strategy also gives little or no importance to maternal nutritional status. While the need for a continuum of health care across prenatal, antenatal and early childhood periods in order to promote optimal fetal development is increasingly recognized, the translation of this into comprehensive programmatic guidelines for delivering the appropriate packages of interventions is still lacking (WHO 2006).

At the 33<sup>rd</sup> Session of the SCN the case for forging a common agenda in tackling the double burden of malnutrition was strongly argued (SCN 2006). The need to deal with the preventive and curative aspects of undernutrition and overnutrition across the life course, with specific nutrition activities for life long health proposed for the periods of foetal life, infancy and childhood, adolescence, adult life and old age. The protection of foetal and early childhood growth is central to the prevention of both undernutrition and overnutrition. As shown in Figure 3, the protection of foetal growth should be considered as primary preventive interventions for both undernutrition and overnutrition. The actions to increase exercise and improve dietary adequacy later in the life cycle are secondary preventive interventions for obesity and the diet related chronic diseases. The 33<sup>rd</sup> Session of the SCN agreed on a participant's statement that urged national governments to have a common agenda for the double burden of malnutrition, and promote nutrition actions that reduce undernutrition, overnutrition and diet-related chronic diseases.



**Food and nutrition policy frameworks**

Work on nutrition in developing countries has traditionally involved undernutrition, and in particular underweight. Now even in the poorest of countries, the vocabulary has to expand to include overweight, obesity, and the diet related non-communicable diseases. It is also increasingly recognized that the problem is not underweight but stunting and that promoting weight gain in pre-schoolchildren after the window of opportunity has closed, may even be harmful in the long term and exacerbate the problem of obesity and diet related chronic diseases later in the life course. Shifting the policy paradigm from undernutrition, something that is often thought of as a humanitarian action, to include actions to prevent and deal with problems of energy imbalance or excess later in the course of life has proven to be a hard sell. In positioning nutrition as an essential investment for development both dimen-

Figure 3: Prevention and treatment of growth “failure” at different stages of the life cycle





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sions of malnutrition have to be included in one agenda (World Bank 2006).

There is no single overarching UN agency food and nutrition policy framework that covers both preventive and treatment dimensions of the double burden of malnutrition and the diet related chronic diseases across the life cycle, and which can guide countries wanting not only to prevent over and undernutrition, but also to ameliorate and/or treat the consequences of these conditions once established. A food and nutrition policy framework proposed by the SCN Country Case Study team at the 32<sup>nd</sup> Session in Brasilia (SCN 2005), provides guidance on the sorts of food and nutrition interventions that might be appropriate for both undernutrition and overnutrition by stage of the lifecycle. Such a food and nutrition policy framework needs to be further explored in the country specific context, in order to be able to better articulate multisectoral food and nutrition security plans as part of the poverty reduction strategies that will facilitate the achievement of the Millennium Development Goals and also prevent the escalation of diet-related non-communicable diseases.

## Conclusions

The nutrition transition is already happening in ECOWAS and the double burden of malnutrition, and diet related chronic diseases are already affecting all of these countries. Most ECOWAS countries are now suffering the double consequences of foetal and infant growth failure: i.e. in addition to the more immediate child death outcomes, the increased risk of diet related chronic disease, as well as impaired physical and mental competence (human capital) later in the life cycle. Child growth failure is over by two years of age and is heavily driven by birth weight. Teenage pregnancy rates, which are high in ECOWAS countries, are likely to be making an important contribution to both low birth weight as well as maternal overweight, and should be of greater concern. Analysis of the causality of the double burden of malnutrition should include a life-cycle dimension; otherwise interventions are always likely to be too late for prevention. The primary prevention of undernutrition and overnutrition are the same in a life cycle context, and besides reducing propensity to obesity and diet-related chronic disease, also help prevent and/or ameliorate stunting. The secondary prevention of diet-related chronic diseases involve dietary and life-style modification. A single food and nutrition policy framework is essential for developing programmes to control the double burden of malnutrition, and consequently the diet-related chronic diseases in ECOWAS countries. National Food and Nutrition Policy Frameworks need to take into consideration both under and overnutrition, and consider interventions needed at different stages in the life-cycle if it is to successfully prevent diet related chronic diseases. The double burden of malnutrition has one common agenda for action.

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## Agriculture/Health Collaboration: The Key to Fighting Malnutrition in All Its Forms

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### Malnutrition and poor diets

Malnutrition in all its forms remains a major problem in most ECOWAS countries. Protein Energy Malnutrition can be found alongside micronutrient deficiencies and obesity (Figures 1-3). National survey data in the last 20 years show a growing prevalence of overweight in pre-school children, especially in the coastal, rapidly urbanising countries, such as Côte d'Ivoire, Benin and Ghana, while levels have remained more static in the countries of the Sahel (Mali, Niger). Inappropriate diets, in terms of quantity, quality and safety, are certainly a major issue in both rural and urban areas.

Diets in rural areas are often monotonous. They are determined to a large extent by local food availability (local markets but also at household level since homestead food production still essentially serves a subsistence function) and are therefore subject to seasonal variations, which in Sahelian countries translate into a "lean" or "hungry" season. However, even in remote rural areas, changes in food patterns are occurring due to the increasing rural-urban linkages resulting from transitory or permanent migration, as well as to the influence of the urban-based and -geared media. Traditional foods including wild foods and related production systems have received limited - if any - recognition and support and are being abandoned and forgotten, resulting in the impoverishment of diets and further degradation of the environment. The concept of "national diet" is gaining ground in both literature and the media but is not appropriate in many ECOWAS countries which present a rich diversity of ecosystems and cultures: in a given country you can find diets based on roots and tubers, maize or millet according to the areas and read in policy documents that rice (once consumed on a weekly basis) is the national staple food (Figure 4). Besides the obvious cultural loss this ultimately implies, this approach may lead to unsustainable food and agriculture policies and inappropriate nutrition education messages.

Food availability is generally not an issue in urban areas, where the major problems are access, since over 90% of the food consumed is purchased (can people afford the food?), behaviour (why do they choose to eat the way they do?) and decreasing physical activity. Quantity, diversity and preparation of foods are determined by both household income and lifestyle.

People, being short of time and away from home for most of the day, switch to processed, easily available and usually energy-dense foods. The role of street foods is increasingly important and some studies indicate that they can contribute up to 20% of the energy consumed in urban areas and in some cases account for more than half the household budget. They are cheap, available, ready-to-eat, varied and provide opportunities for socializing. They contribute to maintaining the consumption of traditional foods and dishes which people would otherwise have neither the time nor the means to prepare on a daily basis. But there are also growing concerns that they may present safety hazards and/or contribute to unbalanced diets.

Interestingly, food safety at household and community level has been receiving limited attention so far, in either rural or urban contexts. While water contamination and poor hygiene are certainly major sources of diseases, one would also think that poor people, in particular in crisis situations, may have no alternative to purchasing and consuming food unfit for human consumption. Quality control systems are usually established in the capital city and rarely reach remote markets or areas. Further operational research would be needed as a basis for appropriate consumer information and control systems.

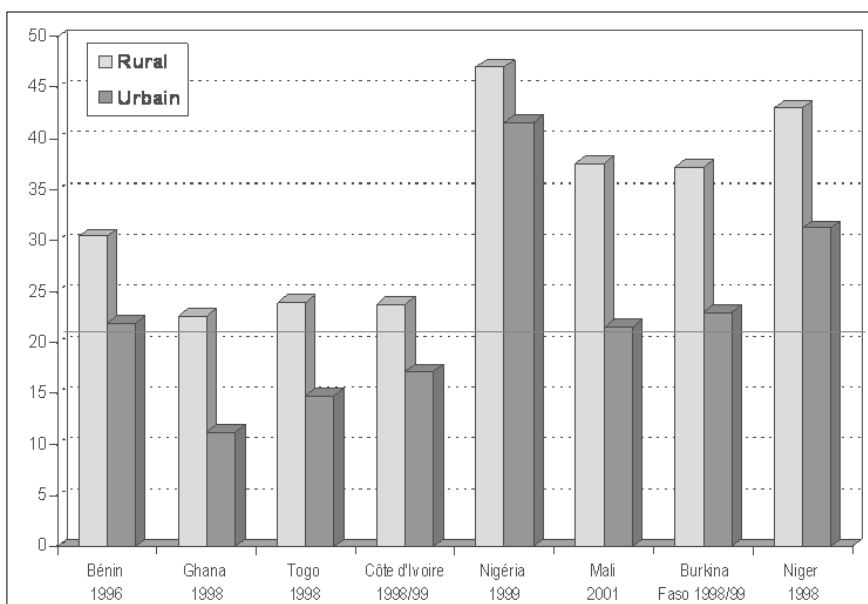


Figure 1: Stunting among children 0-3 years (Demographic and Health Surveys)

An issue which is emerging again as an absolute priority is that of infant and young child feeding. Complementary foods at household and community level have gained less attention in the major drive to promote and protect breastfeeding, provide micronutrient supplements and industrial mixes. While much progress has no doubt been accomplished in these areas, little is known about traditional complementary foods but the understanding is that they remain by and large nutritionally poor, possibly unsafe and are introduced either too soon or too late. In urban areas, while more meat and dairy products are available, women work, have less time to care for their children and limited family and community support. The issue of maternal and child care have become less prominent on the nutrition agenda, even



# 16 Features

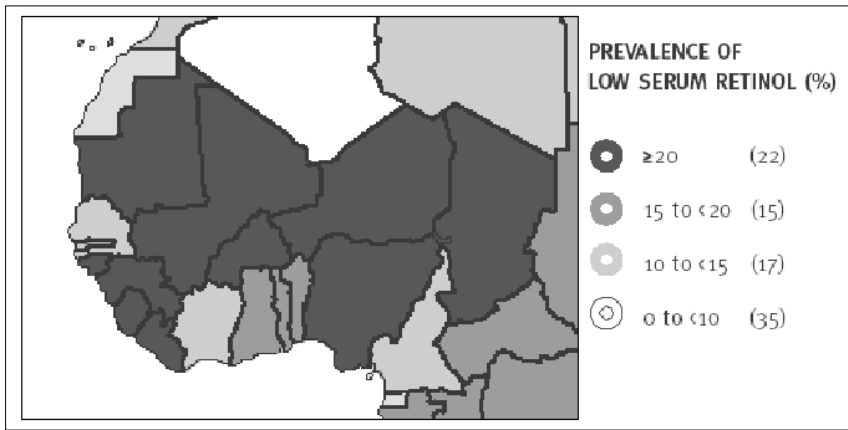


Figure 2: Vitamin A deficiency (serum retinol < 70 μmol/L) in preschool children (source: Mason 2001)

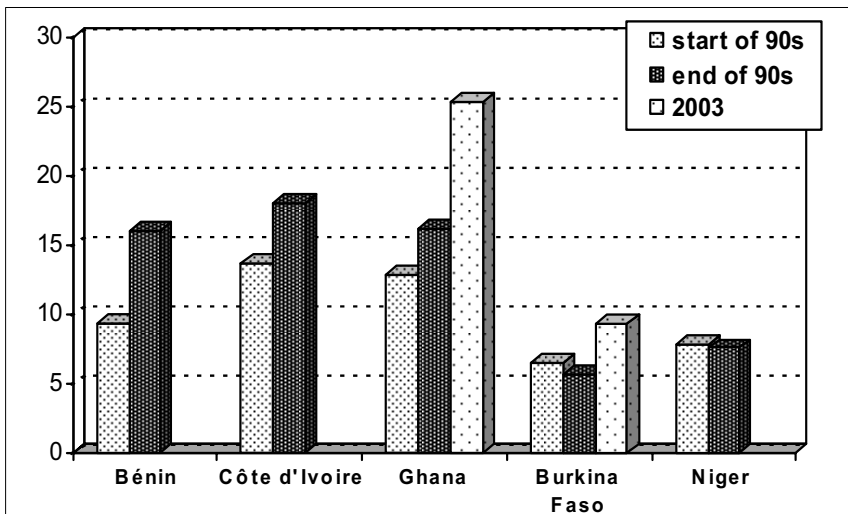


Figure 3: Overweight among adult women

though at times of major population movements and livelihood change they are needed more than ever.

Poverty, food insecurity and unsustainable livelihoods remain - to a greater or lesser degree - major challenges in ECOWAS countries. Socio-economic inequalities have increased, rural poverty is rising in the wake of agricultural policies that pay little attention to sustainability, and national policies in which local realities are bypassed and gender issues ignored.

### The role of the food and agriculture sector

The food and agriculture sector has a clear major responsibility in alleviating malnutrition, (as can be seen in Figure 5). However it has neither taken it up to the extent desirable nor been held accountable and supported to do it. One of the issues is, as usual, the separation between technical units, which in some cases can even be found in different ministries. In Cote d'Ivoire, crops (cereals, tubers, pulses, oils and fats, fruits and vegetables) are in one ministry and animal products (meat, dairy, fish) are in another. In Burkina Faso, like in most countries, forestry is separate from the Ministry of Agriculture: as a result ensuring access to fuel wood and taking into consideration wild foods, which are essential during the hungry season, becomes an institutional challenge.

But there is no alternative to reorienting the food and agriculture sector if we want to sustainably

improve nutrition. In each agro-ecological zone, we need to make the best of local resources to ensure at all seasons the basis for a balanced diet. We need to retrieve and review indigenous knowledge. We need to target and support the households and communities most at risk. We need to understand the constraints they are facing and the way they cope. And above all, we need to start from and bring on board the experience available at local level, before discussing what else could be done.

While there has been a lot of attention in recent years to diversifying homestead food production for better nutrition, less has been done in the area of small-scale food processing. This is important to improve shelf life, quality and diversity of food products for both household use and commercialisation and supply of local markets and institutions. But it is also a good

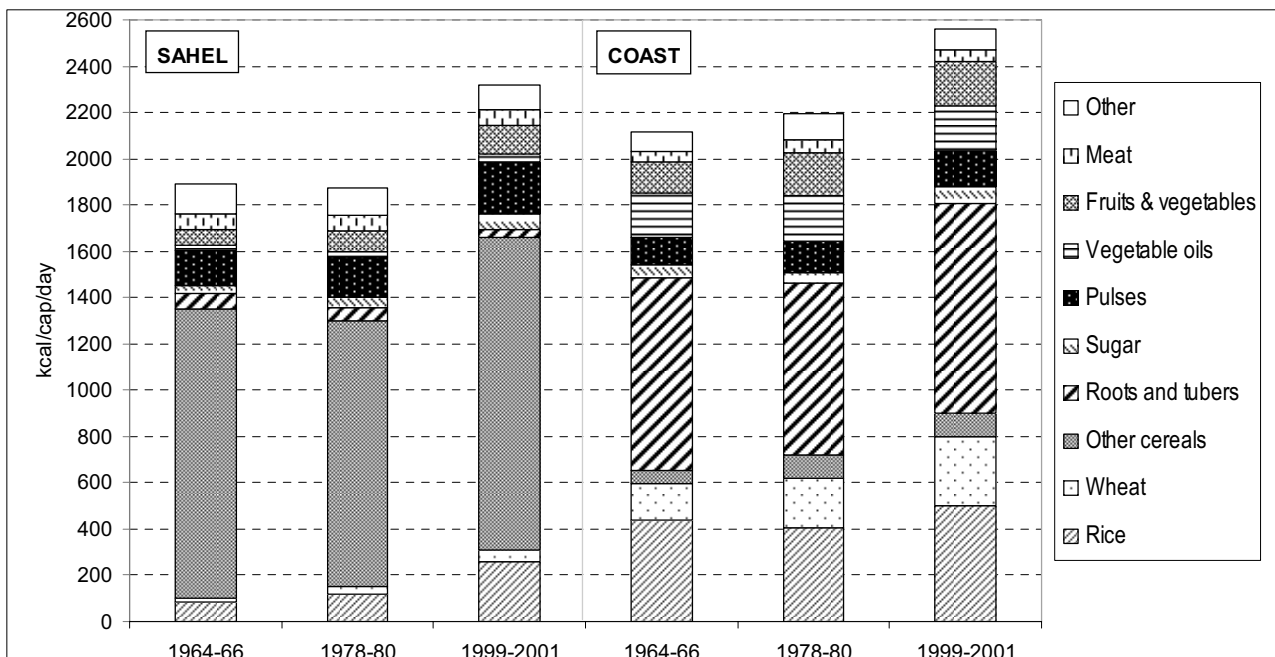


Figure 4: Food availability: patterns and trends (FAOSTAT)



option to strengthen livelihoods of resource-poor households and generate employment in both rural and urban areas. Further, producing ready-to-use or convenience foods can help alleviate time-constraints of women. A priority area would be on improving traditional child feeding mixes.

The importance of good information for good nutrition cannot be overemphasized. At a time of constant and radical changes, when traditional knowledge is being abandoned or is no longer appropriate, information, education and training are needed in all areas of nutrition. We need to move away from standard and inappropriate messages and need to think in terms of local support to people who face very different constraints and opportunities and have very different understandings. We are talking of learning from the people, providing the additional information which can make a difference in their particular context and helping them network with other people as well as institutions. We are talking of helping field workers reorient their role as information sharers rather than information givers. Integrated and participatory communication strategies need to be developed and mainstreamed as appropriate.

The food and agricultural sector should be held accountable and supported for the realisation of the right to food. Agriculture policies need to be reviewed to encourage the production of safe foods at affordable prices. They also need to be systematically checked if only to ensure they may not inadvertently aggravate the existing situation (Do No Harm approach). Appropriate communication strategies need to be combined with publicity regulation.

**Towards joint local strategies for achieving the MDGs**

But this work cannot be carried out in isolation. Productive and social sectors need to work hand in hand. There is only so much health services can do to fight malnutrition if a systematic effort is not made to ensure food availability and food security through sustainable livelihoods in order to prevent malnutrition and assist affected families to recover. Schools are possibly the best entry point to community development (if only in terms of coverage) and we welcome WHO's initiative of "nutrition-friendly" schools. The experience of Côte d'Ivoire in sustainable school canteens will certainly generate useful lessons. But we should not forget Social Affairs which can certainly help in targeting and monitoring the most vulnerable and ensure that they are provided with livelihood support beyond the classical handouts. This inter-disciplinary collaboration needs to take place at all levels:

- at community level: field workers from different sectors and institutions working in the same area must work as community support teams
- at local level: local authorities, government institutions and NGOs should develop and implement local strategies for food security, nutrition and sustainable livelihoods
- at national level: pragmatic collaboration mechanisms need to be agreed upon, facilitated and monitored by a multisectoral unit.

We in FAO believe that a sustainable livelihoods approach can provide the necessary framework for achieving the MDGs and that nutrition is a key dimension of this approach. Such approaches share a common set of guiding principles: they are pro-poor, participatory (communities and local institutions), integrated/holistic, effectively linking micro and macro levels, and compatible with sustainable environment management.

The challenge may appear daunting at first sight but the solution is to a great extent in our hands. Together, we need to practice and advocate relentlessly for fighting all forms of malnutrition through a multisectoral approach. We need to learn together how to serve the needs of the poorest. This is best done at local level and we should be held accountable for working as teams. We need to move out of the reassuring but frustrating ghetto we have built for ourselves. Life is not about economy, science and publications but about people and institutions. Let's not confuse end and means, and use the tools, knowledge and experience available to make a difference...

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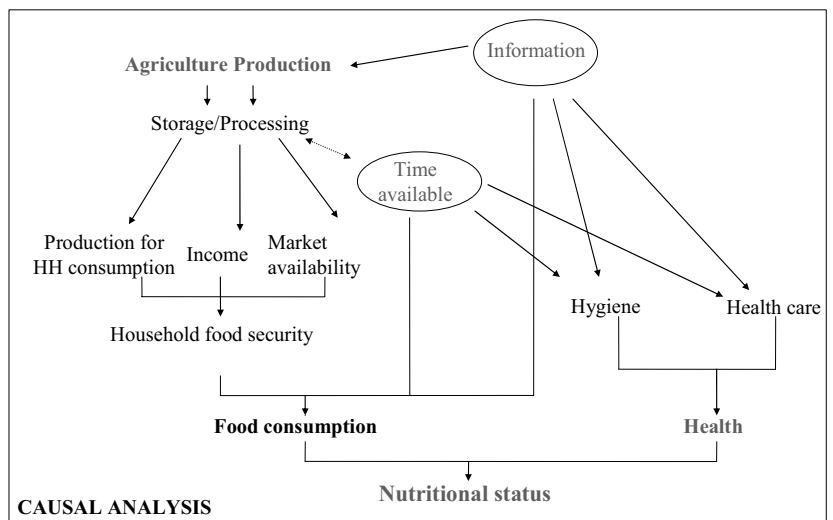


Figure 5: Causality model evidencing linkages between agriculture and health determinants



# Global Food and Nutrition Strategies for Addressing the Double Burden of Malnutrition and Other Emerging Issues

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### International context of macro-policy on food and nutrition

The international context of policy focus and strategic approach for addressing food and nutrition issues has changed during the last several decades. The World Food Conference held in Rome in 1974 called attention to the alarming food and nutrition situation in the world and emphasized the need to increase food production. It was generally believed that the world had insufficient food to feed its population and that the situation was becoming worse. Therefore, efforts were made to investigate ways and means to increase food production and improve socioeconomic development. It was believed that the projected rapid socioeconomic development would mean that nutrition would take care of itself.

History, however, has proved the fallacy of such an argument and the poverty and nutrition situation have stagnated or even deteriorated in some countries. In many instances, per capita income has fallen and public expenditure on health, education and other basic services were curtailed. Various types of structural adjustment policies were put into effect in an attempt to deal with economic crisis. But these economic structural adjustment policies did not protect the most vulnerable sectors of the society and their health and nutritional status were compromised further.

By the beginning of the 1980s, a new perspective was introduced and it was then argued that hunger and undernutrition were not so much a matter of food production, but more a matter of distribution and access to food and, as such, of social relations (Sen 1981, Sen 1987, Dreze and Sen 1989). Since the latter part of the 1980s, an increasing number of studies have indicated that hunger and undernutrition problems go beyond food availability or access to food. In fact, various studies show that even a rise in income at household level is not strongly associated with improved nutritional well-being (FAO/WHO 1992a, Marek 1992).

In the beginning of the 1990s, hunger and malnutrition were considered as priority issues to be addressed at the international and national policy levels. In 1990, the World Summit for Children (UN 1990) held in New York, set nutrition-related goals, while in 1991, the "Ending Hidden Hunger" Conference which took place in Montreal, addressed the issues of micro-nutrient malnutrition (The Task Force for Child Survival and Development 1991). In 1992, the International Conference on Nutrition (ICN), the first global intergovernmental conference on nutrition, was held in Rome to raise awareness of the extent and seriousness of nutrition and diet-related ill-health and to achieve consensus on the way forward in addressing them.

The World Declaration and Plan of Action for Nutrition adopted by the ICN provided the nine decade goals and nine action-oriented strategies (FAO/WHO 1992b) which served as a technical framework and guidelines for countries to develop and strengthen their national plans of action for promoting the nutritional well-being of their populations.

In 1996, the World Food Summit was held in Rome and reinforced the validity of the goals and strategies identified at the ICN (FAO 1996). It also provided an exceptional opportunity to reaffirm the commitment to achieving food and nutrition security for all, to build on the efforts already made in implementing the ICN World Declaration and Plan of Action for Nutrition and to invest resources effectively at national, regional and global levels to accelerate the translation of national food and nutrition plans into meaningful action and visible results.

Because of changing phenomena and evolving perspectives, a more holistic approach to addressing hunger and malnutrition emerged and sociocultural factors in health and nutrition were examined in addition to what used to be considered mainly as agricultural and political-economic problems. This is clearly indicated by the following renewed definitions of *food security* and *food insecurity* set forth by the Inter-Agency Working Group (IAWG) (FAO 2000) established for developing Food Insecurity and Vulnerability Mapping System (FIVIMS) as a follow up to the 1996 World Food Summit:

**"Food security** exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life."

**"Food insecurity** exists when people lack access to sufficient amounts of safe and nutritious food and are therefore not consuming the food required for normal growth and development, and for an active and healthy life. This may be due to the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate utilization at household level. Food Insecurity, poor conditions of health and sanitation, and inappropriate caring practices are the major causes of poor nutritional status. Food insecurity may be either chronic or transitory."

Thus an increasingly complex and interdisciplinary conceptual framework of the causes, and hence solutions, to nutritional problems emerged (ACC/SCN 2000, FAO 2000, UNICEF 1997) and so-called old solutions, such as an increase in food



production and an increase in poor household income are no longer considered to be sufficient, although still necessary, conditions for eliminating hunger and malnutrition.

Furthermore, a new approach to poverty reduction was introduced in 1999. Started in 1996, the Heavily Indebted Countries (HIPC) Initiative was enhanced in 1999 as an outcome of a comprehensive review by the International Development Association (IDA) and IMF (IMF&WB 2000). The Initiative's debt-burden thresholds were adjusted downward, which enabled more countries to qualify for larger volumes of debt relief which was also linked to implementing the countries' poverty reduction strategy. Consequently, it has strengthened various countries' reform efforts and the development of Poverty Reduction Strategy Papers (PRSPs) became a requirement for countries to receive concessional assistance from the World Bank and IMF.

However, despite these increased efforts by international financing institutions to alleviate poverty, there were still increasing concerns by many on uneven progress of development and the flows of trade and capital that integrate the global economy may bring benefits to millions of people, but poverty and suffering still persist for many others. Therefore, responding to these concerns, governments and international development agencies have begun to re-examine the way they operate and in September 2000, 189 countries signed the Millennium Declaration which led to the adoption of the Millennium Development Goals (MDGs) (UN 2006).

The new Millennium did not lack the international and governmental commitments to address food and nutrition issues. In 2001, the World Food Summit: *five years later* called for an international alliance to accelerate action to reduce hunger and food insecurity (FAO 2002). It also called for the development of Voluntary Guidelines to achieve the progressive realization of the right to food, which were finalized in 2005 (FAO 2005). In 2002, the UN General Assembly Special Session on Children, a landmark for children and human development,

Reinforced the MDGs and adopted a rigorous plan to promote health and nutritional well-being of children among others in order to create 'A World Fit for Children' (UNICEF 2003). In the same year, the World Health Assembly also adopted two landmark global strategies related to food and nutrition: the WHO Global Strategy for Food Safety (WHO 2002a) and the WHO Global Strategy on Infant and Young Child Feeding (WHO/UNICEF 2003). Furthermore, in 2004, the World Health Assembly adopted another global strategy addressing the issues related to diet, nutrition and physical activity for preventing and controlling the increasing public health problem of obesity and other nutrition-related diseases (WHO 2004).

The year 2006 can also be marked as a significant year for food and nutrition. An important example is the publication of the World Bank's report, *Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action* (World Bank 2006), which states that the international development community and national governments must increase investment in nutrition programmes for accelerated action in nutrition. The recommendation is based on the evidence that nutrition interventions are essential for accelerating poverty reduction, have high cost-benefit ratios, and can improve nutrition much faster than reliance on economic growth alone. Moreover, improved nutrition can drive economic growth.

Another example was the 33<sup>rd</sup> Session of the Standing Committee on Nutrition (SCN) (Geneva, 13 - 17 March 2006) which focused on *Tackling the Double Burden of Malnutrition: A Global Agenda* (SCN 2006). It was the first time the international community and all the nutrition stakeholders agreed on the concept of the double burden of malnutrition and discussed together the issues and evidence being gathered from around the world to address its challenges.

### **Greatest nutrition challenge of today**

The co-existence of undernutrition, micronutrient deficiencies, overweight/obesity and other nutrition-related chronic diseases occur within the same countries, in the same communities and even in the same households throughout the world today, posing one of the greatest challenges to national policy-makers.

Undernutrition among pregnant women, in particular in developing countries, leads to 1 out of 6 infants born with low birth weight. One out of 4 preschool children suffers from undernutrition. One out of 3 people in the world are affected by one or multiple micronutrient deficiencies and are, as a consequence, more susceptible to infection, birth defects and impaired physical and psycho-intellectual development. 10 million children die every year before the age of 5 and 1 out of 2 deaths (approximately 53%) is attributable to undernutrition. Furthermore, 40 million people living with HIV/AIDS are exposed to an increased risk of food and nutrition insecurity, especially in poor settings, which may further aggravate their situation. (WHO 2006)

But this is just one side of the problem. Chronic noncommunicable diseases (NCDs) cause 60% of the global deaths — 66% of these deaths occur in developing countries — and 47% of the burden of disease (WHO 2002b, WHO 2005). The majority of these chronic diseases are nutrition-related. Furthermore, over 1.5 billion adults and 20 million children under 5 years of age are estimated to be overweight while over 500 million adults are estimated to be obese (WHO 2006).

The complexity of various risk factors and existence of double burden being faced by all countries, including high mortality developing countries, were already demonstrated in the World Health Report 2002 (WHO 2002b) which quantified 26 selected risks to health. However, what is added to this already complex nutrition challenge of today is the impact of early nutrition on later health, which is known as fetal origins of adult health and disease. Metabolic efficiencies that were serving well in condition of fetal undernutrition become maladaptive in today's obesogenic environment, leading to the development

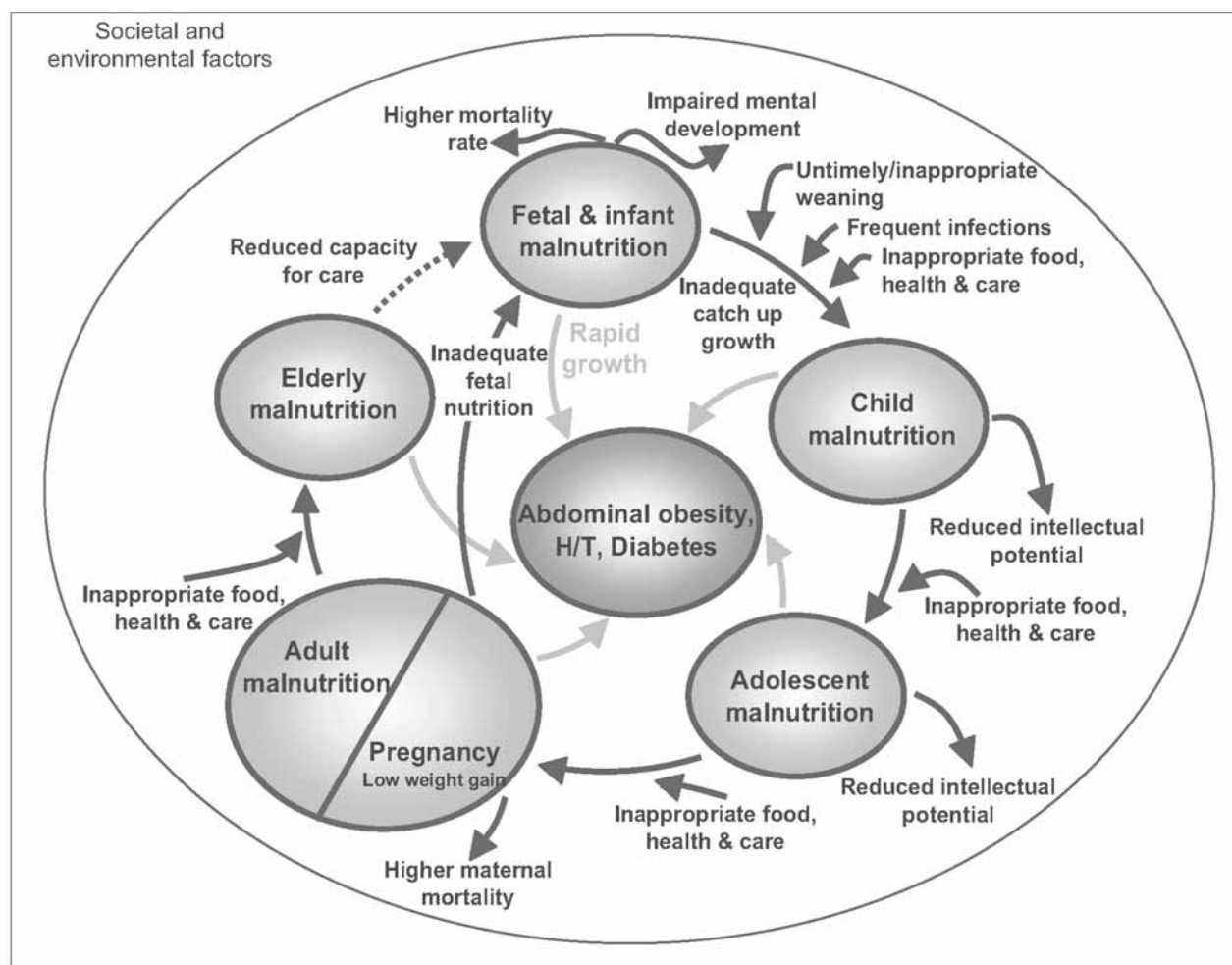


Figure 1. Lifecourse: the proposed causal links (Darnton-Hill et al. 2004)

of abnormal lipid profiles, altered glucose and insulin metabolism, overweight and obesity and subsequent nutrition-related chronic diseases, such as cardiovascular diseases and type 2 diabetes.

This led to the agreement that it is essential to apply a lifecourse approach (Figure 1) for effectively analysing the causes and therefore, solutions, to address the greatest nutrition challenge we are facing today. The environmental and societal influences that cause or modify the risk of malnutrition and how those risks are developed and progress throughout the life-course are described in detail elsewhere (Darnton-Hill et al. 2004).

### The need for an integrated intersectoral food and nutrition action

Today national and international policy-makers and operational programmers face a difficult task. None has the resources to address problems of such breadth and magnitude as characterize food and nutrition problems. The challenges are many in the continuing struggle to eliminate hunger and undernutrition. So how can the nutrition and public health communities deal with the seemingly contradictory emerging public health challenge of obesity and other nutrition-related chronic diseases in addition? But there is no contradiction. Promoting healthy diets and nutrition is fundamental for both alleviating undernutrition and micronutrient deficiencies and preventing obesity and nutrition-related chronic diseases, which will ultimately interrupt the intergenerational transmission of malnutrition and poverty. Therefore, addressing the double burden of malnutrition and nutrition-related ill-health requires common policy options and intersectoral strategic framework. These include the promotion of exclusive breastfeeding for the first 6 months and appropriate complementary feeding practices while breastfeeding continues for up to two years of age or beyond; promotion of agriculture policies that support healthy dietary patterns; promotion of trade policies that improve food and nutrition security; development of infrastructure and promotion of transportation policies that facilitate trade in perishable products, such as fruits and vegetable on one hand, and promote physical activity on the other; development of school policies that promote schools to be nutrition-friendly, to mention just a few.

Much efforts are needed in accelerating the implementation of integrated intersectoral food and nutrition action. It has great potential in bringing together coordinated action at national, district and community levels and will enhance the effective use of limited resources (both financial and human) in countries for addressing the double burden of malnutrition and nutrition-related ill-health. It will then contribute to the alleviation of poverty and ultimately facilitate national development.





Challenges are to gain firm political commitment both at national and international levels to make the achievement of food and nutrition security a developmental priority of the global community. To meet these challenges, it requires groundbreaking interaction among all concerned stakeholders.

In WHO, three of the Regions are currently in a process of developing their Regional Food and Nutrition Strategies and Action Plan, some of which will be reviewed and debated at the forthcoming Regional Committees in 2007. In Africa too, the Regional Nutrition Strategy (2005 - 2015) was developed by the African Union and adopted by the heads of the States, calling the countries to ensure sustainable food and nutrition security as a pre-requisite for the effective implementation of any policy on socioeconomic development on the continent. Recently, an expert consultative meeting (Brazzaville, 4-8 December 2006) was held in order to operationalize this Regional Strategy involving concerned stakeholders and partner agencies. A great opportunity for Africa, and also for countries in other Regions, is here for us to work together to place food and nutrition high on the global, regional and national political agenda. We must seize this opportunity.

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# Managing Biodiversity for Food and Nutrition Security in West Africa: Building on Indigenous Knowledge for more Sustainable Livelihoods

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### Introduction

In an opening address at the 18th International Congress on Nutrition (September 2005, Durban South Africa) the South African Health Minister Dr Mantombazana Tshabalala-Msimang affirmed that in tackling the multiple problems of food insecurity, nutrition transition and the double burden of disease, it is essential to mobilize and employ indigenous foods and food systems as part of the solution. In countries with rich biodiversity and food cultures, these should be part of the front-line strategy of nutrition interventions. There are still divergent views and information gaps on the links between the loss of biodiversity, the erosion of agricultural diversity, and the widely recognized reduction in dietary diversity aptly described as dietary simplification or the nutrition transition phenomenon. Nevertheless in rural and peri-urban communities of several developing countries, there are visible signs of the effects of the increasing loss of biodiversity on the lives and livelihoods of community members (Frison et al 2005).

Greatest biological diversity is found in developing countries where the poor rely directly upon these resources for their food and livelihood. The loss of biodiversity impacts directly on the poor in these countries (Hobblink 2004). Nutritional deficiencies and their concomitant health effects arising from dietary simplification and inadequate diets have been addressed over the years by various intervention strategies. Dietary diversification interventions (Hagenimana and Onyunga 1999, Chakravarty 2000, Kidala et al 2000, Mulokazi et al 2000, Talukder et al 2000) have had varied but limited success because although effective in controlled pilot studies, few have been successfully scaled up. New strategic approaches are beginning to show that it is possible to manage biodiversity for improved food security and nutrition. Results from the International Plant Genetic Resources Institute's (IPGRI) food and nutrition activities promoting indigenous vegetable production and consumption in Nairobi, Kenya, have demonstrated that indigenous and traditional food systems can be revitalized and managed by promoting the increased use of local biodiversity for improved nutrition (Oniang'o et al 2005).

The West African subregion holds a rich and varied biodiversity which continues to play an important role in the food security and nutrition of both rural and urban populations. While in many cases, the healthy components in West African food traditions are still found in the lives and cooking pots of rural households, there is an overall trend of food crops and edible species, part of traditional food systems, being neglected and underutilized. Cheap imported food staples, global markets, and sociocultural changes are placing Africa's indigenous food crops and animal resources at a distinct disadvantage. Local agricultural biodiversity must be managed to optimize the nutritional and health benefits in traditional foods. We at IPGRI are not suggesting an exclusive focus on local biodiversity as the sole way of addressing urgent food and nutrition challenges, but rather that agricultural biodiversity can engender dietary diversity and promote healthier diets. It is a cost-effective and empowering way of enhancing the effectiveness and sustainability of other nutrition and health interventions that target the rural and urban poor.

### A Survey of Agricultural Biodiversity in the West African Subregion

West Africa's diverse agricultural ecosystems provide a wide array of indigenous and traditional foods which if effectively mobilized and managed can increase food availability, expand household food choices and ensure dietary diversity and better nutrition. Some more commonly known food crops and minor dietary components from the traditional biodiversity-rich food systems are described below.

#### *Tubers, rhizomes, roots and starchy fruits*

Edible tubers, rhizomes and roots were the main food crops of the forest region dwellers – the inhabitants of the Guinean zone of the subregion. In addition to the commonly available and well known guinea yams (*Dioscorea rotundata*, *D. cayenensis*), there are other lesser known varieties, often harvested and used in times of food shortages. These include three leaved yam (*D. dumetorum*) and other yams (*D. latifolia*, *D. preissi*, *D. birtiflora* and *Icanea senegalensis*). Other root crops include Hausa or Frafra potato (*Solenostemon rotundifolius*), Kaffir or Livingston potato (*Plectranthus esculentus*) and the African yam bean tuber (*Sphenostylis stenocarpa*). The cocoyams (*Colocasia esculenta*; *Xanthosoma sagittifolium*) are not indigenous but, like the sweet potato (*Ipomea batatas*), cassava (*Manihot esculentus*), water yam (*Dioscorea alata*) and plantain (*Musa paradisiaca*) they were introduced and became part of the traditional food system.

#### *Cereals*

Cereals predominate in the food habits of the northern savanna zones of the subregion although yams and grain legumes are also consumed. Thus, in addition to the introduction of rice and maize, now widespread staple foods in West Africa, other cereal crops include the indigenous rice variety (*Oryza glaberrima*), fonio or hungry rice (*Digitaria exilis*), pearle millet (*Pennisetum typhoides*), finger millet (*Eleusine coracana*) and sorghum or guinea corn (*Sorghum vulgare*).



### Grain legumes and pulses

Among the locally available grain legumes, the cow pea (*Vigna unguiculata*) is the best known and more commonly used with well over a dozen cultivars grown and consumed by rural communities. Other grain legumes and pulses include bambara groundnut (*Vigna subterranean*), geocarpa bean/Kersting's groundnut (*Kerstingiella geocarpa*) and the African yam bean pulse (*Sphenostylis stenocarpa*). The African breadfruit (*Treculia Africana*) is a forest tree whose seeds constitute a major protein-rich food source in the forest belt. Though not considered a grain legume, one of the several ways of preparing it is through boiling as is done with other bean varieties.

### Fruits

A significant proportion of indigenous fruits in the subregion are seasonal forest products harvested for consumption on site or for sale in urban centres. In season, many of the fruits are commonly found in markets and become part of the local diet. The indigenous fruits Marula (*Sclerocarya birrea*), Jujube (*Ziziphus mauritiana*), Tamarind (*Tamarindus indica*), Velvet tamarind (*Dialium guineense*), Akee apple (*Blighia sapida*), Detar (*Detarium senegalense*) and Madd (*Saba senegalensis*) have all acquired increasing commercial value as communities are made aware of their nutritional and health benefits. The African plum (*Dacryodes edulis*) in contrast, has become a major cash crop with a growing interest of pharmaceutical companies in its lipid-rich mesocarp. Trade in the plum reaches beyond national boundaries with the fruit now being sold in specialized markets in Europe and North America. The introduced orange (*Citrus sinensis*), banana (*Musa sapientum*) and papaya (*Carica papaya*) are less seasonal and so are relatively more commonly found and consumed in rural and urban centres.

### Oil seeds

Although the oil palm (*Elaeis guineensis*) and groundnut (*Arachis hypogaea*) are better known oil seeds of West Africa, the Karite or Shea butter tree (*Vitellaria paradoxa*), beniseed (*Sesamum indicum*), egusi (*Cucumeropsis edulis*), coconut (*Cocos nucifera*) and the African nut tree (*Ricinodendron heudelotti*) are all sources of edible oils that are used particularly in rural communities. Oil seeds constitute important accessory items in West African daily diets, they are vital ingredients in sauces for carbohydrate staples. Of all the edible oils, palm oil is well known for its richness in the retinol precursor - beta carotene. Retinol deficiency is a public health problem in several parts of the sub-region.

### Sauce thickeners/condiments/spices

Sauce thickeners, condiments and spices are mostly forest products and are usually described as minor dietary components. However, the sauce thickeners (e.g. Dika nut (*Irvingia gabonensis*), Egusi (*Cucumeropsis edulis*), Watermelon seed (*Citrullis vulgaris*), African oil bean (*Pentaclethra macrophylla*), Locust bean (*Parkia biglobosa*)) are typically used in 150 -200g amounts in meals, while the condiments and spices (e.g. African nutmeg (*Monodora myristica*), Locust bean (*Parkia biglobosa* Aidan (*Tetrapleura tetraptera*), Ashanti pepper (*Piper guineense*), Guinea pepper (*Xylopia aethiopica*), Alligator pepper (*Aframomum melegueta*)) though used in smaller amounts (40-60g) are employed in all cooked meals of the day. They therefore add a significant proportion of proteins, micronutrients as well as health protecting and promoting phytochemicals to the sauce pot. Hence, nutritionally, they are really major dietary components. In West Africa we need to better understand the nutritional value and uses of such "minor" components, and to include them in strategies to promote dietary diversification.

Like condiments and spices, leafy vegetables are indispensable ingredients in accompanying sauces to carbohydrate staples. There are well over thirty commonly grown and consumed species in the sub-region. For each species of leafy vegetable, multiple cultivars have also been identified whose contribution of micronutrients and antioxidants to daily diets in the sub-region is increasingly being recognized.

## Contribution of Foods from the Traditional Food Systems to Food Security, Improved Nutrition and Health

For a strategy of mobilizing local biodiversity for improved nutrition and health to succeed, knowledge of the traditional food systems is imperative. Major foods from West African agricultural ecosystems presented above, provide an insight into the wide array of underutilized indigenous and traditional foods. One of the main causes of the poor results often reported with food-based interventions is the lack of knowledge, not only of available foods but of their nutritional and health attributes. Investigations during the past ten to fifteen years on African indigenous and traditional foods have revealed their immense nutritional and health protecting properties. However, there is still a dearth of taxonomic and nutritional information on the majority of these foods. Although available data are still patchy and incomplete in several cases, enough is known to justify the conviction at Bioversity International/IPGRI that indigenous and traditional food systems need to be revitalized in order to expand the food base and to really diversify diets.

The available root and tuber crops, cereals, grain legumes and pulses, small game (insects, termites, bush meat), when used in diversified diets, can provide a population's daily needs for energy and protein. As shown in Table 1, indigenous cereals and grain legumes can contribute considerable amounts of micronutrients to the diet. The consumption of the indigenous cereals (fonio, millet and sorghum and their processed products) continues to decline as communities turn to relatively cheaper imported rice and wheat products. Table 1 shows that these cereals could contribute reasonable amounts of micro-nutrients in the diets of populations in the subregion. Some of the processed cereal products contain appreciable amounts of zinc. The iron and zinc levels of rice bean and cowpea varieties are also notable. With increasing reports on the positive effects of zinc on vitamin A status in vitamin A deficient populations, the zinc content of traditional foods assumes great importance. There are still unresolved questions on the bioavailability of minerals from cereals and legumes. Nevertheless, the possibility of other dietary components in a mixed diet, enhancing the absorption of iron and other micronutrients, should not be ruled out.



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A large number of sauce thickeners, condiments and spices are used in West African cooking. As mentioned earlier, these constitute the “soul” of the meal and truly characterize cuisine in the subregion. They are vital ingredients, which with leafy vegetables and mushrooms, are indispensable components of sauces for carbohydrate staples. They are used by both rich and poor alike, with or without additional animal protein, but more commonly with a small amount of dried crayfish. This category of meal components or “accessory foods” are commonly known by their local names and so are not yet properly identified taxonomically. Table 2 presents some nutrient profiles of some sauce thickeners and spices. Of particular interest are their contents of iron, zinc and calcium. The addition of mixed leafy vegetables to the sauces, as is the practice in the region, increases the micronutrient content of the meal especially with regard to iron, calcium and zinc.

The wild mango or dika nut (Table 3) is another sauce thickener/fruit that is very much cherished in the forest belt. Very little research has been done on the fruit pulp which is believed to contain fair amounts of beta-carotene, but the nut contains considerable amounts of protein, calcium, as well as vitamin A equivalents in the form of carotenes. Interest in dika nut is increasing because of its reported pharmaceutical properties in lowering blood cholesterol and other blood lipids (Ngondi et al 2005). Spices and food condiments have been reported to possess significant antioxidant properties (Kelble 2005). Although there are as yet no reports on these indigenous sauce condiments and spices which are forest fruit products, emerging reports of anti-oxidant properties of some fresh forest fruits (Ella Missang et al 2003) suggest these may also possess significant anti-oxidant properties. Like the dika nut, several other forest fruits are used fresh or dried as sauce condiments and spices.

Foods	Cu	Fe	Zn	Ca	Mg
Cowpea (maroon eyed)	0.69	4.10	3.31	95.25	141.89
Cowpea (black eyed)	0.70	4.68	2.23	78.73	183.32
Cowpea (brown variety)	0.59	3.50	2.84	95.25	120.07
Rice Bean (white)	0.75	5.77	2.60	130.51	146.55
Bambara g/nut (red variety)	0.60	2.14	2.33	49.02	155.92
Bambara g/nut (white variety)	0.49	2.10	2.01	26.24	148.10
Sorghum (Whole)	0.31	3.46	2.10	17.02	141.20
Sorghum Flour	0.28	4.65	2.46	13.66	76.80
Araw (Processed sorghum)	0.26	4.04	2.08	19.39	66.79
Millet (Whole)	0.42	2.71	2.10	22.09	112.06
Millet Couscous	0.60	3.42	2.75	24.75	114.05
Sankhal (Processed Millet)	0.25	3.02	2.30	14.16	70.73
Acha (Hungry Rice)	0.42	3.30	2.11	18.65	90.00
Acha (Dehulled)	0.37	2.60	1.82	12.70	62.34

Table 1: Mineral Concentrations of Some Indigenous Grain Legumes, Cereals and Cereal Products (mg/100g EP) *Source: Smith I.F. Unpublished*

Thickener/Spice	Cu	Fe	Zn	Ca	Mg
Badkudi	1.01	4.21	2.06	485.38	314.84
Sili (Sesamum alatum)	1.63	3.67	5.18	875.58	248.33
Zabne	0.81	3.90	5.16	267.32	178.56
Kapok (Ceiba guineensis)	0.84	6.41	1.77	1028.15	588.85
Egusi (Cucumeropsis edulis)	1.77	5.51	4.11	87.68	390.70

Table 2: Mineral Content of Some Indigenous West African Sauce Thickeners and Spices (mg/100g EP) (Smith 2001)

Constituents	Irvingia gabonensis (Sauce thickener)	Dacryodes edulis (Fruit)
Common English names	Dika nut, Wild mango	African plum/pear
Energy (kcal/100g)	556.3	531.9
Lipids (%)	56.4	54.2
Protein (%)	9.8	11.0
Vitamin A (µg RE/100g)	635	655
Calcium (mg/100g)	116.1	165.4
Iron (mg/100g)	2.4	4.5
Zinc (mg/100g)	0.62	1.4
Iodine value (g /100g fat)	4.7	67.4

Table 3: Some Chemical and Nutritional Attributes of Two Commonly Consumed Forest Fruits. Adapted from Kengni et al (2004).

Fruit	Energy (kcal)	Protein (%)	Carbohydrate (%)	Calcium (mg/100g)	Iron (mg/100g)	β carotene (µg/100g)	Vitamin C (mg/100g)
Sweet Orange (Citrus sinensis)	45	0.6	10.5	28.0	-	75.0	46.0
Papaya (Carica papaya)	32	-	8.3	21.0	0.6	950.0	52.0
Banana (Musa sapientum)	88	1.5	20.6	9.0	1.4	120.0	9.0
Baobab (Adansonia digitata)	320	3.2	76.2	295.0	9.3	N/A	337.0
Marula (Sclerocarya birrea)	N/A*	4.8	12.0	36.0	1.1	N/A	403.0
Jujube (Ziziphus mauritiana)	97	1.9	25.2	712.5	6.3	N/A	58.0

Table 4: A Comparative View of Nutrient Profiles of Some Introduced and Indigenous Fruits of West Africa. Based on Osman (2004), Jaenicke and Thiong'o (2000) and Ighodalo et al. (1991).

Most of the indigenous fruits are products from the Guinea forests and northern savannas. They are seasonal and not well known by urban populations. Compared to the more commonly consumed fruits - orange, papaya and banana - some of these fruits contain very significant amounts of ascorbic acid, iron and calcium (Table 4). The presence of high levels of ascorbic acid in the pulp of the baobab and marula is of particular interest because both fruits are used traditionally as sweeteners for cereal gruels and other fruit drinks where their high contents of ascorbic acid would enhance iron absorption. Unlike these high carbohydrate, high ascorbic acid fruits, the African plum (Table 3) is a forest product rich in lipids and essential fatty acids. It also contains substantial amounts of protein and vitamin A (Mbofung et al 2002, Kengni et al 2004). It is interesting to note that although African plum and the dika nut (Table 3) are both forest fruits, they are used in diets in different ways - one purely as a fruit and the other as a fruit as well as sauce thickener.

Of particular significance is the emerging evidence of the antioxidant, antidiarrheal and hypoglycemic properties of some of these fruits (Onyechi et al 1998, Ella Missang et al 2003, Ojewole 2003, Dahiru et al 2006). This relatively recent scientific evidence confirms to a large extent existing indigenous knowledge of the multiple roles played by foods from the local biodiversity in health promotion and protection.

### Building on Indigenous Knowledge of Traditional Food Systems

Investigations on African traditional foods increasingly are inspired by local indigenous knowledge. Several studies (Onyechi et al 1998, Sandhya and Vijayalakshmi 2000, Mbofung et al 2002, Ella Missang et al 2003, Ojewole 2003, Oboh and Akindahunsi 2004,



Ayodele 2005, Dicko et al 2005, Ngondi et al 2005, Dahiru et al 2006) confirm both their richness in nutrients and their health promoting and protecting properties. Communities recognize the health benefits of some of the crops among their traditional foods (Johns et al 1995). They are also aware of the cultivar specific differences in agronomic and nutritional attributes (Kennedy et al 2005). With its traditional involvement in farmer participatory variety selection, IPGRI is well placed to combine indigenous knowledge with new technology to advance the selection, increased production and mainstreaming of indigenous and traditional foods. However, for these food crops to be effectively mobilized and mainstreamed into national and regional food systems, there are obvious taxonomic, agronomic, marketing and nutritional analytical challenges, as well as an imperative to find best ways of quantifying the nutritional and health benefits of dietary diversity.

### **Managing Agricultural Biodiversity in the ECOWAS Region**

Agricultural biodiversity encompasses the species and variety of animals, plants and micro-organisms necessary to sustain key functions of the agro-ecosystem, its structure and processes for, and in support of, food production and food security. As noted earlier, West African food systems and food cultures link with the major regional ecosystems. From the cereals, grain legumes, and livestock systems of the Sahel and Guinea savannah, to the root and tuber crop and plantain systems of the humid and semi-humid ecozones of the south, there are multiple sources of target nutrients, micronutrients, and phytochemicals that are being ignored as sources of healthy food. Trees in both savanna and humid areas provide important dietary elements. Local indigenous and traditional vegetables are pervasive and important in all zones and food cultures. However, they seldom figure in production tallies, are under-recorded or undervalued in national dietary surveys, their nutritional values and uses are poorly known and documented, and are seldom included in nutritional and development policies. Many West African agro-ecosystems, forests, and parklands harbour important food resources such as mushrooms, edible snails, small animals and insects, as well as important fruits as the African plum, bush mango, African breadfruit, and baobab which are all important in local dishes. Complex and healthy ecosystems typically provide the greatest range of healthy and diverse foods. Knowledge of how to manage and use these food resources is with local communities and they can be active partners in biodiversity for nutrition activities. Key to managing agricultural biodiversity for nutrition is to use an ecosystem approach involving:

1. identifying components of traditional foods as they are prepared and consumed to ensure that the diversity of ingredients and their nutritional values are not neglected
2. identifying local foods derived from local agricultural ecosystems
3. identifying the range of diversity, availability and status of these food resources in local ecosystems
4. comparing their use and value with food sources being substituted for local food sources
5. targeting agricultural ecosystems and the foods they contain for conservation management to ensure a stable and accessible supply of nutritional components compatible with the local food culture, which can be sustainably produced and are low cost.

Once the nutritional value of local indigenous foods and traditional diets is identified and campaigns to promote their consumption underway, several bottlenecks may arise in production and availability. Many of these nutritious crops have been neglected by agricultural science and development programmes. Lack of attention and cultural change has led to under-utilization of these crops despite their many advantages not only in nutritional terms but in their adaptation to the variable environments of West Africa. For example, cowpea, millet, vouandzou are more drought tolerant than the introduced grains and grain legumes. Fonio (hungry rice) has a short growing cycle, well adapted to the highly variable rainfall of the Guinean and Sahelian zones. Indigenous leafy vegetables currently have few natural pests and are less demanding of soil and water than non-indigenous vegetables. However, current management of this agricultural biodiversity is not adequate to meet the growing demand for dietary diversity. In order to achieve desired levels of consumption of these foods, the following management issues need to be addressed:

- Indigenous and traditional vegetables (ITVs) are highly perishable, limiting distribution and consumption outside production areas thus restricting access to urban consumers
- Production of ITVs is often limited to small household plots that require greater support to meet increased production and quality
- Forest foods including gathered fruits need to have sustainable exploitation systems and to avoid over-exploitation abuse
- Traditional food crops are often more labour intensive, they may also have organoleptic qualities limited to adults and specific food cultures and may not be suitable to modern diets.

Increasing the availability and production of nutrient rich traditional foods will require research and development action plans to identify varieties with favourable cooking properties and tastes that are more widely accepted. In many cases even our taxonomic knowledge of these species, their varieties and nutritional traits is poor. This would need to be a basic starting point for identifying and selecting varieties with high nutritional value and greater potential to reach a wide range of consumers.

Production of indigenous foods is often limited. A major constraint to expanding production is the need to first improve the quality and quantity of seeds for foods with market potential. Research on processing and handling techniques to reduce the time required for food preparation will be needed. Techniques for improved seed selection and seed production of preferred varieties need to be carried out with local communities and small scale producers who have indigenous knowledge of these crops and their food preparation methods. However, targeting these species for inclusion into existing systems for crop improvement, seed certification and production may result in a loss of the organoleptic and nutritional diversity, crop adaptation, and low cost production that indeed make these useful and nutritious crops for the poor. Thus addressing the



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management and production constraints, in order to increase the availability of these foods, will require an approach that builds upon the knowledge and practices of traditional producers and enables a scaling up of production. We have seen several cases in West Africa where the bulk of the vegetables receiving research and technical support end up in export trade to Europe and make little impact on the nutritional problems that are endemic or emerging in the region. The basis of improvement for indigenous crops and animal breeds will need to be based on, and in support of, those healthy and still vital components of the West African food systems and food culture. Having clear nutrition goals and targets remains crucial; however, the targets will not be met by working solely in one sector, be it nutrition, agriculture, environment, health or education. A cross-cutting initiative linking nutrition, dietary diversity, livelihood security, and biodiversity offers the best hope for West Africa to implement sustainable programmes in food and nutrition.

### Conclusion

Managing agricultural biodiversity for improved nutrition and food security should help arrest trends towards the simplification of diets as well as the simplification of West African agricultural ecosystems. Preliminary evidence shows that there are many dietary components rich in micro-nutrients and antioxidants, that can contribute to stemming the rising tide of chronic diseases associated with the “nutrition transition” phenomenon. While the nutritional problems of specific micronutrient deficiencies such as vitamin A deficiency are similar for many if not most countries in the subregion, the more sustainable solutions to these specific deficiencies are to be found locally. There is an increasing perception throughout the region that increased concern for the consumption of healthy foods, and a revival of pride in local food cultures and traditions may support not only the fight for better diets but for healthier ecosystems as well. In West Africa we still have strong food cultures and a rich biological diversity that can serve as the basis for rapid and effective actions to address the traditional scourge of under-nutrition and the more recent trends towards dietary simplification and the concomitant rise in chronic diseases. However, this window of opportunity may be rapidly closing without a timely effort on our part.

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## The New WHO Child Growth Standards and Non-Communicable Diseases

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### Introduction

The rising prevalence of overweight and obesity has become a topical issue worldwide. Children have not been spared this problem as childhood obesity is on the increase, even in developing countries (de Onis and Blossner 2000, Deckelbaum and Williams 2001), where infectious diseases and malnutrition continue to take their toll on children. Concern about childhood obesity stems from the fact that not only does it predict obesity in adult life (Dietz and Gortmaker 2001) but it is also associated with the development of unfavourable health outcomes (Dietz 1998, Stettler 2002). For example, type 2 diabetes is increasingly a problem among children (Deckelbaum and Williams 2001). Thus, in tackling overweight and obesity, one must put in place an efficient growth monitoring system that would permit the early detection of growth deviation among young children at risk.

### The new WHO Child Growth Standards

In April 2006, the World Health Organization launched the international Child Growth Standards for assessing the growth and nutritional status of children under five years (de Onis et al. 2006). These Standards were developed based on data collected on children selected from six countries around the world whose caregivers followed predefined feeding recommendations and met other study eligibility criteria (de Onis et al. 2004). The application of these criteria resulted in the selection of healthy children for the WHO Child Growth Standards. The indicators released so far are weight-for-age, height-for-age, weight-for-height and BMI-for-age. The Assistant Director-General of WHO Catherine Le Galès-Camus (2006, p.9), aptly described the WHO standards as providing the “foundation from which to evaluate, assess effectiveness and advocate for improved infant and young child feeding and care. In short, they will help us advocate for how children *should* grow”. The Standards provide the recipe for what should be done to ensure that children, no matter where they live, attain their full growth potential. All the mother-child pairs eligible for participation in the WHO Growth Study adhered to specific behaviours consistent with current health recommendations. The WHO standards therefore establish the breastfed child as the norm for growth comparison.

### Breastfeeding and childhood obesity

The benefits of breastfeeding for the infant and mother have been well documented (Lanting et al. 1994, Newcomb et al. 1994, Wilson et al. 1998, Satcher 2001). In the last two decades, empirical data seem to suggest that breastfeeding may be associated with reduced risk of obesity for school-age children, adolescents and in adulthood (Kramer 1981, Gillman et al. 2001, Arenz et al. 2004). Early childhood obesity predicts obesity in adulthood and adult cardiovascular mortality risk (Gunnell et al. 1998). In a cross-sectional study, Gillman et al. (2001), examined the relationships of type and duration of infant feeding with the prevalence of overweight in older children and adolescents. After controlling for several maternal and child factors, including socioeconomic status, they found that in comparison to infants fed predominantly formula, infants fed breastmilk in the first six months of life had lower prevalence of overweight nine to 14 years later. This protective effect was larger the longer the duration of breastfeeding.

Several cross-sectional studies have reported similar protective effects of breastfeeding on later childhood obesity (von Kries et al. 1999, Hediger et al. 2001, Liese et al. 2001). However, the cross-sectional designs have been a major limitation in investigating this issue (Butte 2001) being subject to recall bias and unmeasured confounding effects. Additionally, a causal relationship cannot be established. Bergmann et al. (2003) employed a prospective cohort design, thus eliminating any recall biases. Their study established a baseline non-significant difference between the breastfeeding group and the formula-fed group. By six years of age, results confirmed observations from cross-sectional studies that formula-fed infants were more likely to exhibit higher prevalence of overweight, obesity and adiposity (Bergmann 2003). In a meta-analysis involving nine studies comprising 69,000 children, Arenz et al. (2004) examined the relationship between breastfeeding and childhood obesity. Several potential confounding factors (birth weight, maternal overweight, maternal smoking and socioeconomic status) were taken into consideration in determining the adjusted odds ratio. The conclusion was that breastfeeding is associated with a small but consistent protective effect against obesity risk in later childhood.

Several plausible mechanisms have been proposed to explain the role of breastfeeding in reducing the risk of obesity in later life. Briefly, these include caregiver behaviours that override the child's natural ability to regulate energy intake (Arenz et al. 2004). Breastfeeding is not easily influenced by these behaviours. Hormonal mechanisms indicate that higher plasma insulin concentration in formula-fed infants than in breastfed infants stimulates fat deposition and early development of adipocytes (Lucas et al. 1980).

The link between breastfeeding and noncommunicable diseases is not only limited to obesity. Obesity is a known risk factor for diabetes and thus it is logical to speculate an association between breastfeeding and diabetes risk. Indeed, some studies have investigated this relationship (Pettitt et al. 1997, Young 2002) and seem to suggest a protective effect on type 2 diabetes.





## 28 Features

From the above, it is evident that prevention of chronic diseases must of necessity begin in early childhood. Breastfeeding promotion is a key strategy, among others, to address noncommunicable diseases in later life.

### WHO Child Growth Standards and noncommunicable disease

The WHO Child Growth Standards, like all anthropometric reference data, are tools for the assessment and interpretation of anthropometric data. However, the Standards are quite unique in comparison to other growth references. A prescriptive approach was adopted for the development of the new charts. The mothers of the children followed specific health behaviours (breastfeeding, timely introduction of complementary foods, good care practices, and no smoking) conducive to optimal growth of the infants. The charts therefore positioned the breastfed infant as the standard for growth.

The carefully designed inclusion study criteria used (de Onis et al. 2004) resulted in the selection of a healthy sample of infants exhibiting optimal growth. When anthropometric reference data are based on a representative sample of populations undergoing increasing trends of overweight and obesity, they tend to underestimate the true prevalence of childhood overweight and obesity (*ibid.*). The use of the prescriptive approach minimized this effect in the WHO anthropometric data.

The WHO Standards are truly international, involving children from six countries around the world: Brazil, Ghana, India, Oman, Norway and USA. As a single international standard, it provides a uniform basis for comparison of overweight and obesity prevalence across different populations. Plans are underway to develop growth velocity standards. Velocity curves are useful in clinical practice for early detection of abnormal changes in growth. Also, the impending release of the skinfold standards (triceps and subscapular skinfolds) for children under five years will greatly enhance the assessment of overweight and obesity. The new Standards therefore provide a comprehensive set of tools for early identification of children at risk of overweight and obesity. It is hoped that countries will take advantage of this and expand their growth monitoring indicators to include length and height measurements. A WHO survey indicated that only 23% of countries surveyed combined height/length with weight (*ibid.*).

### What does it take to adopt the WHO Child Growth Standards?

Before a country adopts the WHO Child Growth Standard, it is important that key decision-makers responsible for the implementation become familiar with the WHO Standards. The country must decide on the indicators to select, the cut-offs to use and the age group to cover. This information should guide the country regarding preparations needed for the implementation of the WHO Standards.

Many countries monitor weight-for-age regularly. The introduction of height-for-age or weight-for-height, for example, will require training of staff for height measurement, procurement of height measuring equipment, as well as additional time required by staff to measure, record, interpret and counsel mothers on their children's nutritional status. Countries will need to decide what age groups will be covered by their local charts. In some countries where mandatory immunization is completed in the first year, clinic attendance for routine growth assessments stops at the age of the last immunization. Thus, the effective monitoring period is much shorter than the age span covered by the charts. Apart from routine visits to child welfare clinics for growth monitoring, there may be a need to identify other opportunities where anthropometric measures on children can be obtained. Based on this information, countries may choose to print charts that cover only the age range during which government-supported growth assessments take place, or to divide up the five years into segments corresponding to encounters that are supported by child welfare policies (e.g., periodic assessments of children in preschool units). Apart from the age coverage, it is opportune to review whether local charts carry adequate information to permit correct assessment of attained growth and risks of excess or inadequate growth. Also, local charts may be reviewed to determine whether all the information on the chart is necessary for a comprehensive assessment or if some can be omitted to reduce unnecessary clutter on printed charts.

Plans for the implementation of the new Standards should determine whether there are sufficient staff available to assess growth and determine the type of training needed for effective Standards implementation. The availability of the quantity and quality of equipment and other materials should be assessed, as well as whether it can be feasibly procured. If growth promotion policies exist but are not being implemented, this might be the opportunity to revitalize them. The WHO Child Growth Standards should be integrated into other country programmes for which growth assessment is needed such as Integrated Management of Childhood Illness programmes (IMCI), Community Based Growth Promotion programmes, nutrition surveillance and NGO programmes.

WHO has developed a training course on Child Growth Assessment. This training will provide information on measuring and interpreting growth indicators, counselling and recommendations for child feeding. This will be valuable resource material for the training of front line staff.

### Role of development partners in the implementation of WHO Standards

For many countries, especially in Africa, the successful adoption and implementation of the WHO standards will need the support and cooperation of development partners. This includes technical or material support for printing new cards, acquisition of durable and reliable measuring equipment and training of staff. The new Standards are also a tool for monitoring the Millennium Development Goals, especially target 2 of MDG1. Countries are advised to reanalyze anthropometric measurements of their most recent demographic and health survey data to establish baseline prevalence of child



nutritional status against which to compare future assessments. Development partners can facilitate this process.

## Conclusion

In conclusion, countries should take advantage of the new Standards to revitalize and retrain for their growth monitoring and promotion activities. The Standards by themselves would be ineffective if their use were not supported by appropriate actions to address the problems identified. In addressing noncommunicable diseases emphasis should be on prevention. Preventive measures that reduce childhood overweight and obesity will help reduce obesity in adulthood. Prevention should start with pregnant women following healthy habits and good nutrition with regular monitoring to detect excessive weight gain. After birth, exclusive breastfeeding for six months and continued breastfeeding up to 24 months and beyond, with timely introduction of nutritionally adequate complementary foods will give the child a good start in life by warding off excessive weight gain. Currently, many countries have embarked on or are considering school feeding programmes. These programmes must be linked to regular growth monitoring activities to detect excessive weight gain. In this regard, new growth standards, based on a similar prescriptive approach, are needed for older children and adolescents.

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## Tackling the Double Burden of Malnutrition through National Poverty Reduction Strategies

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### Repositioning nutrition as central to development

Malnutrition slows economic growth and perpetuates poverty through three routes: direct loss in productivity from poor physical status, indirect loss from poor cognitive function and deficits in schooling, and loss owing to increased health care costs.<sup>1</sup> Malnutrition's economic costs are substantial: productivity losses to individuals are estimated at more than 10% of lifetime earnings, and gross domestic product lost to malnutrition can run as high as 2 to 3%.

The returns from investing in nutrition are very high. The Copenhagen Consensus concluded that nutrition interventions generate returns among the highest of 17 potential development investments.<sup>2</sup> Investments in micronutrients (e.g., vitamin A, iron, iodine and zinc) were rated above those in trade liberalization, malaria, and water and sanitation! Community-based health and nutrition programmes targeted at children under two years of age are also cost-effective in preventing under-nutrition. Overall, the benefit-cost ratios for nutrition interventions range between 5:1 and 200:1 (Behrman et al. 2004)!

Improving nutrition has a high impact on economic growth and is essential in reducing poverty within the broad definition that includes human development and human capital formation. Recognition of this requirement is evident in the definition of the first Millennium Development Goal (MDG), which aims to eradicate extreme poverty and hunger. The two related targets are to halve between 1990 and 2015

- the proportion of people whose income is less than \$1 a day, and
- the proportion of people who suffer from hunger (measured by percentage of children under five who are underweight).

Persistent malnutrition contributes not only to failure to meet the first MDG (to halve poverty and hunger), but also failure to meet other goals in maternal and child health, HIV/AIDS, education, and gender equality. While widespread under-nutrition and micronutrient deficiencies persevere in the ECOWAS countries, obesity is rapidly emerging as a problem, especially among poorer people, bringing with it an epidemic of diet-related non-communicable diseases (NCDs), such as diabetes, heart disease, and high blood pressure. Underweight children and overweight adults are now often found in the same households.

The case for investing in nutrition is clearly made in various publications, including the World Development Report (World Bank 1993), the Copenhagen Consensus (2004), and most recently, Repositioning Nutrition as Central to Development (World Bank 2006). However, the international community and most governments in developing countries have failed to tackle malnutrition over the past decades, even though well-tested approaches for doing so exist. Consequently, less than a quarter of countries worldwide are potentially on track to achieve the MDG1 nutrition target. More alarmingly, nutritional status is deteriorating in 26 countries, many of them in Sub-Saharan Africa. The situation for the ECOWAS countries is shown in Table 1. The unequivocal choice now is between continuing to fail, as the global community did with HIV/AIDS for more than a decade, or to finally make nutrition central to development, so that the wide range of economic and social improvements that depend on nutrition can be realized.

We know what needs to be done: target the poor, young girls, pregnant women and children under two years of age with interventions that broadly refer to maternal and child health service delivery, behaviour change communication and community-based health and nutrition programmes. However, doing this on a large scale and sustaining such interventions has only been pursued in a few countries. Most ECOWAS countries still manage nutrition interventions on a project-by-project basis with time-bound objectives and financing. This is equally the case when interventions are brought to scale, for example, vitamin A supplementation in all but a few ECOWAS countries, and community-based nutrition in Benin (1995-2000) and Burkina Faso (1993-2000). Two ECOWAS countries (The Gambia and Senegal), however, have successfully scaled up nutrition action such that the achievement can be sustained as a national programme with funding from the national budget through national Poverty Reduction Strategies (PRS). The following section discusses the transition from projects to programmes, the role of the PRS process, the way the World Bank (Africa Region) can assist, and the challenges of sustainable scaling up with resources from the national PRS budget.

Potentially on track (40%)	Seriously off track (40%)	No trend data available (20%)
Benin	Burkina Faso	Cape Verde
Gambia	Cote d'Ivoire	Guinea Bissau
Ghana	Guinea	Liberia
Nigeria	Mali	
Senegal	Niger	
Sierra Leone	Togo	

Table 1: Progress on the MDG 1 nutrition target in the ECOWAS region

1. Malnutrition here refers to underweight, overweight as well as micronutrient deficiency.

2. See [www.copenhagenconsensus.com](http://www.copenhagenconsensus.com)



Full PRSP	
2002	2006
	Benin
Burkina Faso	Burkina Faso (2 <sup>nd</sup> )
	Cape Verde
Gambia	Gambia (2 <sup>nd</sup> )
	Ghana
Guinea	Guinea
	Mali
Niger	Niger
	Nigeria
	Senegal
	Sierra Leone

Table 2: Countries with full PRSP in 2002 and 2006

### Scaling up nutrition action as part of Poverty Reduction Strategies

Following the Paris Declaration on aid effectiveness, endorsed in 2005,<sup>3</sup> the aid environment is fast changing towards consolidation of aid and capacity strengthening of recipient countries. Poverty Reduction Strategies (PRS) are central to this process in which recipient countries are to take the lead in defining their own development priorities for which donors provide funding through budget support. Hence, there is an increasing transfer of resources to the national budget on the basis of the national PRS. Social sector programmes will increasingly have to turn to the PRS process in order to obtain adequate funding. The growing importance of the PRS process is illustrated in Table 2 which shows the ECOWAS countries that have a full PRS. Two countries are already implementing their second PRS with Senegal to be joining them shortly. Ivory Coast and Guinea-Bissau have started the Interim-PRS process, which leaves just two countries in ECOWAS, Liberia and Togo, not yet to have begun this process.

Likewise, nutrition action has to evolve to benefit from the rapid changes taking place in the aid environment. Central in the new environment is the need for results-based programming. For nutrition, this implies the need to transform nutrition projects to single programmes that aim at scaling up and institutionalizing effective interventions. Based on results from unpublished analytical work, the Africa Region of the World Bank identified three conditions as being essential for the sustained scaling up of direct nutrition action, and used these to develop a composite index that reflects a Country's Readiness for Investment in Nutrition (CRIN). The three elements in the index are:<sup>4</sup>

- Expressed interest and political commitment to implement and sustain a large scale nutrition programme by mainstreaming nutrition and applying the "three-ones" concept.<sup>5</sup> This implies the mandating of existing or newly, created institutions with the authority and the means to oversee nutrition over and beyond sectoral lines.
- Organizational and implementation capacity, which looks into the question of "who does what best?". The public health service delivery system may be best placed to provide maternal and child health services. However, NGOs and local government are often proving more adept in facilitating community-based health and nutrition programmes.
- Opportunities for scaling up effective interventions as outlined in "Repositioning Nutrition as Central to Development: A strategy for large scale action" (2006), that are being implemented albeit on a limited scale, without much coordination, and/or within a limited time frame.

	Expressed Interest	Implementation Capacity	National budget	CRIN	MDG (1) progress
Cote d'Ivoire	0	0	0	0	-
Guinea	0	0	0	0	-
Guinea Bissau	0	0	0	0	?
Liberia	0	0	0	0	?
Niger	0	0	0	0	-
Togo	0	0	0	0	-
Mali	+	0	0	1	-
Nigeria	+	0	0	1	+
Sierra Leone	+	0	0	1	+
Benin	+	0	+	2	+
Burkina Faso	+	0	+	2	-
Ghana	+	0	+	2	+
Gambia	+	+	+	3	+
Senegal	+	+	+	3	+
Cape Verde	?	?	?	?	?

Table 3: CRIN Assessment of ECOWAS countries and progress towards achieving the nutrition target of MDG1

3. See [www.aidharmonization.org](http://www.aidharmonization.org)

4. Imagine Africa without Malnutrition, a strategic business plan presented by Claudia Rokx at the Nutrition Workshop in Rome organized by the World Bank, September 12-16, 2005.

5. The "three ones" principle, initially developed for the HIV/AIDS programmes but applicable to all sectors, including nutrition, refers to one action framework, one coordination authority, and one monitoring and evaluation system.



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Table 3 shows the results of a preliminary CRIN assessment of the ECOWAS countries. Added to the table is a column that shows which of the countries are seriously off track (-) or potentially on track (+) with respect of the nutrition target of MDG 1. The countries that are seriously off track also tend to score very low on the CRIN.

The CRIN is useful in determining the World Bank's strategy in supporting countries in reducing malnutrition by:

- Analytical and sector work, including economic or sector status reports, technical assistance, research, sector work
- Policy dialogue through the Medium Term Expenditure Framework (MTEF), Public Expenditure Review (PER), Poverty Reduction Strategy Paper (PRSP), Country Assistance Strategy (CAS), and Mid-Term Reviews (MTR)
- Investment through
  - Self-standing operations (including Sector Wide Approach project, or SWAp),
  - Components in projects including SWAps,
  - Budget support (Poverty Reduction Strategy Credit, or PRSC)

The way the World Bank relates the CRIN to options for assisting countries in their fight against malnutrition is shown in Diagram 1.

When none of the CRIN criteria are met, the best way to start thinking of a nutrition programme is by doing sector work to pave the way for investments in nutrition action as a component within a broader project or as a self-standing operation. The direct investment in nutrition action should be designed so that it leads to sustained and institutionalized action. This in turn leads to it being gradually picked up by the national budget. For this to happen, the PRS team in-country will need to be made aware of the link between poverty and nutrition, and the existence of highly effective low-cost interventions. Awareness raising efforts have to be accompanied by a solid situation analysis and a programme description outlining the interventions, the intended coverage, the expected results, and detailed costing.

This is a very different approach from the National Plans of Action for Nutrition of the 1990s. It also differs from typical medium to large-scale projects funded by the International Development Association (IDA) credits in the 1990s, (e.g. Burkina Faso Food Security and Nutrition Project 1993-2000; Benin Food Security and Nutrition Project 1995-2000), which were time-bound investments that had little chance of continuation after a project's termination. In the current situation, the aim of any direct investment should be to prepare and strengthen the country's capacity to sustain nutrition operations through the national budget. So far, in the ECOWAS region only The Gambia and Senegal have developed the kind of programme capacity for nutrition that produces tangible results and has been picked up by the PRS process, although Benin, Burkina Faso and Ghana are close and may only be a targeted investment away from getting to the level of Senegal and The Gambia.

What is clear from the foregoing is that no one donor can continue to act alone. There is an urgent need for partnerships at country level, in which a country has to take the lead by providing guidance in defining development and programme priorities above and beyond a single sector and along the lines of the "three-ones" principle. Senegal and the Gambia have seen the need to create semi-autonomous agencies that represent the "three-ones" principle; however, other countries may find other road maps to improve the CRIN score. Governments and donors are called upon to review nutrition action in this context and develop a common strategy, which aims at building capacity for sustained large-scale nutrition action.

CRIN Assessment Score		
High (3)	Medium (1-2)	Low (0)
Budget support	Self standing/ component	Sector work
Institutional capacity building/Technical Assistance		

Diagram 1: World Bank's strategy for nutrition based on CRIN assessment

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## Diet Related Chronic Diseases and the Processing, Labelling and Marketing of Food

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### Introduction

Eating habits and dietary intakes are changing rapidly in the urban areas of the developing world, including in the countries of the Economic Community Of West African States (ECOWAS). Substantial increases in the intakes of fats, refined sugars and salt are leading to imbalanced nutrition and overnutrition. While undernutrition as a public health problem still persists in ECOWAS countries, at the same time chronic diseases are becoming more common. High urbanization rates, shifts to modern technology, and industrialization of the food chain in particular, under the influences of westernization and globalization are accelerating the speed of these changes. While it is recognized that the overnutrition epidemic requires that a concerted multisectoral approach be developed, involving the use of policy, education and trade mechanisms (Chopra et al. 2002), a high priority must also be given to encouraging people to reduce their risks factors, and adopt healthier life styles. The purpose of this paper is to understand the problems and risks associated with the industrialization of the food chain, focusing on the labelling and marketing dimensions of processed foods in relation to the prevention of diet related chronic diseases in the ECOWAS context.

### Food production, food processing and dietary quality

The rapid increase in the world population in the last 150 years has coincided with the progressive industrialization of the food chain. Since 1850 the global population has grown from one to six billion people. This rapid growth in population, associated with the industrial revolution, was facilitated by development of food science and technology, including discoveries such as the pasteurization of milk and the advent of the tin can. The increased capacity to store food safely without the need for drying or salting facilitated the extension of the food supply chain from the farm to the city. This together with the mechanization of farming has allowed an increasingly smaller rural population to provide cheaper and cheaper food for a burgeoning urban one, and the creation of large urban markets for industrialized foods.

The industrialization of the food chain has seen remarkable changes in the way we eat and what we eat (Henry and Heppel 1998). Since farming and agriculture developed some ten thousand years ago the number of plant and animal species that man depends on for food has steadily declined. Hunter gatherer populations typically ate many different animal species as well as several hundred different plant species in the form of seeds, flowers, fruits and roots, as they moved through the forest in function of the availability of these foods during the different seasons. Today only eighteen plants are used as staple foods globally, and over 80% of the global population relies on just four staple foods, namely wheat, rice, maize and potatoes. These four staples are now transformed into a vast array of different processed food products by the food industry. More than 1500 different food products are produced from wheat alone, the majority of which can be eaten directly.

The food technologist has really become the modern alchemist. Many chemicals are added in order to make these few staple foods into the vast array of processed foods available in the market (Millstone and Lang 2003). These chemical additives include colourings, preservatives, antioxidants, emulsifiers, stabilizers, anti-caking agents and flavour enhancers. They help to make processed foods look, smell and taste better, as well as to improve their shelf life. There are some 540 of these food additives that are deemed to be safe for human consumption by regulatory bodies, although critics have raised doubts about the safety of a third of them. In 2000 the food industry spent \$20 billion on such additives, and the average consumption was 7kg per person a year in the industrialized countries. In addition there are 4500 different flavouring agents, with an annual market worth \$3.6 billion and 13 different sweetening agents besides sugar, with an estimated market of \$2.5 billion globally.

The reduction in the variety of species being used as food by man has increased the risks of micronutrient deficiencies. These risks are compounded by the effects of food processing. The milling of wheat grain for example is associated with an 80% reduction in the mineral and vitamin content in the flour as compared to the whole grain. To compensate for these increased risks, flour fortification was mandated by law in 1945 in the UK, and most other countries now do the same. Rickets was common in many industrialized countries until milk was fortified with vitamin D. It is estimated that about a third of vitamin A consumed in European populations comes from fortified margarine. Similarly salt is now fortified with iodine in most countries in order to prevent goitre and other sequelae of iodine deficiency (West and Hautvast 1997). Breakfast cereals are now commonly fortified, and in the UK they contribute between 10 and 15% of the average daily intake of B vitamins.

Industrialization of the food chain has also changed the macronutrient composition of the diet, which is now much more energy dense. The type of carbohydrate in the diet has changed, with decreases in complex carbohydrates such as starches and an increase in refined sugar (Uusitalo et al. 2002). Sugar consumption has typically increased fifty fold in industrialized



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countries, with upwards of 15% of energy intake now coming from refined sugar. The majority of this sugar is “hidden” in processed foods and drinks, rather than added to food by the consumer. The fat content of the diet has also increased from 20% to 40%, and the sort of fat consumed has changed with the intake of saturated fats increasing at the expense of unsaturated fats (See Figure 1). The industrial hydrogenating of liquid unsaturated fats, to make them into solid saturated fats leads to the formation of trans fatty acids. The type of unsaturated fat being consumed has also changed with increases in omega 6 fatty acids and decreases in omega 3 fatty acids, such that the ratio of 6 to 3 omega fatty acids has increased from 1:1 to greater than 10:1. This change is related to increased consumption of vegetable oils, as well as the increased

consumption of meat of intensively reared animals fed on grain (rich in omega 6) instead of grass (rich in omega 3) (Simopoulos 1991) These changes in the composition of the diet are associated with the increases in diet related chronic diseases observed in the last 150 years, and that now are the major causes of avoidable mortality globally (WHO 2002).

The dramatic increase in diet-related chronic diseases in industrialized societies has led to a series of recommendations for changes in the diet. A Global Strategy on Diet, Physical Activity and Health (DPAS) was adopted by the World Health Assembly (WHO 2004), which recommends member states to adopt the following recommendations for populations and individuals: to achieve energy balance and a healthy weight; to limit energy intake from total fats and shift fat consumption away from saturated fats to unsaturated fats and towards the elimination of trans-fatty acids; to increase consumption of fruits and vegetables, and legumes, whole grains and nuts; to limit the intake of free sugars; to limit salt (sodium) consumption from all sources and ensure that salt is iodized.

The DPAS asks countries to consider these recommendations when preparing national policies and dietary guidelines. The USA was one of the first nations to adopt food based dietary guidelines in 1980, with the sixth edition coming out in 2005. The various editions have gradually responded to the evolving scientific evidence base, as well as political considerations (Nestle 2002, Willet and Stampfer 2003) with the eventual rebuilding of the food pyramid in 2005. Many European nations have adopted food based dietary guidelines as well as population goals for dietary recommendations which commonly specify the energy intake to come from fat (<30%), from saturated fatty acids (<10%) and from sugar (<10%), amongst others (Robertson et al. 2004).

The DPAS proposes a series of policies that countries can implement to help people adhere to the dietary guidelines. These policies are targeted at individuals, such as behaviour change through education, communities, such as interventions in schools and worksites, and populations, such as consumer-friendly food labelling, and discouraging the marketing of energy-dense, nutrient-poor foods to children. These latter two approaches have gained particular attention as potentially effective policies

### Food labelling

Achieving dietary goals requires that people are able to make informed choices about the foods they purchase and eat. In order to facilitate this there is a trend in many countries towards all processed foods having labels which inform about their contents. The Codex Alimentarius, a set of international standards, guidelines and related texts for food products developed by the Codex Alimentarius Commission of the Joint FAO/WHO Food Standards Programme, provides guidance on nutrition food labelling as summarized in Box 1. The objective of the Codex Alimentarius is to establish sound international agreed guidelines for national

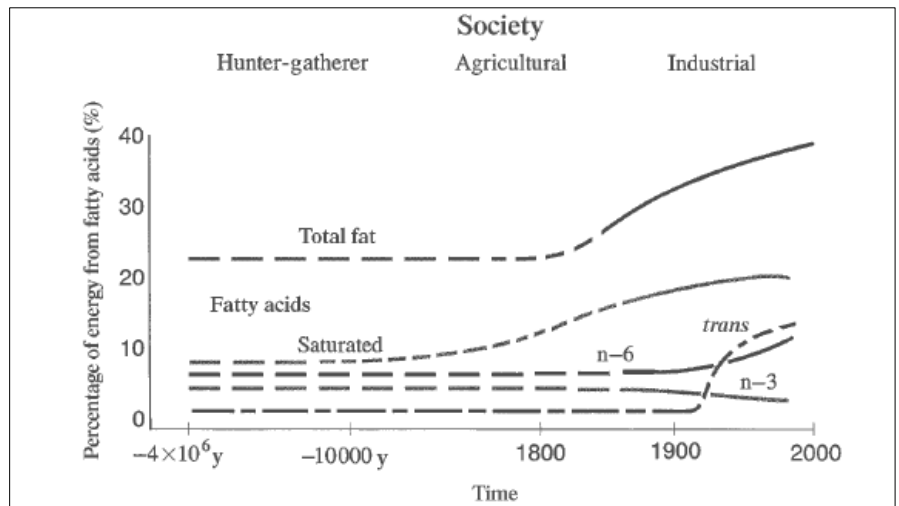


Figure 1: Hypothetical scheme of the relative percentages of fat and different fatty acid families in human nutrition as extrapolated from cross-sectional analyses of contemporary hunter-gatherer populations and from longitudinal observations and their putative changes during the preceding 100y. Adopted from Simopoulos (1991).

#### The Codex Committee on Food Labelling has developed five sets of guidelines of relevance to nutrition labelling and health claims:

- the *General Standard for the Labelling of Pre-packaged Foods* sets down the underlying principle that labelling should not be false, deceptive nor misleading;
- the *Guidelines on Nutrition Labelling* recommend that nutrition labelling be voluntary unless a nutrition claim is made;
- the *General Standard for the Labelling of and Claims for Pre-packaged Foods for Special Dietary Use* recommends that all foods for special dietary uses display a nutrition label;
- the *General Guidelines on Claims* establish the principle that food should not be presented in a manner that is false, misleading nor deceptive, and the person marketing the food should be able to justify the claim made; and,
- the *Guidelines for Use of Nutrition and Health Claims* state that only nutrition claims that support national nutrition policy should be allowed and all health claims must be scientifically substantiated, and should be permitted only within a clear regulatory framework.

Box 1 Codex Alimentarius guidelines on food labelling





food control systems, based on the criteria of consumer health protection and fair practice in trade and taking into account the needs and special concerns of all countries (Codex Alimentarius Commission 2002). Although the implementation of the Codex Alimentarius standards is voluntary, its gravity is heightened by its recognition by the World Trade Organization as a reference in international trade and trade disputes.

According to Codex guidelines, there are essentially two components of food labelling that can inform consumer choice of foods and potentially impact on diet related chronic diseases, and these are "nutrition labelling" and "health and nutrition claims". Nutrition labelling is a description intended to inform the consumer of the nutritional properties of food, and includes a declaration of the nutrient content of the food as well as supplementary nutrition information. The latter should be related to national nutrition policies and consumer education programmes, and be aimed at increasing the consumer's understanding of the nutritional value of their food, and could include food groups symbols for example. Nutrition claims are those used on labels or in advertising campaigns, which make an assertion about a particular nutritional property of a food. Examples include "high in vitamin C", "low fat", "no added sugar" and "high fibre". Health claims maintain that there is a relationship between a specific food and improved health, or that a food can reduce the risk of a particular disease.

Health and nutrition claims are also a marketing technique used by food companies (Hawkes 2004a). In response to the concerns about processed foods contributing to the diet related chronic disease problems, a new generation of processed foods has emerged which aim at reducing specific health risks, or to be "health promoting". These include the sugar free soft drinks, the "light" varieties of processed foods with less or "no fat". There are also the "functional foods", that are modified food or food ingredients that may provide a health benefit beyond the nutrients that it contains (Heasman and Mellentin 2001). Health and nutrition claims are not permitted for foods for infants and young children except where specifically provided for in relevant Codex Standards or national legislation. Despite this, many currently used promotional messages for infant formula relate to health and nutrition claims concerning "optimal" ingredients.

Many countries already have or are in process of developing regulations requiring some form of nutrition labelling (Hawkes 2004a). Reflecting the harmonizing influence of the Codex Alimentarius, in most countries nutrition labelling is voluntary unless the food bears a nutrition claim and/or the food has a special dietary use. An increasing number of countries are now going beyond the Codex Alimentarius by requiring mandatory nutrition labelling: Cost-benefit analyses conducted in the United States suggest that savings in health care costs are relatively greater than the costs incurred by mandatory labelling. Still, there are many differences between countries on the specifics of nutrition labelling, and many countries lack any form of regulation at all, including the ECOWAS countries.

National regulations mandate different label formats. Some countries follow the Codex Alimentarius recommendations that energy, fat, protein and carbohydrate are listed on a label where a claim is made, while other require up to 10 nutrients. Codex guidelines now recommend that national governments should decide whether *trans* fatty acids should be labelled; more countries are now choosing this option. Countries also have developed different methods of quantifying the nutrients on the label. Such details are important because labels may create confusion if they are not presented in a format that consumers readily understand. Evidence from Europe and North America indicates that consumers have problems understanding the information conveyed on labels when presented in certain formats (Cowburn and Stockley 2003). For example, confusion may arise about the association between sodium and salt and in interpreting the nutrient quantities on the label. As a means of overcoming these sources of confusion, a handful of European countries are currently developing simplified label formats (Stockley 2006).

Research from a wide range of countries, including Brazil, Israel, Singapore and the United States, suggests that many consumers appreciate nutrition labels and find them important when making food choices, especially when buying a product for the first time (Hawkes 2004a). People who read labels tend to use them to compare products and find out how much fat and calories the food contains. Nutrition labels have also been shown to encourage more healthful diets among people who read the label. A limitation of the application of nutrition labels as a public health tool is their predominant use amongst certain groups: younger people, women, people with a higher level of education and those who already have an interest in diet and health. This suggests that nutrition labelling on its own is limited as a mean of reaching more socially disadvantaged groups.

Internationally and nationally, the regulation of health and nutrition claims is still in a developmental stage and varies widely between countries and areas. The core concern about health claims is their potential to mislead consumers. There is a general consensus among regulators that benefits asserted in health claims must be substantiated by scientific evidence, but this has proved to be a complex area of regulation. Most countries in fact have no regulations specific to health claims, and where they do exist, regulation is complicated by the fact that there are different types of health claims. The Codex Alimentarius guidelines specify "nutrient function", "other function", and "reduction of disease-risk" claims; although the differences between them are distinct, in practice they all lie along a continuum. Over 20 countries permit nutrient function claims, but just seven countries permit specific disease-risk reduction claims. None of the ECOWAS countries has regulations covering health and/or nutrition claims on labels.

The types of foods permitted to carry health claims vary between countries. Some countries allow product-specific health claims (those related to a health effect of a specific product rather than a general food type or nutrient) on the basis that they can benefit public health and promote industry innovation. However, it has been argued that such claims should not be



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allowed as they undermine the general principle that the total diet, not individual foods, is the key to good health. Concerns have also been expressed by breastfeeding advocates over health claims made for food targeted at infants. A clause prohibiting such claims is included in the Codex guidelines.

In conclusion, regulations play a crucial role in enhancing the potential for nutrition labelling to effectively help consumers make healthful food choices; they can also provide the framework to maximize the potential and minimize the confusion caused by health claims, especially in light of the insufficient evidence of the effect of health claims on diet and public health. The effectiveness of nutrition labelling and health claims in improving national dietary patterns relies largely on a motivated and educated public to make healthful choices. This approach has its limitations. To be most effective, regulatory action on nutrition labels and health claims need to be part of an integrated approach that tackles the increasing rates of diet-related non-communicable diseases. Overall, to maximize the potential of nutrition labels to improve public health, regulations should be developed with long-term dietary improvements across populations as their underlying goal.

### Food marketing

The food industry spends US\$40 billion a year on advertising and most of this is for energy-dense, nutrient-poor processed foods, not health-promoting foods like fruit and vegetables (Millstone and Lang 2003). Coca Cola is the most heavily advertised brand with an annual spend of US\$1.5 billion. Given that this advertising, along with other forms of commercial promotion, aims to encourage consumption, it has been attributed with creating an environment conducive to unhealthy food choices.

Transnational soft drink and fast food companies, such as Coca-Cola, Pepsi, McDonald's and Yum! Brands (KFC and Pizza Hut), market their products extensively worldwide, especially to children and youth (Hawkes 2002). Coca-Cola is the world's number one soft drink and Pepsi the number two. McDonald's is the number one global fast food chain in terms of sales, Yum! in terms of number of outlets. Worldwide, the marketing activities adopted by these companies are aggressive, comprehensive, and aim to create demand by changing traditional drinking and eating habits. The companies use marketing as a means of pursuing global growth, but, given the extent of the variability of the different markets, tailor their marketing strategies to local communities. This is termed a "glocal" marketing strategy.

Underlying glocal marketing are several principles (Hawkes 2002). First, the companies use the entire "marketing mix" to target all possible consumption occasions. Altogether the companies have "5Ps" of marketing: Place (expanding availability), Price and package (tailoring prices and packages to maximize sales), Product expansion (adapting products to local markets), Promotional activities (such as advertising and sales promotions) and Public relations (such as sports sponsorship and philanthropy). Second, the companies compete with all other forms of liquid refreshment or foods in order to take "stomach share" away from other foods and drinks, so boosting category as well as brand consumption. Third, the companies leverage their global brand to market their products. Fourth, they implement different activities in different market types, so that activities differ between "new" and more "developed" markets. Fifth, the companies have a philosophy of endeavoring to understand the target market, carried out via extensive market research. This research is used to define a target market - often children and youth.

Combined, the intended effects of these "5Ps" of marketing are to increase consumption by encouraging more types of people to consume the product (broadening the customer base); more volume to be consumed at one time; and more frequent consumption. For example, to broaden their consumer base, soft drinks companies developed a price/package marketing strategy of selling smaller and cheaper drinks in newer/poorer/rural markets; to expand volume, they sized up portions and packages in more affluent urban areas, with the aim of increasing home consumption. Place related marketing and signage is used to stimulate more frequent and widespread consumption. Coca-Cola has a strategy of posting billboards and similar as extensively as possible, and providing refrigeration to areas with no electricity. "Probably no single element of merchandising is as important in Africa as making the product available cold" says the company. "There is a world of difference between an ice-cold Coca-Cola and a warm one." In Latin America, soft drinks companies have developed school-based strategies to encourage greater consumption among children while at school.

Media advertising typically uses strategies to attract children and youth. McDonald's, KFC and Pizza Hut utilize promotional mascots; television commercials are designed to encourage children to emotionally bond with the product, via association with a special or magical moment, strong family values, fun and excitement or local traditions - depending on the local context. Commercials purvey glamour, and often feature young children, good-looking teens and young adults, celebrities and animation. These advertisements increase the degree of competitiveness between transnational and domestic food companies, so stimulating market growth - a process that can be linked with increasing consumption of the advertised product (Hawkes, 2006).

According to a review of the global regulatory environment around marketing food to children conducted in 2004, a majority of countries have some type of regulation to protect children from being exploited by advertising (Hawkes, 2004b). Television advertising - the most popular means of promoting food and beverage products worldwide - is the most widely regulated technique; 85% of the 73 countries surveyed had some form of regulation on television advertising to children, the majority being ethical guidelines recognizing that children deserve special consideration and stipulating that advertising should not be harmful or exploitative of their credulity. Almost half (44%) of the countries also had specific restrictions on the timing and content of television advertisements directed at children. Though applicable to the marketing of food to



children, these guidelines or restrictions have not had a significant effect on reducing the exposure of children and youth to advertising. Moreover, non-traditional techniques such as sponsorship and sales promotions are seldom regulated to account for their potential effects on children's eating patterns.

Countries differ in their approach to the regulation of advertising and marketing. Some rely solely on statutory regulations (i.e. those enshrined in laws or statutes, or rules designed to fill in the details of the broad concepts mandated by legislation), while others rely on the industry to self-regulate itself (i.e. regulations put in place by a self-regulatory system whereby industry actively participates in, and is responsible for, its own regulation). In many cases, both forms of regulation coexist. It is noteworthy that self-regulation is used largely to put into place general ethically-based guidance, while statutory regulation is used where actual restrictions exist (Hawkes, 2005).

The marketing of food products to children in the school environment, be it in the form of direct advertising (e.g. signage), indirect advertising (e.g. sponsorship of educational materials) or product sales, is second only to television advertising in terms of the amount of controversy that it has attracted in recent years. Indeed, attempts to regulate sales of high-fat snacks and carbonated soft drinks in schools in the United States of America have become something of a cause célèbre amongst anti-obesity advocates and lawmakers. Although the practice is growing almost everywhere, many countries do not have specific regulations on in-school marketing; only a third of the countries reviewed had any form of regulation of this type and only a handful of countries place any restrictions on the sales of selected food products in schools. There are, however, signs that attitudes are changing, with national governments and the food industry taking a more proactive stance in developing new approaches to the regulation of product sales in schools. Since 2004, countries such as Brazil, Canada, Fiji, France and the United States have implemented new rules restricting the sales of unhealthy snack foods and drinks from vending machines in schools in particular.

Still, the regulatory environment is evolving; new regulations are continually being proposed and developed, industry is making new efforts, and consumer and public health groups are making new demands. The Institute of Medicine Report on food marketing to children and youth in the US has helped to galvanize action on the policy front (Nestle 2006). Some consensus is emerging that the issue of food marketing to children needs to be addressed by all stakeholders (See the Sydney Principles later in this edition). There are various articles beginning to appear that are calling for international legislation to control the advertising of food, and especially to children, since there is little evidence that self regulation is the appropriate approach (Hawkes 2005, Knai et al. 2005). These ongoing efforts tend to focus on television advertising and in-school product marketing in the developed world, though more attention is now being focused on non-traditional forms of marketing. The growing use of promotional activities in most developing countries, however, continues unchecked – and these are exactly the “emerging” markets where advertising and commercial promotion can have their most powerful affects on children and youth.

Although there is no evidence that any country in the ECOWAS has developed any regulatory activity for the marketing of food to children, the International Code of Marketing of Breastmilk Substitutes deserves a special mention since ECOWAS countries have been active in this regard. The International Code is a unique and indispensable tool to protect and promote breastfeeding and to ensure that marketing of breastmilk substitutes, feeding bottles and teats is appropriate. Although less binding than a treaty or a convention, the International Code is an international public health recommendation adopted by the World Health Assembly. It was adopted in 1981 as a "minimum requirement" to protect infant health, and to be implemented "in its entirety". The state of the Code implementation is periodically reviewed by the International Baby Food Action Network (IBFAN), and the latest edition (Kean and Allain 2006) reveals that almost a half of the ECOWAS countries have already implemented most of the code and subsequent World Health Assembly resolutions by means of comprehensive law, decree or other legally enforceable measures.

### **Labelling, Marketing and Human Rights**

Several of the UN Human Rights Conventions are of potential relevance with regard to the marketing and labelling of foods. The State has an obligation to ensure that anything the State does through its actions respect all human rights. The State is also obliged to protect the rights of its citizens from negative actions by third parties. The Convention on the Rights of the Child (CRC) says that States should encourage the development of appropriate guidelines for the protection of the child from information and material injurious to them. Furthermore the State should ensure that the mass media will abstain from spreading messages that are detrimental for the physical, mental or social development of the child. Article 24 of the CRC requires States to ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition. In the case of infant feeding, this is precisely what the International Code of Marketing of Breastmilk Substitutes sets out to do. By protecting parents from misinformation on infant feeding practices, it protects breastfeeding and ensures that all segments of society receive unbiased information on infant feeding. The SCN Working Group on Nutrition Ethics and Human Rights has called attention to the importance of corporate actors recognizing their joint responsibility, together with governments and other non-state actors, for the realization of the right to adequate food and to be free from obesity particularly of the young (SCN 2006).

### **Conclusions**

We can conclude that changes in food production and processing in the last 150 years have dramatically influenced the



human diet and such processes are now ongoing in ECOWAS countries. The industrialization of the food chain and the increased commercialization of processed food favours the selection of cheaper, nutrient poor, energy dense foods at the expense of less obesogenic but more expensive foods. Food labelling that clearly indicates the content of important dietary components in processed and packaged foods can help consumers to choose better diets and contribute to the prevention of diet related chronic diseases. The advertising and promotion of foods is capable of influencing food choices, and potentially having detrimental effects on health, especially of children and youth. The chief debate now concerns self regulation, which influences the content of advertisements, but not the volume or intensity of these advertisements, versus statutory regulation, which is the form of regulation traditionally used to restrict advertising and other forms of commercial promotion – such as in the case of tobacco. It seems that after the successes of tobacco, diets, obesity and associated diseases are emerging as the new frontier of public health law (Mello et al. 2006). More progress could be achieved by ensuring that health is at the centre of further policy development concerning the marketing of food to children. Yet in ECOWAS countries, apart from the adoption of the code of marketing of breast milk substitutes in some countries, very little is being done on labelling and marketing of foods to children, and as such this is an important area of food policy that needs to be better addressed.

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## UNU/IUNS Nutrition Capacity Building Efforts in Africa

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The 1996 Manila meeting<sup>1</sup> and subsequent meeting in Cape Town in 1999<sup>2</sup> stimulated capacity development activities within UNU and IUNS. In 2000, several African regional capacity task forces held initial planning meetings to develop an overall action plan. The plan was accepted during the SCN meeting in April 2001 in Nairobi.<sup>3</sup> Most of the activities outlined in the action plan were implemented in 2002. This paper reviews progress of these activities, directly or indirectly through the work of Food & Nutrition Programme of the United Nations University (UNU-FNP).

The three UNU-FNP goals are:

- to assist developing regions enhance individual, organizational and institutional capacity in the area of food and nutrition
- to undertake research activities that require global efforts
- to serve as the academic arm for the United Nations system in areas of food and nutrition that are best addressed in a non-regulatory, non-normative environment.

### African regional task forces and world wide activities

Within Africa three regional task forces were organized in 2000: the West and Central African Region (WCAR) Task Force, the South African Capacity Development in Nutrition Task Force (SANCADI) and the East Africa Capacity Development/Strengthening Task Force. In 2004, the fourth task force of Middle East and North African Nutrition Association (MENANA) was added. Working in parallel to the task forces, there are the two Africa-wide initiatives of the African Nutrition Graduate Students Network (AGS-Net) and the Africa Nutrition Leadership Programme (ANLP). Further, African universities and scientists participated in two global initiatives associated with UNU/IUNS: the Ellison Medical Foundation capacity development initiative initiated by the International Nutrition Foundation (INF) and the Annual Course on the Production and Use of Food Composition Data. Finally, there are a number of related capacity development initiatives initiated by NGOs (e.g. USAID funded initiatives in West Africa), bilateral organizations (e.g. in Uganda with Norwegian support), UN-organizations, etc. This review is not meant as a comprehensive account of all activities nor as a theoretical exposé on individual/institutional/organizational capacity development and training, but rather provides an overview of the programme and highlights past and ongoing accomplishments of UNU and IUNS in Africa.

### The implementation phase of the UNU/IUNS initiated programmes

Each of the three initial African regional task forces received a budget of approximately \$100,000 as promised by the Rector of UNU during the 28<sup>th</sup> SCN in Nairobi. This budget was primarily intended to initiate pilot activities in the field of capacity development that would, in time, become self-sufficient. As of June 2002, programme implementation is complemented by a Biannual Newsletter<sup>4</sup> produced by the SCN Capacity Development Working Group.

*The West and Central African Region Task Force (Ismael Thiam, [itbiam@wahoas.org](mailto:itbiam@wahoas.org))*

The action plan in West and Central Africa was implemented by the West Africa Health Organization (WAHO) with assistance of the ECOWAS Nutrition Focal Points network (now called the ECOWAS Nutrition Forum). Two workshops were held mid 2002 in Abidjan; one workshop for Francophone countries (13 participants from 10 countries) and one workshop for Anglophone countries (10 participants from 3 countries). The purpose was to establish a group of nutrition advocacy trainers within regional and/or national nutrition training institutions by: 1) enabling nutrition educators and other professionals to include advocacy training in their programmes, 2) developing an advocacy based training module in the SARA (Support for Analysis and Research in Africa) project manual for use in nutrition education curricula in the participants institutions, and 3) defining strategies to support implementation of educational programmes.

The 10-year action plan was reviewed and updated during the regular meetings of the ECOWAS Nutrition Forum. Several of these activities and plans were included in the WAHO strategic plans.<sup>5</sup> It is important to identify potential linkages between the ECOWAS Nutrition Forum and other regional initiatives. For example, the East and South African task forces focused their pilot activities on the inclusion of HIV/AIDS in nutrition training. Prior to 2002, tutors and trainers had not been exposed to developments in this field and did not have access to the related technical literature. Training modules that were developed and implemented by the task forces may also be of interest in the West African region. Several of the ideas that were developed during the 10<sup>th</sup> ECOWAS Nutrition Forum in Cape Verde (September 2006) are now being investigated.

1. See: Garza C. Special issue on institution-building for research and advanced training in food and nutrition in developing countries. *Food and Nutrition Bulletin* 1997, 18(2):103-78.

2. See: *African Nutrition Leadership Initiative. Report consultation held in Cape Town, Republic of South Africa, 22-25 June 1999* (unpublished document).

3. See: *African Nutrition Capacity Development Initiative, April 2001*. Unpublished document.

4. The most recent issue appeared in April 2006. For subscription contact Ms. Sara Shapiro ([sds32@cornell.edu](mailto:sds32@cornell.edu)).

5. See: *The West African Health Organization ECOWAS Nutrition Forum Strategic Plan 2005 -2007*. Unpublished document.



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*East African Capacity Development / Strengthening Task Force (Robert Mwadime, [rmwadime@rcqhc.org](mailto:rmwadime@rcqhc.org))*

The HIV/AIDS training manual, developed by the Regional Centre for Quality Health Care (RCQHC) in Kampala, Uganda, has been used widely by training programmes, universities, and other institutes in East and South Africa. To further capacity development, one programme manager and one university instructor from each of the five countries who have used the training manual extensively and have demonstrated leadership in nutrition and HIV/AIDS were selected to participate in a new programme. The new programme involves a series of activities to build the capacity of the selected trainees to become resource persons who can provide quality technical assistance to HIV/AIDS programmes. In addition, RCQHC would like to begin a leadership programme with these individuals in the near future.

*The South African Capacity Development in Nutrition Task force (SANCADI) (David Sanders, [dsanders@unw.ac.za](mailto:dsanders@unw.ac.za))*

The SANCADI has developed preservice training modules on nutrition and HIV/AIDS. Initial plans to set up a Learning Cooperative were not formalized but the task force functioned as a loose network of individuals in four countries in Southern Africa, in close collaboration with RCQHC. Recently SANCADI received funding from the USAID Agriculture Department to support its coordination efforts.

*The Middle East and North African Nutrition Association (MENANA) (Azza Gobar, [azzagobar@redakamel.com](mailto:azzagobar@redakamel.com))*

This task force's strategy was to start by building a conceptual framework to visualize the training needs. Two meetings have been held since 2004. MENANA's plans for 2007 include the development of a regional website, food fortification initiatives and the launch of monitoring and evaluation projects of the region's food and nutrition status.

*The African Nutrition Graduate Students Network (AGS-Net) ([www.unu.edu/capacitybuilding/foodnutrition/agsnet/Index\\_en.htm](http://www.unu.edu/capacitybuilding/foodnutrition/agsnet/Index_en.htm))*

AGS-Net was initiated in 2002 by graduate students from Africa studying at Cornell University. The primary objective of the network is to share ideas on how to promote best standards within nutrition research and practice throughout Africa. In more detail the AGS-Net objectives can be outlined as building social capital by developing relations and networks, building the appropriate attitudes and values, developing organizational skills, building trust among members, exchanging ideas, information and knowledge, and providing a unified front towards the improvement of nutrition on the continent.

The AGS-Net held its inaugural conference in Durban (South Africa) in September 2005 just prior to the International Congress on Nutrition and had the opportunity to present its views during the closing ceremony of the Congress. By mid 2006, the AGS-Net had almost 150 members from 25 countries, studying in 42 institutions.

The challenges of maintaining the network relate to its continuity and sustainability in terms of leadership and financial considerations, as well as the urgent need of strategies with regard to recruitment of new members of the core-group.

The next meeting of AGS-Net will be held in May 2007 in Morocco just prior to the meeting of the Federation of African Nutrition Societies (FANUS). One idea currently being elaborated is to make the AGS-Net website more interactive so that it can really be used to share knowledge about the nutrition situation in Africa.

*The Africa Nutrition Leadership Programme (ANLP, [www.africannutritionleadership.org](http://www.africannutritionleadership.org))*

From 2002 to 2006 five courses of the ANLP have been held in South Africa. In total, over 100 participants attended this two week intensive training course, modelled on a similar course that began in Europe in 1994. Five prospective course coordinators attended this course in Europe in 2002 and 2003 and then implemented an African version. The focus during ANLP is on team building, core leadership, communication, social responsibility and case studies (for example food fortification, NEPAD).

To promote ownership of the course, the programme is structured such that two former participants of the previous year serve as junior faculty the following year. An alumni association regularly contacts all former participants. Each year participants construct an ANLP declaration. The 2005 participants composed the following declaration; *'We the young African nutrition leaders do declare to dedicate ourselves to serving Africa with passion and commitment'*. The role of AGS-Net during the International Congress of Nutrition (ICN) in Durban, September 2005, along with the attention given to leadership development during the ICN has likely resulted in the overwhelming number of 80 applications for the 5<sup>th</sup> ANLP course scheduled for November 2006. Similar leadership training programmes have been initiated in other regions such as in Latin America where it is held every three years, and in South East Asia/Indonesia where it is held annually.

*The EMF Capacity Development Initiative undertaken by the International Nutrition Foundation (INF) ([inf@infoundation.org](mailto:inf@infoundation.org))*

In 2002, the President of the INF and the former director of the UNU-FNP secured substantial financial support from the Ellison Medical Foundation (EMF), a nonprofit research foundation, to create a capacity development programme targeting doctoral and post doctoral needs of selected centers of excellence in the areas of nutrition and infection. The INF/EMF programme strives to achieve its aim through the award of carefully targeted fellowships to individuals associated with key institutions. These national or regional institutions have been personally site visited, evaluated and identified as current or potential centers of excellence in sophisticated areas of nutrition and/or infection related health research. UNU and IUNS have representatives on the Steering Committee of this EMF/INF programme. To date more than 25 institutions in 20 countries have been assessed for possible incorporation into the programme but judged not to meet the criteria based on the examination of publication records, annual reports, or in some cases after on-sites visits. A total of four institutions have been selected in Africa: the Medical University of South Africa (MEDUNSA), the Department of Public Health and Nutrition of



the University of Kwazulu Natal in Durban, South Africa, the University of Ghana located in Legon, Accra, and the Applied Nutrition Programme of the University of Nairobi in Kenya. In addition, Makerere University located in Kampala, Uganda has been selected although no fellows have been identified.

Implementation of the programme is fully underway now. The main support includes doctoral (regular and sandwich), post-doctoral, reentry and short-term fellowships. Regular doctoral fellowships generally do not exceed two years. These are in the form of support for tuition for course work or as a grant to conduct research during the doctoral period. Sandwich fellowships are designed to allow participants two years of course work followed by a period of thesis work in their home country and a return to the training institution for completion of the doctoral degree. Postdoctoral fellowships can range from three months to three years whereas re-entry grants are usually for a period of one year.

In addition, the programme also facilitates short-term support, mainly in the form of support to scientific meetings, congresses and workshops. In addition, from 2004, the Foundation has instituted a short term and a medium term fellowship programme, funded from various industry sources. Medium term support is targeted in the area of food science and nutrition and provides internships for eligible candidates in the area of food technology and product development.

Since 2002, a total of 69 INF/EMF fellowships have been awarded (INF/EMF programme) of which 22 have been awarded to African scientists. Furthermore, since 2004, a total 51 short-term fellowships (sources other than EMF) have been awarded, of which 34 have been to African scientists.

#### *The Annual Food Composition Database Training Course*

Since 2001, an annual three-week food data base training course has been held either in Wageningen (The Netherlands) or in Pretoria (South Africa), with the objective of showing how the quality and usefulness of food composition data is determined by the production of analytical data for nutrients in foods. The course was originally established in 1994 by the late professor Clive West of Wageningen University. Professor Hettie Schönfeldt initiated the course in Africa. The latest courses were held in Pretoria, January 2005, and in Wageningen, October 2005. UNU and FAO have participated in the course since 1994 by offering fellowships to course participants. It is very good to see that in February 2007 a modified edition of this course (Food Composition and Biodiversity) will be held at the University of Ibadan (Nigeria) with involvement of IPGRI and FAO.

#### *Applied Nutrition Programme at the University of Nairobi*

Established with bilateral aid funds this MSc-degree programme has received modest support from UNU through fellowships for candidates from Eastern Africa for the last ten years. These UNU fellowships enable the University of Nairobi to play a key role as regional education centre in nutrition. Several international organizations have assisted ANP over the years with their staff development programme, however they face considerable 'staff mobility' problem. With this in mind the efforts of Nairobi to remain a regional centre for MSc training deserves our appreciation.

#### **Other initiatives of relevance for Africa**

Finally, I would like to mention a few other initiatives that are relevant in connection with capacity development of nutrition practitioners, programme managers and researchers in Africa.

*Formation Internationale en Nutrition et Sciences Alimentaires (FINSAs)*—for 15 years the University of Abomey-Calavi in Cotonou (Benin) has offered a set of interrelated courses each August/September. In 2006 the course theme was the impact of HIV/AIDS. Even after 15 years of showing their commitment and dedication the organizers in Benin face an overcapacity, better expressed perhaps as an underutilization of this course.

*Summer/winter programme of the University of Western Cape*—The nutrition and public health group lead by Professor David Sanders has organized a series of biannual courses for many years. Courses have covered, for example, using the triple A model, nutrition policy, micronutrient malnutrition and feeding hospitalized children

*A postgraduate course series offered annually by the University of Oslo and Akershus University College on "the Global Dimensions of Nutrition"*—A total of three successive six weeks/10 ECTS modules conducted in English: *The World Nutrition Situation – Data and Issues (Jan-Feb)*; *Nutrition, Globalisation and Governance (Mar-Apr)*; and *Nutrition and Human Rights (May-Jun)*. Each can be taken separately but as there are important links between them a set of two of the modules is recommended. The courses have enjoyed broad participation of students from Europe as well as other regions, especially Africa. Tuition is free but living costs in Norway are high and there is for the time being no scholarship available. Start-up in 2007 is 8 January. Contact: [a.s.cham@medisin.uio.no](mailto:a.s.cham@medisin.uio.no)

*Information Technology for the Advancement of Nutrition in Africa (ITANA)*—This initiative began in 2000 as a spin-off the Global Nutrition 2000 training programme of the University of Uppsala, Sweden. The network held its last international congress in 2005, just prior to the ICN. ITANA works with a regional structure, with West Africa as one of its regional task forces. It also has Country Focal points (for further information see [www.itananutrition.org](http://www.itananutrition.org)). ITANA has produced a substantial amount of training materials.



### Main obstacles and challenges in capacity development

Institutional capacity building is not high on the agenda of most development agencies and donors. Most countries in the western world offer individual fellowships in support of their own development activities. For example, ANLP has a bilateral fellowship programme as well as a foundation to assist with fellowships. Quite often such schemes have to operate within a policy framework which imposes restrictions in terms of topics that can be addressed within capacity building, regional priorities, etc. As a result, the sustainability of several of the initiatives described in this paper is under threat. For instance, why should it be the task of our colleagues in Benin to secure funding for the applicants to the FINSA-courses? Agencies and donors should realize that it will be costly to set up new initiatives when the existing activities disappear. Local organizers are helped enormously when there is a guarantee that for three to five years a sponsor will fund five or ten slots.

What should be avoided is that national courses compete with regional activities. Regional activities and national initiatives should be mutually supportive. National ownership remains the single most important determinant of the effectiveness of capacity building programmes. This is why UNU/IUNS (and subsequently also the EMF funded scheme operated by INF) stress that capacity building requires a strong commitment from the institutions' home governments and administrative structures. The late Abraham Besrat (then with UNU in Tokyo) argued in one of the background papers prepared for the Cape Town meeting, that the UNU institutional capacity development efforts (1975–1990) were somewhat less successful in Africa because of the focus on institutions closely linked to government ministries rather than academic institutions. FINSA, the MSc programme at Nairobi and the programme at the Université Cheikh Anta Diop in Dakar, are examples of capacity development programmes that have been sustained by African scientists. The conditions faced by these colleagues can, at times, be most unfavourable. The same is probably true for the formal training programmes which have been running for many years in Ghana and Nigeria.

Despite several new initiatives coming up, we will have to continue our struggle to convince donor agencies that capacity development programmes should not be hampered by limited time horizons. Only then we will be able to build the absorption capacity that the same donors insist upon to assure efficient and effective use of their investments.

**Acknowledgements:** The work reported was initiated/supported/executed by a large number of colleagues, with the risk of forgetting some I would like to mention (in alphabetical order); Romain Dossa, Cutberto Garza, Azza Gohar, Shibani Ghosh, Johann Jerling, Pauline Kuzwayo, Robert Mwadime, Kinday Samba Ndure, Abiud Omwega, Arne Oshaug, David Sanders, Hettie Schönfeldt, Nevin Scrimshaw, Sara Shapiro, Patrick Stover, Ricardo Uauy.

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## IT support links the ECOWAS Nutrition Focal Points

Shawn K. Baker

Vice President and Regional Director for Africa, Helen Keller International

The *Alliance to Harness Information Technology for Decision-Making and Capacity Building in West Africa* - WAHO, Helen Keller International (HKI) and Tulane University Payson Center (TUPC) - launched an initiative to strengthen the existing nutrition network in West Africa through information technology. This 3-year project is funded by USAID with a 2-to-1 match of resources from WAHO, HKI and TUPC. The objectives of the project are to:

- Improve management of public health and nutrition information in the sub-region
- Develop increased human capacity in public health nutrition
- Promote critical analysis, documentation and dissemination of regional best practices in public health nutrition
- Increase advocacy for nutrition
- Promote evidence-based decision making for national policy development and resource allocation in the health sector
- Promote harmonization of sub-regional policies and practices concerning public health nutrition
- Improve allocation of human resources towards effective health impacts through just-in-time training and real time information access.

Accomplishments of the first year of the project include development of criteria and a strategy for identifying and documenting best practices in nutrition; equipping all nutrition focal points with computers and Internet access and provision of training in their use; and revision of the ECOWAS Nutrition Forum web site to facilitate use and publication of information by nutrition focal points.

The ECOWAS Nutrition Forum website ([www.pfnutrition.org](http://www.pfnutrition.org)) provides further information on the activities of the member states and the support provided by the Partners.



## **Double Burden of Malnutrition in West Africa**

**The participants in the 10<sup>th</sup> ECOWAS Nutrition Forum agree current actions to combat malnutrition in all its forms are insufficient. Also agree that an adequate response to ensure that malnutrition is no longer a major impediment to human development in the next generation requires unprecedented action and collaboration. It means that the ECOWAS countries must act with one vision. This collaboration should be developed within the promotion and protection of good nutrition and healthy lifestyles.**

### **The Problem**

In West Africa, under five and maternal mortality rates are amongst the highest in the world. This is unacceptable.

One in three children under the age of five, is undernourished and many affected by acute and chronic malnutrition. In many countries in the Sahel region, notably, Burkina Faso, Mali and Niger, the prevalence of acute malnutrition is between 11-19%, indicating that the nutritional situation is of great concern. And further, millions of people suffer from micronutrient deficiencies (so-called 'hidden hunger') especially of iron, vitamin A, iodine and zinc. Under-nutrition is the main threat to health and well-being of populations. At the same time, childhood over nutrition and obesity is becoming a recognized public health problem. Over the past two decades, the prevalence of overweight, and diet related chronic disease (such as diabetes and other cardiovascular diseases), particularly amongst women has increased rapidly. It is estimated that the number of obese people living in the Africa region will double in the next five years.

These issues of over and under nutrition are still perceived to be separate. In reality both are often rooted in poverty and co-exist in communities, and even the same households. While under-nutrition kills in early life, it also leads to a high risk of nutrition related chronic diseases and death later in life. This is the double burden of malnutrition.

This double burden of malnutrition has common causes, inadequate foetal and infant and young child nutrition followed by consumption of and exposure to (including through marketing practices) unhealthy energy dense nutrient poor foods and lack of physical activity. The window of opportunity lies from pre-pregnancy to around 24 months of a child's age. Schools provide a natural setting for effective interventions for older ages and to promote adequate nutrition to future mothers.

Malnutrition in all its forms amounts to an intolerable burden not only on national health systems but the entire cultural, social and economic fabric of nations, and is the greatest impediment to the fulfilment of human potential. Yet, despite the impact of malnutrition in all its forms on mortality, morbidity and national economies a disturbingly low proportion of the total resources for health-related development assistance are allocated to nutrition activities. At country level, the political and financial commitment and human resources accorded to nutrition is even less. Adequate food is a human right and good nutrition is essential to achieve the Millennium Development Goals. Without progress towards tackling malnutrition in the ECOWAS region, these goals will not be achieved.

### **The Solution**

The participants of the 10<sup>th</sup> ECOWAS Nutrition Forum have come together to help put Nutrition at the Centre of Development. We collectively urge:

Governments of ECOWAS member states, in their policies, to promote nutrition actions that reduce under and over-nutrition and diet-related chronic diseases. They should do this within the context of respecting, protecting and fulfilling the right to adequate food, and should ensure that these actions are adequately funded.

Governments of ECOWAS member states with the support of development partners working in the region, should accelerate the prevention and mitigation of all forms of malnutrition throughout the life cycle, towards the achievement of the MDGs and beyond. ECOWAS countries should also promote the integration of nutrition programmes in all sectors and mainstream them into national development policies.

WAHO to advocate for a regional strategy and urge countries to adopt policies and practices that tackle the double burden of malnutrition and hold governments accountable.

*The priority recommendations are:*

#### To WAHO:

- To support regional nutrition advocacy activities that include obesity and diet related chronic diseases.
- To support behaviour change and communication strategies that promote appropriate diets and adequate physical activity.
- Establish partnership with the ECOWAS department of Agriculture for increasing linkages between health and agricultural policies.
- Seek to strengthen linkages with the UN system through the Standing Committee on Nutrition (SCN).

#### To Countries:

- To create awareness and strengthen institutional capacity and inter sectoral collaboration and leadership at national, and community levels for accelerating action to address the double burden of malnutrition.
- To include data on obesity, diabetes and other diet related non communicable diseases in demographic and health surveys.
- To give priority to interventions which target the window of opportunity from pre-conception to around 24 months of age, the critical period when the foundation for life long health is determined.
- To develop and implement institutional cross-cutting policies and actions which address the double burden of malnutrition.
- To urge communities and schools, including pre-schools, to be nutrition and physical activity-friendly, in order to promote health and well being throughout life.
- To promote the production, processing, preservation and consumption of local foods, for safe and balanced diets at all season and promote food fortification and micronutrient supplementation when and where needed.
- To adapt and integrate the new WHO Child Growth Charts into maternal and child health services.

#### To Partners:

As a follow up to the 10<sup>th</sup> Forum the partners see many areas of future support and collaboration that are particularly important

- In the development of school-based initiatives that promote sustainable use of locally available foods.
- The need to develop urban nutrition strategies to deal with the growing concerns of the urban poor in ECOWAS countries.
- Supporting the inclusion of food and nutrition indicators into early warning systems and surveillance systems and the adoption of the new WHO child growth charts.
- Need to link the IT efforts of ECOWAS/WAHO with the relevant initiatives of other partners.
- The need for UN agencies to take advantage of Nutrition Forum to revive regional inter-agency coordination.

*Mindelo, 22 September, 2006*

## OBITUARY



### IN MEMORIUM RAINER GROSS 1945-2006

Our dear colleague and friend Rainer Gross passed away on 30 September 2006 at the age of sixty one, after fighting bravely with prostate cancer for the last two years of his life. Together with Rainer, we lived and worked in Indonesia during the period 1993-1997, when we became close friends and professional colleagues. In recognition of this time together we felt compelled to make this joint tribute to celebrate his memory.

Rainer made enormous contributions to international nutrition, as a mentor, as a researcher and as a programme director. Many of these contributions are not identifiable as being his, because of the selfless way he helped others to grow and develop. Rainer had a rare combination of enthusiasm, drive, vision, leadership, technical skill, and passion.

Perhaps Rainer's greatest skill was in facilitating collaboration and coalescence of networks. He was an active member of the International Union of Nutrition Sciences (IUNS) for whom he was a Chair of task forces on Urban Nutrition as well as Nutrition and the Environment. During our time together in Jakarta he was instrumental in bringing us together almost weekly on a Friday evening after work to talk about nutrition. We all bought into his idea that our being together in Jakarta, even if in different organizations, was a great opportunity to "make a difference" by working informally together. The frequent meetings and discussions lead to greater understanding of successful approaches to nutrition programming and better focused research, common publications, common approaches to advocacy and increased rigor in monitoring and evaluation.

As a programme director Rainer was firmly committed to building local capacity to produce nutrition professionals in developing countries. Unusually for a European, most of this work was done "in the field", with twelve years in Peru, five in Brazil and ten in Indonesia. This work with GTZ led to the setting up and strengthening of centres of excellence in nutrition research at the National Agricultural University La Molina, Lima, Peru; at the Federal University of Rio de Janeiro, Brazil; and, at the University of Indonesia in Jakarta. Through his roles as a teacher, trainer and mentor in Jakarta especially, Rainer influenced many with his passion and enthusiasm for nutrition and public health. Many of his ex-students are now successfully serving in UNICEF, Micronutrient Initiative, Helen Keller International, SEAMEO-TROPMED, government institutions of countries such as Vietnam, Indonesia, Philippines, as well as in the private sector.

As a researcher Rainer was characteristically practical, pragmatic and very much programme oriented. Through his students and his networks Rainer was instrumental in building many collaborative research efforts testing new ways of delivering nutrition interventions and evaluating them. The IRIS studies carried out in Peru, South Africa, Indonesia and Vietnam are perhaps the best example of such practically oriented across-countries collaborative studies.

Nutrition was Rainer's passion and life's calling, and he remained actively involved in his work until the last days of his life. The time in Jakarta had a positive influence on all of us, and somehow we have all worked or continued to work for the United Nations. Rainer ended his career as the Chief of Nutrition for UNICEF in New York. It was an honour and a pleasure for the four of us to have known him and worked with him. We miss him both as a professional colleague and as a friend. Our heartfelt condolences go to his wife Ulla and children Patrick and Kersten.

*Roger Shrimpton, SCN  
Martin Bloem, Nutrition Service, World Food Programme  
Werner Schultink, Child Development and Nutrition, UNICEF  
Ray Yip, CDC China*



# Special Feature

## Ethiopia Experience in the Management of Severe Acute Malnutrition (2003-2005)

Sylvie Chamois

Nutrition Project Officer, UNICEF Ethiopia

### Background

Ethiopia has had nutritional problems throughout recorded history, often catastrophic. The level of agricultural development and livelihood in much of the country is still limited. Malnutrition among children remains unacceptably high, they are stunted (46%), underweight (38%) and wasted (11%) (DHS 2005). Figure 1 shows that stunting and underweight prevalence rates have improved in the last decade but are still high while wasting has remained stagnant.

Malnutrition is a significant contributing factor to more than half of all child deaths (Black and Bryce 2003). Improved child survival is strongly associated with reduced malnutrition in countries characterized by high rates of malnutrition (Pelletier et al. 1994). In Ethiopia, where the under-five mortality rate stands at 123 per 1000 live births (DHS 2005), child survival could definitively be accelerated by reducing malnutrition.

Traditional direct food aid and few food security interventions have been the major strategies in the past decades to respond to nutrition issues, and the “food-first bias” has governed the work of almost all emergency actors in Ethiopia. Despite large amounts of food aid, this has had very little impact on overall child nutrition. The response to famines has frequently been delayed. Normally there is a very high mortality rate associated with severe malnutrition. For many of these famines the major interventions have been food distributions, supplementary feeding and therapeutic feeding programmes by INGOs, whose national coverage is low, and by UN agencies. The ability of the national health service to treat severely wasted patients according to modern methods has been almost non-existent. Learning to understand and address these conditions is not part of the medical or nursing curriculum, and for many years doctors and nurses have graduated with little or no nutritional competency. Further, the perception of the health administrators seems to have been that severe acute malnutrition only occur in times of famine and that it is then the responsibility of the INGOs to respond.

The UNICEF (1990) conceptual framework of the causes of malnutrition presents a generalized understanding of how malnutrition and child death are the outcomes of a multi-sectoral development problem that can be most effectively analysed in term of immediate, underlying and basic causes.

Although it is critical for Ethiopia to address the underlying and basic factors of malnutrition to get out of the vicious circle leading to recurrent nutrition crises, it is equally important to address the immediate life threatening condition of severe acute malnutrition (SAM) that is presently affecting hundreds of thousands of Ethiopian children. This article describes how Ethiopia has dealt with SAM in the past three years and how a dramatic increase in the treatment capacity (from near to nil to over 13,000 cases per month) was achieved.

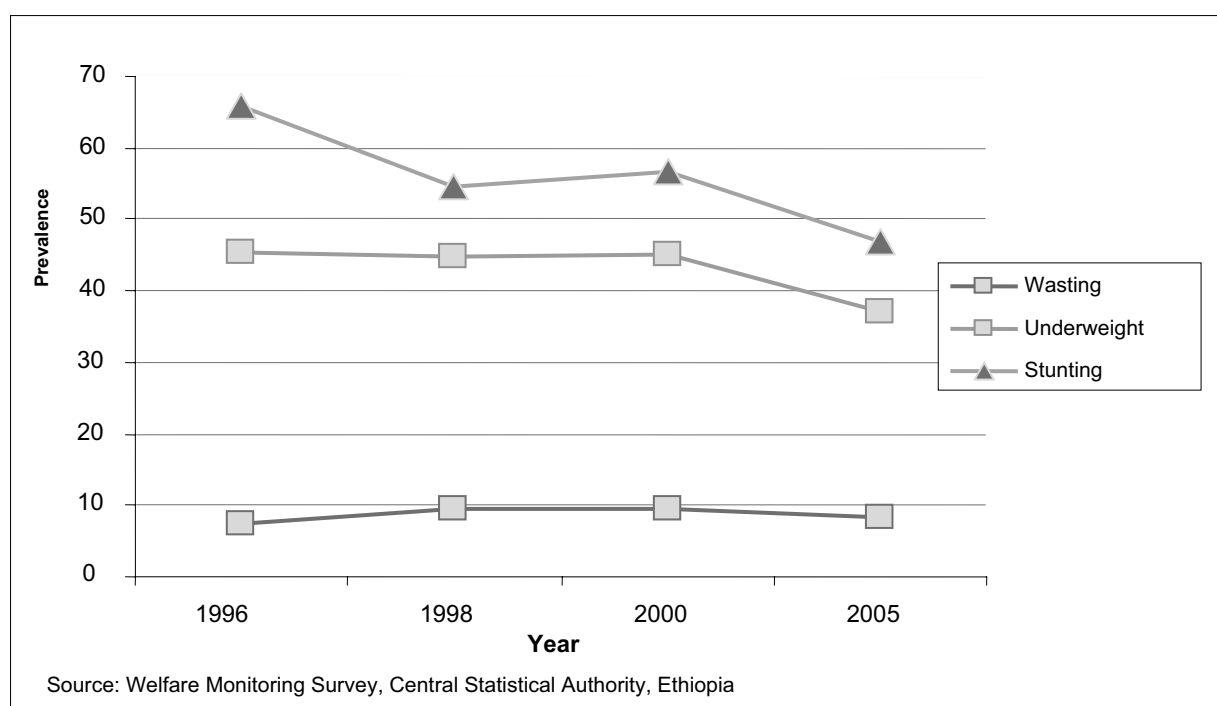


Figure 1: Evolution of under-five wasting, underweight and stunting prevalence in Ethiopia, 1996-2005



## The scale of severe acute malnutrition (SAM) in Ethiopia

SAM has affected hundreds of thousands of Ethiopian children (Table 1). The common method of defining a nutrition “crisis” using the percentage of children affected, commonly severe acute malnutrition (SAM) <sup>1</sup>>3-5%, is often misleading if seen in isolation from the absolute numbers. UNICEF’s support efforts have therefore been driven by the large absolute numbers of children with malnutrition.

YEAR	Severe wasting prevalence rate (DHS 2005)	Number of children under five affected by severe wasting	SAM treatment capacity <sup>2</sup>
2000	1.4%	196,000	< 500
2005	2.2%	308,000	13,400

Table 1: Number of children under five affected by severe wasting in Ethiopia, 2000-2005. The table does not consider prevalence of kwashiorkor that is also part of SAM classification and is not assessed in the DHS surveys. The FMOH/UNICEF database on TFPs shows that between January 2003 and October 2005, 46% of a total of 38,840 patients admitted for SAM were suffering from

## The response to SAM in Ethiopia from 2003 to 2005

The principle programmatic response to SAM in the past three years has centred on the establishment and strengthening of the Therapeutic Feeding Programme (TFP). Figure 2 shows the evolution in number of in-patient Therapeutic Feeding Units<sup>3</sup> (TFUs) and out-patient Outreach Therapeutic Programmes<sup>4</sup> (OTPs), and their treatment capacity from January 2003 up to October 2005.

January 2003 corresponds to the increased levels of malnutrition, as a result of the 2002 drought that affected almost half of the country. At this time, the Disaster Prevention and Preparedness Commission (DPPC) estimated that 13.2 million people were in need of emergency food distribution. Despite the history of famine in Ethiopia, there was then almost no local capacity to respond to this acute crisis.

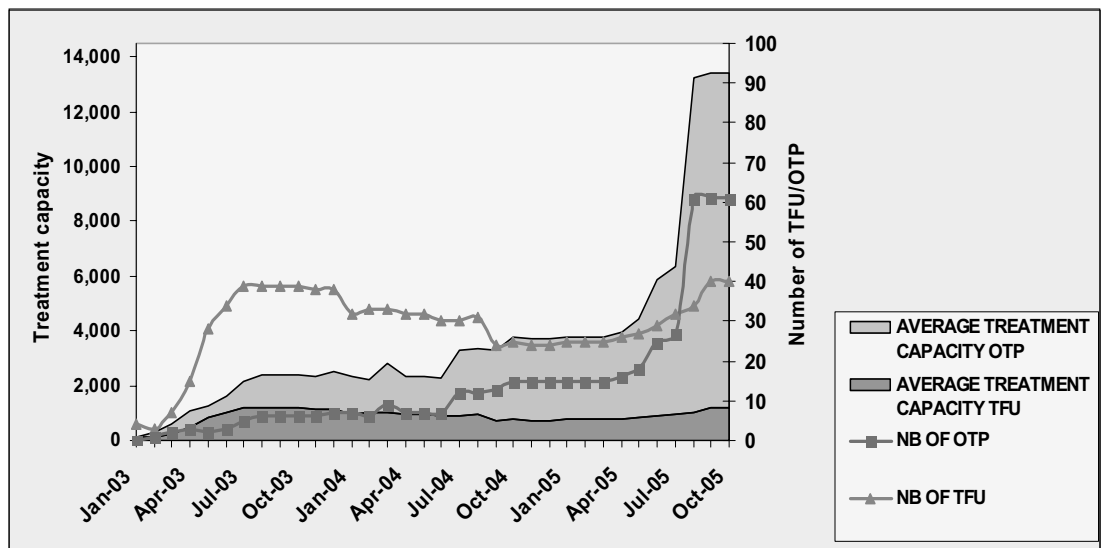


Figure 2: Evolution of the number of TFPs and treatment capacity in Ethiopia, 2003-5

In response, INGOs with UNICEF support started to implement emergency TFPs, mainly TFUs and some few community based OTPs. The response was late and the NGO capacity to scale-up too low compared to the extreme needs. Maximum treatment capacity was reached only in August 2003 when malnutrition levels started to decrease. The majority of the TFPs were concentrated in two zones of one region corresponding to a population at need of 4.6 million people (35% of total population in need). Since very few TFPs were integrated into health facilities, there was a massive depletion of staff from health care facilities to the TFPs, only few of whom returned later. Also, as INGOs gradually phased-out their emergency interventions from July to December 2003, they left little local capacity to deal with future nutrition emergencies or ongoing nutrition challenges.

Lessons learnt from this experience, were to improve geographical coverage of TFPs and to develop national capacity to respond to SAM. The Federal Ministry of Health (FMOH) requested UNICEF support to integrate of SAM treatment into the health care system. Thus, all TFUs established in August 2003 were integrated and NGOs started to implement OTPs in various regions as a complementary service to facility-based activities. Significantly, after a long stagnation in TFPs, the number of units and their capacity doubled between June and October 2005, largely due to a dramatic increase in OTPs.

## Strategies adopted for a national integrated nutrition approach

Following the 2002-3 nutritional crises in Ethiopia and recognizing the weaknesses of the emergency preparedness and response, FMOH with UNICEF’s support developed alternative strategies to reduce the mortality associated with SAM.

1. Severe wasting and/or presence of oedema (kwashiorkor)  
 2. Source: FMOH/ UNICEF database on therapeutic feeding programme  
 3. TFUs are set-up in existing FMOH facilities (hospitals and health centres) to offer in-patient care to SAM cases, and, if OTPs are non-existent in the area, to offer out-patient phased treatment to less severe cases (Phase 1, Transition Phase and Phase 2, for about 2 to 3 weeks).  
 4. OTPs are run from a health facility (health centre or clinic) to offer out-patient care to malnourished cases who have appetite and who do not have any serious medical complications. At admission, they receive a medical check to determine if TFU is warranted, upon which they -



Three core strategies were identified:

1. Scaling-up the treatment capacity of SAM across the country. Even in non-emergency situations, the number of children suffering from SAM is unacceptably high. The threat of HIV/AIDS on local society and its impact on nutrition was also considered to be important
2. Building the national institutional capacity to respond to an eventual new nutritional crisis, so as not be dependant only on INGOs support
3. Advocating for mal-nutrition prevention and investment by national authorities in the development of longer-term nutrition strategies

### **Favourable environment enhancing nutrition in Ethiopia between 2003 and 2005**

The severity of the 2002-3 crises and the below-satisfactory level of response to SAM led the international community and the Ethiopian Government to re-think the overall problem of malnutrition. Numerous reviews of the determinants of malnutrition and the emergency response have made the Government recognize that malnutrition is not only a food problem but a public health problem needing its full attention. This unprecedented positive development within Government resulted in the following significant actions:

- The adoption of the Millennium Development Goals (MDGs) and especially the endorsement of the National Child Survival Strategy (2004) placing nutrition in the foreground
- In 2003-2004, FMOH developed national Guidelines for the Prevention and Control of Micronutrient Deficiencies, Infant and Young Child Feeding Guidelines and a National Protocol for the Management of SAM
- In 2004, FMOH and DPPC introduced with UNICEF and WFP support the Enhanced Outreach Strategy/Targeted Supplementary Feeding (EOS/TSF) for Child Survival which targets children, pregnant and lactating women<sup>5</sup> and addresses the immediate causes of malnutrition. The most remarkable result of the EOS/TSF for nutrition was the unexpected identification of hundreds of thousand children suffering of SAM at the community level leading to an increased demand for therapeutic feeding support from communities. It was then impossible to deny the problem of SAM in Ethiopia.
- In 2005, FMOH introduced the management of SAM into the Essential Health Services package
- In 2005, the Government of Ethiopia developed the National Nutrition Strategy

### **Strategies employed to scale-up therapeutic feeding capacity**

Alongside the positive national environment to address malnutrition in its entirety, are the FMOH/UNICEF strategies to scale-up therapeutic feeding capacity:

- Advocacy and adoption of a national protocol for the management of SAM (June 2003). International experts were brought three times (January, March and June 2003) to Ethiopia to advocate for and develop a national protocol for the management of SAM, taking into consideration the latest scientific knowledge. At this stage, the commitment of the paediatric community was crucial
- Support to the integration of the management of SAM into health facilities<sup>6</sup> through:
  - Combining inpatient and outpatient management to improve programme coverage and minimize the health staff workload
  - Capacity building of health professionals by organizing training at field and regional levels. UNICEF supported the training of over 2,000 health professionals in the past three years
  - Collaboration with medical universities to introduce the protocol into curricula
  - Procurement of therapeutic products, essential drugs and basic equipment for the TFPs
  - Recruitment by UNICEF of regional nutritionists for direct technical assistance (training, supervision and advocacy)
- Linkages with other initiatives such as training health professionals on the Essential Nutrition Actions (ENA), linking TFPs with EOS for Child Survival, introducing the Protocol into institutions dealing with HIV/AIDS and tuberculosis patients (adolescents and adults).
- Strengthening of the Emergency Nutrition Co-ordination Unit for improved programme co-ordination and surveillance

### **Achievements of TFP in Ethiopia**

Monthly statistics from the TFP are collected by the FMOH and UNICEF, entered into a standardized format given in the Protocol, and centralized into a national database. Table 2 summarizes information from the database, demonstrating that the overall performances of the TFPs in Ethiopia are very satisfactory and within the SPHERE standards with an average mortality rate of 4% and a defaulter rate of 5.6% (SPHERE Project 2004).

either are referred to a TFP or continue at OTP. This involves systematic treatment and RUTF, with weekly or fortnightly follow-up. Carers are encouraged to return to OTP if the child's condition deteriorates. Community volunteers are encouraged to make support visits to the homes of at risk children.

5. The EOS/TSF provides a child survival package twice a year of vitamin A supplementation, de-worming, measles vaccination and nutritional screening of 6.7 million children and 1.6 million women with referral to supplementary feeding and/ or TFP if needed.

6. A typical integrated TFP involves 1-2 health staff treating 10 to 30 in-patients and up to 100 out-patients with weekly or fortnightly Ready to Use Therapeutic Food (RUTF) distribution. No incentive or per diem are given to the health professionals as

SAM management is integrated into the Essential Package of Health services.



## Challenges for the sustainability and further expansion of the therapeutic feeding programme

The experience drawn since 2003 has revealed the following weaknesses and therefore, challenges, in the management of SAM:

- The treatment cost of SAM is very high mainly due to the cost of therapeutic products<sup>7</sup>. Considering the present level of funding attributed to the health sector in Ethiopia (\$5.6 per person per year), FMOH is simply not in a position to integrate the cost of therapeutic products into its regular system. Unless there is a significant increase in the health budget and/or decrease in the treatment cost, TFPs are to remain highly dependent on financial support from INGOs, UNICEF and donors.
- Therapeutic products are not yet part of the essential drugs list and therefore not part of the national health logistic and supply system. Again, the delivery of those products is highly dependant on INGOs and UNICEF logistical support.
- SAM is also affecting adolescent and adults, especially in the context of HIV/AIDS. Health workers have the tendency to admit only children under five years of age when the national Protocol includes adults as well. Active SAM case finding should screen all age groups, at least at health facility level.

## The ways forward

The main challenge now is to sustain and strengthen the therapeutic feeding capacity while at the same time building the overall national capacity to address nutrition in all its aspects. The ways forward should be:

- Increase nutrition and disease prevention activities, address underlying and basic causes of malnutrition to significantly reduce the SAM case load
- Continue to scale-up integrated therapeutic feeding capacity to meet the important immediate and on-going nutrition needs of at risk Ethiopian children
- Advocate for an increased allocation of funds to the health sector for nutrition interventions
- Support the local production of therapeutic products to significantly reduce the treatment cost
- Continue the effort to develop national capacity through integrating the national Protocol into nursing school's curriculum and developing national nutrition training
- Strengthen community involvement and participation as well as partnerships with INGOs for their technical expertise and presence in the field. INGO–Donor exit strategy addressing sustainability issues should always be prepared at the outset of the intervention
- Increase the emergency response and surveillance capacities. Having TFUs throughout the country and monitoring their admission trends could be a useful tool to detect any increase in malnutrition cases and to react in a timely manner
- Develop a strong monitoring and evaluation component to ensure high quality services

## Conclusion

The experience of the crisis showed the urgent need for a two pronged strategic approach. The urgency of the absolute large numbers of children being affected indicated the need for a strong broad-based but integrated TFP that could immediately address suffering and save lives. On the other hand the reoccurrence of the wide crisis indicated the serious deficiencies in the overall national capacity to prevent malnutrition promote good nutrition and manage in a planned, effective manner responses to on-going nutrition needs and future nutrition crises. UNICEF's position is that the time is right in terms of national and community readiness to further invest significantly in building national capacity to address nutrition in Ethiopia.

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	<b>TFP</b>	<b>SPHERE standards</b>
% report completed	58%	-
Number admissions	38,840	-
Cured	26,906 (78.6%)	> 75%
Died	1,375 (4%)	< 10%
Defaulters	1,915 (5.6%)	< 15%
Medical transfer	935 (2.7%)	-
Transfer OTP/TFU	1,910 (5.6%)	-
Non respondent	490 (1.4%)	-

Table 2: TFP activity, January 2003 - October 2005  
Source: FMOH/ UNICEF database

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7. Therapeutic products (RUTF, F75, F100 and ReSoMal) are presently imported and the costs of curing one SAM child are USD40-100 (including 15% sea freight cost) depending on the child's condition.

# Programme News

WHO, UNICEF, IUNS Malnutrition Task Force, Valid International,  
FANTA

INTERAGENCY

## Regional training on Integrated Management of Severe Malnutrition

About 1-2% of all children under-five in developing countries (20 million worldwide) are suffering from severe malnutrition. They have 10-20 times higher risk of dying, directly from the consequences of severe malnutrition, or indirectly as it dramatically increasing the case fatality of common childhood illnesses such as diarrhea and pneumonia. Yet, the problem remains largely absent from the international health agenda and in national policies.

In the past, treatment was restricted to *facility-based approaches* which reduced case fatality rates to <10%. However facility-based approaches were greatly limited in terms of coverage and impact. The resource intensive nature of inpatient treatment, requiring large numbers of skilled and motivated staff, means that in the majority of countries where severe acute malnutrition is common, the numbers of cases requiring treatment exceed the inpatient capacity available to treat them.

In *community-based management of severe malnutrition* large numbers of children can be treated in the community and do not need to be admitted to a health facility or therapeutic feeding centre. This promotes early presentation of cases of severe malnutrition before the onset of life-threatening complications and has led to dramatic increases in coverage and recovery rates.

Community- and facility-based management are complementary components of an integrated approach to treating children with severe acute malnutrition, but in recent years there has been an unfortunate tendency for the two components to be seen as competitors. The aim is to reduce deaths from severe acute malnutrition by active-case finding and intervening early before a child's condition deteriorates, community mobilisation to improve access and understanding and achieve high coverage, treating uncomplicated cases in the community, and improving facility-based management.

The WHO, UNICEF, and SCN informal consultation on community-based management of severe malnutrition in children (Food Nutr Bull 2006 Sep 27(3S)) recommends that *"It is desirable for programs for the management of severe malnutrition usually to have a community based and a facility based component, so that severely malnourished children with no complications can be treated in the community, while those with complications can be referred to an inpatient treatment facility with trained staff."*

Against this background, WHO and UNICEF, with the additional technical support of the IUNS Malnutrition Task Force, Valid International and Concern, organized a joint regional training on the **Integrated Management of Severe Malnutrition** at Muhimbili University College of Health Sciences, Dar es Salam, 20-30 September. Participants were 48 government representatives (nutrition officers, Ministries of Health staff and health practitioners with responsibility for management of severe malnutrition) from 8 countries in the East Africa sub-region (Kenya, Tanzania, Uganda, Botswana, Lesotho, Namibia, Ethiopia and Eritrea), and WHO/UNICEF global and regional advisors. The first day began by outlining the key components of community-based and facility-based care, and their integration. Participants then focused either on community-based management or facility-based management, with a last day of joint training, when the two groups formed eight country teams to plan post-training actions together. These centred around how to move forward in an integrated manner; who to involve; issues to be discussed; support needs; and timeframe. Materials used included the WHO training course comprehensive package on management of severe malnutrition (2002), focusing on health facility based treatment; an additional appendices integrating the community based approach and other new materials (new ORS, new WHO Growth Standards), presentations and documents from Valid International, Concern and UNICEF on community based management of severe malnutrition.

The training brought together the experience of UNICEF, WHO, Valid International and FANTA for the first time to carry out training on the two approaches and thus begin the process of harmonizing the implementation of the two approaches on a global and regional level. It is the first step towards a truly integrated strategy of training and support for the management of severe acute malnutrition both in the emergency and development contexts.

### Outcomes:

- Training and orientation of key governments, UNICEF and WHO representatives in the East and Southern African Region in inpatient facility-based and outpatient community-based approaches to the management of severe malnutrition. This includes training of trainers in facility-based management and the orientation of key policy level people and managers for the future development of the newer community-based approach.
- Development of country level plans for future integrated training and support for the management of severe acute malnutrition.
- Interagency exchange and plans on how to develop or improve international guidelines and training course materials based on existing materials (WHO, Valid international).

### Way forward:

- Provide technical and financial support to countries from the Southern and Eastern African region to organize regular training and monitoring on inpatient and outpatient management of severe malnutrition and to integrate them into IMCI programmes.
- Provide technical support to countries to develop policies on integrated management of severe malnutrition and improve advocacy
- Harmonize international guidelines and develop training course materials on outpatient management of severe malnutrition targeting implementers from Ministry of Health at all levels and their partners (WHO, UNICEF, WFP, NGOs)
- Revise the current WHO training course materials on inpatient management of severe malnutrition integrating a module with the outpatient approach and a module on care for severely malnourished children HIV positive
- Organize and conduct training on inpatient and outpatient management of severe malnutrition in other regions with countries where the prevalence of under five children suffering from severe malnutrition is a high concern.

## WHO

### WHO nutrition initiatives in the WHO European Region

Noncommunicable diseases account for the vast majority of the burden of disease in the WHO European Region. Diet and nutrition are among the top risk factors and this makes obesity one of the greatest public health challenges of the 21<sup>st</sup> century. Its prevalence has tripled in many countries in the Region since the 1980s, and the numbers of those affected continue to rise at an alarming rate, particularly among children.

In response to the obesity epidemic in Europe and to facilitate Region-wide action, WHO European Region organized a *European Ministerial Conference on Counteracting Obesity* in Istanbul 15–17 November 2006, hosted by the Turkish Government. The Conference placed obesity high on public health and political agendas, and fostered high-level political commitment including international and intersectoral partnerships. One Conference result is the *European Charter on Counteracting Obesity*, which will serve as political guidance for strengthening action on obesity in the Region. See [www.euro.who.int/obesity/conference2006](http://www.euro.who.int/obesity/conference2006)

Of the working papers under discussion at the Conference, two focus on future steps: a proposed outline of a second European nutrition action plan and a framework for promoting physical activity for health. Background documents include an analysis of recent policy developments in nutrition, physical activity and obesity prevention; a comparative analysis of nutrition policies; and a paper on the evidence for promoting physical activity.

The comparative analysis of nutrition policies is based on a policy survey conducted by the Regional Office's programme on nutrition and food security (NFS) in Member States from 2003 to 2005. The most recent evaluation revealed that food and nutrition policies have been developed successfully since the First Action Plan for Food and Nutrition Policy, which assisted many Member States in developing national action plans. The main findings of the survey, including links to national policy documents can be accessed at the nutrition policy database for the WHO European Region.

A second food and nutrition action plan is being developed jointly by NFS and the Regional Office's food safety programme, to assist Member States with the challenge of implementation. It will include a series of policy tools that aim to influence food supply and demand and ensure food safety. The finalization of the second action plan will continue throughout 2007.

One of the policy tools that will be offered to the Member States is a childhood obesity surveillance system. This simple, standardized and sustainable system aims to measure obesity trends in primary-school children not only to seek a correct understanding of the progress of the epidemic but also to allow intercountry comparisons. During the first half of 2007, an inventory of school surveys and other existing surveillance programmes in school-age children will be performed in the 15 countries that have shown interest in participating in this initiative.

*Further information is available on the WHO Regional Office web site: [www.euro.who.int/nutrition](http://www.euro.who.int/nutrition)*

## WHO

### Marketing of food and non-alcoholic beverages to children: a WHO forum and technical meeting

A Forum and Technical Meeting on the marketing of food and non-alcoholic beverages to children was jointly organized by WHO headquarters, the WHO Regional Office for Europe and supported by the Norwegian Directorate for Health and Social Affairs in Oslo, 2-5 May this year. It was convened as part of the implementation of the WHO Global Strategy on Diet, Physical Activity and Health, and also served as a preparation for the WHO European Ministerial Conference on Counteracting Obesity in Istanbul.

For two days representatives of health and consumer groups, food and advertising industry trade associations, ministries of health, UN agencies, European Commission and academics reviewed the current state of knowledge regarding the influence of food and non-alcoholic beverage marketing on children's dietary choices and the implications such influences may have. They also reviewed and discussed some national experiences which illustrated different approaches to regulate marketing and they discussed different activities and viewpoints held by food and advertising industry associations and health and consumer NGOs.

During the two days following the Forum, a Technical Meeting was convened with the overall objective of reviewing and discussing the current state of knowledge on: the influences of marketing on dietary choices; management and limitation of the negative influences of marketing and advertising of foods and non-alcoholic beverages on children's dietary choices; and possible roles for different stakeholders. Participants included academics and representatives of ministries of health, UN agencies and the European Commission. There was agreement among the participants that the exposure to the commercial promotion of energy-dense, micronutrient-poor foods and beverages can adversely affect children's nutritional status and a number of recommendations were made for national and international action. The conclusions and recommendations outlined in the report reflect the work of the participants and have not been endorsed by WHO.

*Report from the Forum and Technical Meeting is available from: [www.who.int/dietphysicalactivity/publications/releases/en/index.html](http://www.who.int/dietphysicalactivity/publications/releases/en/index.html)*

*For more information, please contact Dr. Timothy Armstrong, WHO Department of Chronic Diseases and Health Promotion, [armstrongt@who.int](mailto:armstrongt@who.int)*

## FAO

### Simple Tools For Assessing Household Food Security And Dietary Diversity

The Nutrition Division, under the EC/FAO Programme for Food Security Information to Action, Phase II, has undertaken activities to introduce simple tools for assessing household food security and dietary diversity. There are few indicators of food security at household level and the dimensions of household access to food and diet quality are insufficiently taken into consideration in information systems. To compensate for this lack, systems often rely on anthropometric indicators (malnutrition in preschool children) which are late-stage and non specific outcomes of food deficits. The Household Food Insecurity Access Scale (HFIAS)



and a Dietary Diversity Score (DDS) at household and individual level are currently being adapted by nutritionists with technical assistance by the FAO Nutrition Division for use in Kenya, Malawi, Mozambique, and Somalia. These tools provide information about household food access and diversity of the diet. The HFIAS and DDS aim at identifying problems at a much earlier stage in order to plan appropriate interventions. Because they are sensitive to change in the food situation, these tools can be used in early warning systems, as monitoring indicators for food security and nutrition information systems and for evaluation of strategies and programmes such as nutrition education or crop and livelihood diversification. These tools are not intended to be used alone but are complementary to other food security indicators that measure food availability, access, utilization and vulnerability.

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## FAO/MRC Workshop on the Right to Food in Community Nutrition for Authors of a Community Nutrition Textbook for South Africa

FAO

The Food and Agriculture Organization of the United Nations (FAO) and the Medical Research Council (MRC) of South Africa held a joint Workshop on the Right to Food in Community Nutrition for authors of a Community Nutrition Textbook. The workshop was attended by 24 authors from South Africa and took place in Cape Town from 11 to 13 October 2006. The purpose of the joint FAO-MRC Workshop was to familiarize participants with the concepts of human rights, in particular the right to food, and to assist them to develop their ideas on how they will integrate the human rights dimension into their respective chapters.

Currently South African universities train dieticians and nutritionists who have community nutrition as one of their major subjects in the 2nd, 3rd and 4th years. Community nutrition as a subject also involves a practical component whereby these professionals have to work in the community in the primary health care arena with other health professionals. To date, community nutrition taught at South African universities is based on textbooks of American or European origin. There is no textbook currently available that provides for the unique nutrition problems in South Africa. Furthermore, medical doctors and nurses who cover basic nutrition in their training programme do so without access to a textbook that reflects nutrition in primary health care in South Africa. In this regard, agricultural scientists and educators are also deprived of an appropriate basic handbook, which shows how agriculture, food production and distribution can contribute to healthy dietary patterns at grassroots level, and how these can be linked to national food and nutrition policies and strategies on public information and education.

In November 2004, the Member Nations of the Food and Agriculture Organization of the United Nations (FAO) adopted the "Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security". FAO promotes awareness and provides information and training on human rights-based approach to food and nutrition and the implementation of the Voluntary Guidelines (VG).

The South African Constitution recognizes the right of access to food and water as a human right that all organs of the State must respect, protect, promote and fulfil. Yet, professionals in the nutrition sector have not yet received adequate training and guidance on the theoretical and practical implications on the right to food and nutrition, and the potential benefits of adopting a rights-based approach to food security and nutrition.

FAO and MRC have joined hands in the preparation of a textbook on community nutrition, which adopts a rights-based approach to food security and nutrition topics. Because the textbook will reflect conditions and circumstances in South Africa, which in many ways approximate those in southern Africa in general, it is anticipated that the book may also be appropriate for other countries in the African region.

The textbook will be prepared by and for South African nutritionists, public health professionals, agricultural and food scientists, who came together for a workshop in Cape Town from 11 to 13 October 2006. The workshop was technically supported by FAO's Right to Food Unit and the Nutrition and Consumer Protection Division.

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RENEWAL

IFPRI

Facilitated by the International Food Policy Research Institute (IFPRI), RENEWAL is a growing regional "network-of-networks" in sub-Saharan Africa. Currently active in five 'hub' countries (Malawi, Uganda, Zambia, South Africa and Kenya), RENEWAL comprises national networks of food and nutrition-relevant organizations (public, private and non-governmental) together with partners in AIDS and public health. RENEWAL aims to enhance understanding of the worsening interactions between HIV/AIDS and food and nutrition security, and facilitate a comprehensive response to these interactions. Core objectives are:

- To reduce critical gaps in understanding how livelihoods, particularly those deriving from agriculture, a) contribute to the further spread of HIV (susceptibility), and b) are affected by HIV and AIDS (vulnerability);
- To generate new policy-relevant knowledge on how households and communities may strengthen both their resistance to HIV transmission and their resilience to the impacts of AIDS, and
- To enable relevant institutions (in particular, governments) to generate and to act upon realistic priorities for responding to the interactions of AIDS epidemics with food and nutrition insecurity.

RENEWAL is both a network and a process, with the process of network development being viewed as both a means and an end. The aim is to enhance and sustain impact through pro-actively establishing links between locally-prioritized research, capacity strengthening and policy communications.

RENEWAL is fortunate to be supported at present by the Swedish International Development Cooperation Agency (SIDA), the Rockefeller Foundation, the International Development Research Centre (IDRC) and USAID Food for Peace.

[www.ifpri.org/renewal](http://www.ifpri.org/renewal)

## FAO

### Committee on World Food Security: Special Event on the Implementation of the Human Right to Food

Adequate food is a human right– the right of every individual in every country. The majority of states have formally recognized this. But there is a difference between a state’s formal recognition of food as a human right and its putting this recognition fully into practice. If a state is genuinely to treat adequate food as a human right, if it is determined to make that right a reality for everyone, what must it do?

As a practical guide for national Governments in implementing the right to food, the *Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security* were successfully adopted in 2004. To ensure sustainability of these efforts, a Right to Food Unit has been established in the Food and Agriculture Organization of the United Nations in Rome.

The Right to Food Unit hosted a Special Event on *The Implementation of the Human Right to Food* during the **32<sup>nd</sup> session of the Committee on World Food Security** from 30 October - 4 November 2006. The day’s highlights were two panel discussions, the formation of a global network and a Right to Food information fair.

The first panel discussion addressed the issue of “The human right to food and the question of political commitment”. The second panel focused on “*Making the Right to Food happen at the country and community level*”. Panelists included government representatives and members of civil society who reported on successes in efforts to advance the Right to Food.

Another important outcome was the formation of a global network on the Right to Food as a forum to share experiences and generate knowledge on the right to food. The network will also provide material and ideas for local initiatives to improve advocacy campaigns. Membership to the network will not be restricted.

At the information fair, over 60 governments, UN agencies and NGOs with practical experience in human rights in general, and the Right to Food in particular, showcased their work at five thematic stands, reflecting different areas of implementation:

- Strong Voices: Advocacy and Training
- Right Targets: Information and Assessment
- Accessible Justice: Legislation and Accountability
- Effective Action: Strategy and Coordination
- Durable Impact: Benchmarks and Monitoring

The Event served as a global platform to discuss practical steps to advance the Right to Food at the national level and provided information about how the Voluntary Guidelines can be used.

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## Bioversity

### IPGRI has a new name

IPGRI, the International Plant Genetic Resources Institute, has a new name: **Bioversity International**, or **Bioversity** for short. We did not change our name simply for the sake of change. Our organization has evolved over the years and the old name, respected as it was, simply no longer adequately reflects the work we do. We are new entrants into the global food and nutrition community, we however believe that mobilizing local biodiversity in the fight against hunger, malnutrition and disease should be a frontline strategy among other strategies, it is at the heart of our nutrition initiative. We have set out a strategic goal – that of deploying agricultural biodiversity to improve nutrition, health and livelihoods in rural and resource poor communities worldwide.

We are a research organization dedicated to conserving and using biodiversity, but the scope of our work extends far beyond plant genetic resources. We work with our research collaborators to promote the use and conservation of all types of biodiversity, including animal, aquatic and even microbial genetic resources. Our research is about much more than genetic resources and genetics. It’s about people. People are at the centre of everything we do. IPGRI’s nascent programme on dietary diversification focuses on revitalizing indigenous and traditional food systems, expanding the food base for improved household food security and fostering increased utilization of biodiversity for food, nutrition and improved livelihoods.

We measure our success by the tangible benefits our research brings to the people of the world, especially those living in poverty and hunger in developing countries. We are committed to working with an international network of partners to develop a strong evidence base linking biodiversity, improved nutrition and health. We also work to produce results that help conserve and protect threatened ecosystems, harness biodiversity to secure dignified and sustainable livelihoods for the poor.

We chose our new name – Bioversity International – to better reflect the scope and nature of our work.

*[www.bioversityinternational.org](http://www.bioversityinternational.org)*

## AED

### AED PROFILES

Obesity is fast becoming a worldwide pandemic. In response, AED is developing computer-based models to estimate the long-term impacts of overweight and obesity in terms of health care costs, mortality and economic productivity. These models will become part of the PROFILES process, used in more than 35 countries around the world as a basis for policy dialogue on malnutrition. Designed to be used at the country level, the new models will allow users to estimate the far-reaching economic and public health consequences of overweight and obesity and the potential benefits that could be realized if effective programs to combat these problems are put in place. These estimates are intended to be used as the basis for policy dialogue and will extend PROFILES range to include over- as well as undernutrition.

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**Brazil passes Food and Nutritional Security Law**

**Brazil**

On September 15, 2006, Brazilian President Luiz Inácio Lula da Silva sanctioned the **National Food and Nutritional Security Framework Law**, which had earlier been approved by the National Congress. The Law institutes an Inter-Ministerial Food and Nutritional Security System, to be headed by a newly created Inter-Ministerial Food and Nutrition Security Chamber in charge of promoting the realization of the Human Right to Adequate Food for all inhabitants of the Brazilian territory. This will be done through the implementation of a National Food and Nutritional Security Policy and Plan, involving all three levels of government (National, Federal and Municipal).

The Law is strongly based on the provisions of the International Covenant on Economic, Social and Cultural rights and on the Voluntary Guidelines for the Promotion of the Realization of the Right to Adequate Food in the context of National Food Security, approved in 2004 by the 151 FAO country members. It reaffirms the obligations of the State to respect, protect, promote and provide the Human Right to Adequate Food, and adds the obligations to inform, to monitor, to fiscalize and evaluate the realization of the right as well as to institute recourse instruments.

The Law was elaborated by the National Food and Nutritional Security Council (CONSEA), and involved an intense exchange among governmental and non governmental representatives, it was sent to Congress by the Presidency, and was approved in record time, in less than a year. Through the Law, CONSEA is transformed into a permanent advisory body of the Presidency, and is charged with the task of elaborating the National Food and Nutrition Security policy and budget proposals.

Details of the Law (in Portuguese) can be found on the CONSEA website

[www.planalto.gov.br/consea/static/documentos/Tema/Losan/losanfinal.pdf](http://www.planalto.gov.br/consea/static/documentos/Tema/Losan/losanfinal.pdf)

**Infant and Young Child Feeding Project (IYCF)**

**PATH / USAID**

USAID is recognized as an innovator in establishing that adequate nutrition is critical to child survival and development, with the period from birth to two years of age being particularly important because of the rapid growth and brain development that begins during this time. Within the period of 6-24 months of age, a sharp increase in malnutrition occurs, the time when poor feeding practices, including the transition from exclusive breastfeeding to a mixed diet, including complementary foods, take their toll.

IYCF, USAID’s flagship project on infant and young child feeding, consolidates and expands 20 years of experience gained from past USAID programs aimed at increasing appropriate feeding practices, including those focused on emergency feeding, micro-nutrient programming and breastfeeding promotion. IYCF focuses on delivering measurable results at scale in both child growth and HIV-free child survival. These results can only be achieved when infant and young child feeding is viewed as part of a **continuum of nutrition and health practices critical for improved growth and survival** that begins during pregnancy and continues through at least the first two years of life. As such, the project provides technical information, assistance, and training in:

- Exclusive breastfeeding
- Appropriate complementary feeding practices
- Maternal nutrition.

The key elements of IYCF’s approach are:

**Program at scale using the existing evidence base.** IYCF has the experience and resources to apply state-of-the-art approaches and tools to work with country partners to design IYCF strategies and specific activities to work at scale FROM THE OUTSET.

**Develop strong and innovative partnerships.** IYCF is committed to increasing both the number of committed organizations and partnerships and the financial resources for infant and young child feeding as well as strategic coordination among them.

**Center program strategies on improved practices.** IYCF’s focus on behaviours, not only knowledge and awareness, ensures that programs produce child growth and survival results.

**Meet the new challenges of global health and nutrition programming in the context of HIV/AIDS and in fragile states.**

The HIV epidemic has drawn increased attention to the importance of improving infant and young child feeding practices in ensuring HIV-free survival of infants and children. IYCF is deeply involved in global and country-specific initiatives to demonstrate and apply effective approaches in areas where current international guidance and programming fall short: how to promote and support exclusive breastfeeding in the context of HIV; how to incorporate AFASS (whether alternatives to breastfeeding are acceptable, feasible, affordable, sustainable and safe) assessments in decision-making on when to stop breastfeeding; how to maintain the health of non-breastfed infants; and how to ensure nutritional support to individuals receiving antiretroviral therapy (ART)

**Integrate infant and young child feeding into existing health and development efforts.** IYCF emphasizes integration of key nutrition actions into child health care – the basis of USAID’s Essential Nutrition Actions (ENA) approach - as well as engaging maternal health and safe motherhood programs to give adequate priority to infant and young child feeding interventions.

**Prioritize monitoring and evaluation from the outset.** IYCF’s performance monitoring plan ensures that clear behaviour change results and improved feeding outcomes as well as more distal indicators of impact are measured, reported and fed back to project implementers and collaborators.

IYCF is managed by PATH; its partners are CARE, The Manoff Group, and University Research Corporation (URC); its collaborators include the Global Alliance for Improved Nutrition (GAIN), Elizabeth Glaser Pediatric AIDS Foundation, Macro International, local non-governmental organizations such as the Emergency Nutrition Network, faith-based organizations such as the Christian Children’s Fund, and a number of universities, professional organizations, and south-to-south partnerships.

## PATH

### New funding to further PATH's rice fortification method

#### Bill & Melinda Gates Foundation grant will support introduction of the Ultra Rice® technology in developing countries

What if there were a way to increase nutrients in rice, the staple food of more than half of the world's population? How many children could be saved from iron deficiency? How many birth defects could be prevented? PATH's Ultra Rice technology, a "grain" reconstituted from nutrient-enriched rice flour, can be mixed with natural rice to help fight micronutrient deficiencies in vulnerable communities. It is already in use or under consideration in a handful of rice-consuming countries. Now PATH has received a \$US6 million grant from the Bill & Melinda Gates Foundation to facilitate broader access to, and greater use of, fortified rice.

#### Benefits of fortification

Micronutrient deficiencies threaten the health of about two billion people worldwide, most in the developing world. Fortifying staple foods is a cost-effective and sustainable way to reduce micronutrient malnutrition on a large scale. The Ultra Rice technology brings the benefits of fortification to rice.

Ultra Rice grains resemble natural milled rice grains in size, shape, and color, but they are made from rice flour, selected micronutrients, and other natural ingredients that are combined and extruded through a rice-shaped mold. When the Ultra Rice grains are blended with natural rice, the result is nearly identical to unfortified rice in smell, taste, and texture, allowing people to maintain their traditional cooking or eating habits.

Micronutrients are protected within the manufactured grain, preserved from degradation during storage and prevented from being rinsed away during preparation. In addition, Ultra Rice can be adapted to contain just the nutrients a population needs—and to mimic the look of the local rice.

#### Working with rice millers in developing countries

Since 1994, PATH has developed two separate mixes of Ultra Rice—one carrying vitamin A and the other carrying iron, zinc, thiamin, and folic acid. PATH transferred the technology to local rice mills in Colombia and Brazil, resulting in Ultra Rice reaching thousands of children every day. PATH has also worked with the governments of India and China to assess the feasibility of introducing the Ultra Rice technology in those countries.

The new funding from the Bill & Melinda Gates Foundation will further PATH's efforts to introduce the Ultra Rice technology in developing countries. In addition to increasing the demand for and supply of Ultra Rice in Colombia, Brazil, India, and China, the project will transfer the Ultra Rice technology to other interested parties and will contribute to global efforts to reduce micronutrient malnutrition.

*Ultra Rice is a registered trademark in the United States of Bon Dente International, Inc.*

[www.path.org](http://www.path.org)

## WFP

### Ms Josette Sheeran, new Executive Director of the World Food Programme

On 7 November 2006, United Nations Secretary-General Kofi Annan and Food and Agriculture Organization (FAO) Director-General Jacques Diouf announced their appointment of Josette Sheeran (United States) as Executive Director of the World Food Programme (WFP), in succession to James Morris.

Ms. Sheeran has served as Under Secretary of State for Economic, Business and Agricultural Affairs with responsibility for economic issues including development, trade, agriculture, finance, energy, telecommunications and transportation. She has also served as Deputy United States Trade Representative in the Office of the United States Trade Representative (USTR), where she was responsible for trade negotiations and treaties in Asia and Africa and for advancing global negotiations on trade capacity-building. She has a 20-year proven track record as a management leader, including overseeing the State Department's economic diplomatic corps of 2,000. Before joining USTR, she was managing director of Starpoint Solutions, a leading Wall Street technology firm that works with Fortune 500 clients. Ms. Sheeran served as President and Chief Executive Officer of Empower America, a Washington, D.C., think tank, where she advanced the agenda of economic empowerment for inner cities and developing nations. She also has a distinguished background in media. She was managing editor of the *Washington Times* and has twice served as a Pulitzer Prize juror, including for foreign reporting. Ms. Sheeran was appointed by the Secretary-General to the High-Level United Nations Panel on System-wide Coherence in the areas of development, humanitarian assistance and the environment. She has been a member of the Council on Foreign Relations for more than a decade and has served on its Washington advisory board. She has received numerous awards, including the Press Award for Journalistic Achievement by the National Order of Women Legislators, and a national award for developing and promoting African-American journalists.

[www.wfp.org](http://www.wfp.org)

## Fortified Flour Promotion Listed as One of the Priority Tasks in the “Eleventh Five-Year Plan for Food Industry Development” in China

China

In March 2006, public nutrition initiatives were for the first time included into China’s 11th Five-Year Plan on the National People’s Congress. This shows that the Chinese government will take a leading role in promoting public nutrition through active support, coordination and administration, moving from advocating the idea to translating it into government plans and policies.

As a follow-up, the National Development and Reform Commission (NDRC), the Ministry of Science and Technology (MOST) and the Ministry of Agriculture (MOA) jointly issued the Special 11th Five-Year Plan for Food Industry Development. The Special Plan will play a strategic, foreseeing and guiding role in China’s food industry development over the next five years. It identifies eight priority sectors in food industry during the plan period - flour fortification being listed as a key area within the grain milling and processing sector.

According to the 2004 National Nutrition and Health Survey, malnutrition including micronutrient deficiency remains a significant problem throughout the country in both urban and rural areas. For China, the world’s largest producer and consumer of wheat products, flour fortification is an important intervention to tackle malnutrition, improve health and thereby ultimately contribute to the alleviation of poverty.

Currently there are 78 large and medium sized mills in 18 provinces which fortify flour. These mills have an annual total production of 1 million tons covering a market of 10 million consumers. A multi-sector, specialized work force within the area of flour fortification is gradually developing. Their responsibilities range from R&D, standard and quality control, to marketing. China’s flour fortification programme has received valuable support from international organizations like UNICEF, ADB, GAIN, Micronutrient Initiative (MI), Flour Fortification Initiative (FFI), and the US Centre of Disease Control.

In 2000, the fortification of staple food, especially flour, was chosen to launch the public nutrition initiative in China. A State Grain Administration and Ministry of Health joint pilot project of flour fortification was introduced in Heibei and Gansu, with the Center for public Nutrition and Development in China (PNDC) as the executive agency and the Chinese Center for Disease Control and Prevention responsible for biological testing. Results show improvement in micronutrient status among villagers who consumed fortified flour for three years in terms of increased blood levels of hemoglobin, iron and zinc, and reductions in anaemia rates as well as vitamin A deficiency. The project results have attracted great interest from officials, nutrition specialists and business people at home and abroad. Read more at: <http://www.pndc.gov.cn/English/index.htm> or <http://www.chinacdc.net.cn>.

Now that flour fortification is part of the Special 11th Five-Year Plan for Food Industry Development, we can work in a more favorable policy environment to promote public nutrition and flour fortification in China. We believe that, with the support of the Chinese government and the active involvement of the industry, flour fortification will see an even brighter future in China.

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## "Food Security and Poultry Production How to cope with Avian Influenza"

GTZ

“The rapidity with which the Highly Pathogenic Avian Influenza (HPAI) is spreading throughout the world is alarming. The food security especially in rural areas is threatened” said Dr. Gerd Müller, State Secretary of the German Federal Ministry of Food, Agriculture and Consumer Protection at the closing of the international conference on "Food Security and Poultry Production – How to cope with Avian Influenza" organized by GTZ in Berlin 19-20 October. The Ministry, in consultation with the Federal Foreign Office and the Federal Ministry for Economic Cooperation and Development, hosted the conference as part of the series "Policies against Hunger". About 150 international experts and policy-makers worked out recommendations for the next pledging conference on AI in Bamako, Mali in December which helped guide the formulation of sustainable strategies. The main focus was on the impact of AI and its implications on the interests of small-scale farms, aspects of food security as well as the conservation of genetic resources.

Alexander Müller, Deputy Director of FAO and chair of the conference, emphasized the important linkages between HPAI and food security. In many countries in Africa and Asia especially, chicken rearing is a matter of survival for poor small scale farmers, who usually do not own more than 10-20 birds each. He pointed to the failure of poverty reduction strategies to adequately take this into account.

The conference established the demand for locally and regionally adapted measurements to fight HPAI including the need for a critical review of the causes of HPAI and the way control measurements are implemented, especially in view of small scale poultry production. The cooperation of smallholder poultry farmers is essential for achieving successful containment of the disease. For this to happen a paradigm change is needed in the approaches to combating HPAI. To create a win-win situation for both the international and the local community, disease control needs to be integrated with safeguarding food security and livelihoods in rural areas and the conservation of poultry diversity. International cooperation and capacity building are key to this process.

Main conclusions and highlights of the conference can be obtained from [www.policies-against-hunger.de](http://www.policies-against-hunger.de)

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## GAIN

### Food fortification country projects managed by the World Bank

The Global Alliance for Improved Nutrition (GAIN) was created in May 2002 to accelerate the work of UN and bilateral aid agencies, non-governmental and civil society organizations committed to eliminating vitamin and mineral deficiency by stimulating and funding national alliances built around private sector initiatives. The World Bank serves as interim trustee, because of the Bank's reputation in development finance and its leadership in nutrition and involvement in the creation of GAIN. As trustee, the Bank partners with GAIN on a broad range of activities, and manages five of the country level food fortification projects (Bolivia, Dominican Republic, Morocco, Uzbekistan, Vietnam) on GAIN's behalf. The projects are financed by grants as well as sizable contributions from private industry, and their status is as follows:

- **Bolivia:** The GAIN grant provides \$2.6 million for fortification of flour, vegetable oil and milk, and will be executed by the Ministry of Health and Sports. Political instability delayed project preparation, but the new President declared "Zero Malnutrition" as a goal, and the project enjoys very high level support from the new Minister of Health and country partners. The National Fortification Alliance is well represented across public and private agencies and NGOs. The project agreement is expected to be signed by end-2006 and begin implementation in early 2007.
- **Dominican Republic.** The GAIN grant provides \$1.88 million for fortification of flour and sugar, and is executed by the Ministry of Health. The project agreement has been signed, and the first disbursement was made in October 2006, which will enable initiation of project activities. The sugar industry is very supportive of fortification.
- **Morocco.** The GAIN grant provides \$2.9 million for fortification of flour and vegetable oil, and is executed by UNICEF. Government agencies and partners are very supportive of fortification, which facilitates project implementation. Fortified oil is commercially available with more than 90% market share. The government passed a mandatory flour fortification law and 31 mills have been equipped and certified to fortify, but fortification has been slow due to issues surrounding premix taxes and the pricing of fortified flour products such as bread.
- **Uzbekistan.** The GAIN grant provides \$2.8 million for fortification of flour, and is jointly executed by the MOH and UNICEF. The project enjoys strong support from the government and in-country partners. UNICEF implements the communications and social marketing component and has been very active through its vast country network. The project is fortifying about 16% of consumed flour, and helping create national M&E capacity. The GAIN project also catalyzed a national nutrition sector policy dialogue and planning, which is supported by all major stakeholders. The Bank played an integral role in this process by carrying out economic analyses of nutrition interventions.
- **Vietnam.** The GAIN grant provides \$3.0 million for fortification of fish sauce, and is executed by the National Institute of Nutrition (NIN) within MOH. Initially, NIN required intensive support across a broad range of activities, but the agency is slowly becoming operationally proficient. Recent progress has been made on training, quality assurance, social marketing, and the baseline survey. The project is expected to begin fortification in early 2007.

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## TUFTS

### Tufts University - Friedman School Extends its Borders

*By Eileen T. Kennedy, DSc, Dean of the Friedman School of Nutrition Science and Policy at Tufts University*

In academia, and particularly in Boston, a twenty-five year old school is a relative "youth" among its partners in higher education. So as we celebrate our first quarter-century, the accomplishments of taking our educational mandate beyond the Boston Campus are worthy of note. The 2006-2007 academic year celebrates a significant "first". Last month, we operated the inaugural *Friedman School Symposium*, a two-and-one-half day conference with a focus on some of the key issues that will become part of the USDA's 2010 revision of the Dietary Guidelines for Americans. Highlights of the Symposium included:

- Bringing scientists, practitioners, policymakers and food industry representatives together for open dialog on key issues that affect the health of US and world citizens.
- Attracting 27 of the world's foremost researchers and policy influencers – each to give leading-edge presentations on topics as diverse as genetics, micronutrients, obesity, hydration, probiotics, communications and corporate roles in nutrition.
- Bringing our own students together with professionals in a variety of careers to exchange ideas and learn about careers in nutrition.

I was particularly delighted to find that our students were eager to participate (more than forty students applied for and received scholarships to attend the sessions) and become part of the dialog. Friedman School students also submitted posters featuring their research for display at a poster session. Eight research projects from seven of our students were displayed at the Symposium. Congratulations to our poster session participants.

By the numbers, we had just over 250 attendees at our first conference. They came from eight foreign countries including one from Taiwan and students from Mexico and Peru. Sixteen universities from across the country and world were represented and we received educational grants from twenty-five organizations, most of whom represented the food industry.

The Symposium has reinforced the Friedman School's leadership in bringing all stakeholders in nutrition together to learn about the most recent science and policy advances. Our second Symposium will be in the fall of 2007 and promises to attract an even broader audience by continuing the practice of bringing the best presenter on their individual subjects to the Friedman School Symposium.

African Journal of Food Agriculture, Nutrition and Development

a progress report

AJFAND

AJFAND was launched in 2001 under the name AJFANS (African Journal of Food and Nutritional Sciences), but later changed name in order to acknowledge the importance of agriculture and development for nutrition. The objective is to provide a platform for disseminating food and nutrition issues and information concerning Africa and its unique problems, including the production, preparation and processing of indigenous African foods. AJFAND is also a capacity building project to enhance scholarly writing and editorial capacity. The journal has so far employed more than ten young professionals.

AJFAND aims to release two issues per year, each carrying about 10 research articles as well as 1-2 student articles which shall encourage and introduce university students into the culture of scholarly publishing. Today manuscripts arrive from all over Africa, and increasingly also from USA, Asia and Europe. The first two issues were conventional print version only. In March 2002, the journal went online, and since November 2003 it has been issued entirely online. This has enabled shorter production cycles, increased visibility and recognition, more efficient quality control through electronic peer review, greater versatility in the design of the electronic files and an opportunity to build capacity in electronic publishing. Production and distribution costs have been significantly reduced, at the same time viewer activity has gradually been increasing with almost 700 hits at the website per month in 2006. Several articles published in AJFAND were included in the 2004 CD-rom "Bibliografica" – a state-of-the art compilation of publications on food and nutrition security in Africa. The online publishing efforts have attracted technical support from various organizations among them the International Network for the Availability of Scientific Publications (INASP), the Association of Learned and Professional Society Publishers (ALPSP), the International Food Policy Research Institute (IFPRI), Nutrition Third World (NTW), Monsanto Company, ILSI, Nestle Foundation, GTZ and USAID.

Current challenges include lack of human resources such as good or specialized reviewers, inadequate quality of submitted manuscripts, lack of electronic archiving capacity for electronic publications, insufficient ICT facilities, poor internet access among many readers throughout Africa, as well as lack of funding as result of insufficient subscription revenues.

The Editor-In-Chief describes her role as *"the one activity I have done in my life that is the most fulfilling and professionally challenging. For any of you who have a baby, I describe the build up to publication of an issue as that period when a woman is in labor (as I have been 4 times): The pain is excruciating, and continues to become unbearable and just before the baby comes out you could hear shouts like "never again". However, as soon as the baby comes out and cries as a sign of good health, it is beautiful as most babies are, the joy is evident and the parents already plan to make another baby."* She is now very busy with politics but continues with the journal as she maintains, *"it keeps me intellectually stimulated, professionally updated and even gives me issues to debate in Parliament. For my friends out there, many of whom I miss very much as I have not had time to attend professional meetings, for reviewers, and donors, and indeed for the readers, we depend on you all to keep AJFAND alive. It is an Africa-born baby whom we must not allow to die prematurely. I personally, together with my support group at AJFAND, express outmost appreciation for the support we have received and continue to receive from all quarters. I thank my creator that the internet found me still able to use it and thanks to Bill Gates, the genius, AJFAND is surviving because of the internet. Imagine, we do not have to worry that your name has been published wrong, because we can go back to correct it. So, all in all, it has been a challenging but success story and truly I believe the best is yet to come."*

By Professor Ruth Oniang'o, Editor-in-Chief AJFAND. She has drawn on presentation held at the Public Health Nutrition congress in Barcelona 2006 by her former PhD student Dr. Anselimo Makokha. Contact: [www.ajfand.net](http://www.ajfand.net)

IMEKO Technical Committee (TC-23) on Food and Nutritional Metrology

IMEKO

International Measurement Confederation known as IMEKO is a non-governmental federation of 36 Member Organizations individually concerned with the advancement of measurement technology. Its fundamental objectives are the promotion of international interchange of scientific and technical information in the field of measurement and instrumentation and the enhancement of international co-operation among scientists and engineers from research and industry. Founded in 1958, the Confederation has consultative status with UNESCO and UNIDO. IMEKO secretariat is based in Budapest, Hungary (for details please refer to [www.IMEKO.org](http://www.IMEKO.org)).

IMEKO has recently approved a Technical Committee (TC-23) on Food and Nutritional (F&N) Metrology. This is yet another important milestone for strengthening the reliability of F&N measurements by an international organization supported by a host of outstanding metrology experts. The TC-23 facilitates addressing food safety issues, expanding the activities in the area of inorganic chemical metrology relevant to F&N measurements.

*Food safety concerns and measurement issues:* In the world of food as a trading commodity, we are moving towards a global but borderless-trade situation. Food safety being a prime concern under this scenario, reliable F&N measurements take the centre stage in decision-making. A measurement process characterized by metrological concepts enhances the reliability of analytical results and ensures sustainability to the quality assurance (QA) needs. These steps infuse *authority* to the F&N analytical results and enhance the user confidence in the ensuing public health decisions. Importantly, QA is also firmly linked to economic benefits at the national levels.

*Objectives of TC-23:* F&N metrology is an emerging discipline that is helpful in strengthening the reliability of analytical data, and integration of metrological concepts into the measurement process is the need of the hour. This step is necessary also to ensure sustainability of the analytical QA process. These task are looked upon as a twin assignment under TC-23: **(i)** *enhancing the reliability of F&N measurements by introducing metrological concepts*, and **(ii)** *strengthening the metrological capability of the professional pool (capacity building for young investigators), since the academic system in the F&N areas generally do not provide for adequate training that includes teaching metrology.*

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# ***IAEA Nobel Peace Prize Fund Schools for Nutrition***

The 2005 Nobel Peace Prize was awarded to the IAEA and Director General ElBaradei in equal shares. IAEA's Board of Governors directed that the Agency's share be devoted to a special Fund for fellowships and training to improve cancer management and childhood nutrition across the developing world.

In nutrition, the focus of the Fund is on capacity building in the use of nuclear techniques to develop and evaluate interventions to improve nutrition and health for children. Three regional training courses will be organized during 2006.



**Latin America**  
*"Combating the double burden of malnutrition",*  
October 16–20, 2006,  
Guatemala City, Guatemala



**Asia and the Pacific**  
*"Focus on interventions to combat undernutrition during early life",*  
November 19–23, 2006,  
Dhaka, Bangladesh



**Africa**  
*"Integrating nutrition into the management of HIV/AIDS",*  
December 4–8, 2006,  
Kampala, Uganda

The IAEA Nobel Peace Prize Fund Schools for Nutrition are aimed at raising awareness of IAEA's activities in child nutrition and disseminating information about the usefulness of stable isotope techniques in the development and monitoring of nutritional interventions to combat malnutrition in infants and children. The Schools for Nutrition are open to participants from IAEA Member States.

For further information, please see [www.iaea.org/Nobelfund](http://www.iaea.org/Nobelfund)  
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**IAEA**  
*Atoms for Peace: The First Half Century*  
1957–2007





# Speakers' Corner

## The missing global strategy

George Kent, University of Hawai'i

Any child knows how to solve the hunger problem. Just give the hungry something to eat! Indeed, if we provide sandwiches for all who are hungry on the first day of 2015, we will have fulfilled the Millennium Development Goal (MDG) of ending hunger by 2015. Of course we then have to explain that that is not what we mean. We are really seeking something else, a sustainable answer to the problem of malnutrition in all its forms. This means there must be some changes to the institutional arrangements through which society is governed. However, we have not yet figured out how to do that. We have barely asked the question. We need to state the goal more carefully.

The world's understanding of the issues surrounding hunger is reflected in the major international conferences and agreements that have addressed the issue. Chronologically, these efforts have been recorded in the following documents, among others:

- The *Manifesto* of the Special Assembly on Man's Right to Freedom from Hunger, held in Rome in March 1963
- The *International Undertaking on World Food Security* and the *Universal Declaration on the Eradication of Hunger and Malnutrition*, issued by the World Food Conference held in Rome in 1974
- The *Plan of Action on World Food Security* of 1979
- The *Agenda for Consultations and Possible Action to Deal with Acute and Large-scale Food Shortages* of 1981
- The *World Food Security Compact* of 1985
- The *Plan of Action for Implementing the World Declaration on the Survival, Protection, and Development of Children*, issued by the World Summit for Children held at the United Nations in New York in September 1990, included a major section on reducing children's malnutrition
- The *World Declaration and Plan of Action on Nutrition* of the International Conference on Nutrition held in Rome in December 1992
- The *Plan of Action* that came out of the World Food Summit of 1996, and its follow-up meeting, World Food Summit; five years later
- The United Nations Standing Committee on Nutrition's *Strategic Plan* of April 2000
- The World Health Organization's *Global Strategy on Infant and Young Child Feeding* of 2003.
- The *Voluntary Guidelines: to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security*, adopted by the FAO Council in November 2004 (Food and Agriculture Organization 2005)
- The Millennium Development Project's *Halving Hunger: It Can be Done*, (Sanchez et al 2005)

The track record of these summits is not impressive. Then Secretary of State Henry Kissinger, addressing the World Food Conference in Rome on November 5, 1974, declared the bold objective that, "within a decade, no child will go hungry, no family will fear for its next day's bread, and no human being's future and capacity will be stunted by malnutrition." At the World Food Assembly held in 1984 in Rome, nongovernmental organizations reminded the world that the promise had not been kept.

In 1996, the World Food Summit adopted the goal of reducing the number of undernourished people by half, to 400 million, by 2015. The subsequent review conference, World Food Summit: *five years later*, conceded that the world was not on track to reach that target.

Referring to the World Summit for Children held in 1990, the Secretary General of the United Nations Boutros Boutros-Ghali reported in 1996:

Despite the commitments made in 1990, there has been little progress in reducing child malnutrition. In sub-Saharan Africa and South Asia, the number of malnourished children is actually rising. Almost a third of all children under five in developing countries are malnourished, and malnutrition still contributes to more than half the deaths of young children in these countries.

Ten years later, the Secretary General could give a similar report. Not much has changed, even though commitments supposedly were reaffirmed at the Millennium Development Summit of 2000. What happened? What didn't happen?

The recommendations that have come out of global summits on hunger have shared common weaknesses:

- They generally view hunger as an original state of nature, and not as something that is endlessly recreated by major social forces
- They often fail to make important distinctions among different types of food insecurity or malnutrition, and often neglect some types
- They fail to articulate a clear vision of a future world without hunger
- They focus on short-term interventions and assistance, with little coordination
- They do not appreciate the need for substantial commitments of resources and long-term strategies
- There is no arrangement for course corrections on the path to the goal
- Intergovernmental organizations are viewed mainly as facilitators, not as major actors
- The focus has been mainly on the formulation of national plans of action, not a comprehensive global plan of action. They do not give adequate attention to the role that the international community must play if hunger is to be sharply reduced

Are these stories about strategies that failed? Whether one is trying to reach a social goal or trying to build a bridge across a river, a good strategy is one for which there is a serious commitment of resources, a clear management structure, and a programme of action that could sensibly be expected to result in achievement of the goal. By this standard, there has not been any serious strategy for achieving sharp reductions in hunger and other forms of malnutrition around the world.



The World Bank has been publishing annual *Global Monitoring Reports* on the Millennium Development Project since 2004 (World Bank 2006a). While there has been some progress, the monitoring reports generally observe that, for many of the goals, progress has not been adequate to ensure the achievement of the MDGs by the target dates. A similar MDG progress report from the United Nations Department of Economic and Social Affairs acknowledges that the number of people going hungry is increasing (DESA 2006, p. 5).

One has to wonder about these assessments of the progress on hunger when the UN Millennium Project Task Force on Hunger published its final report, *Halving Hunger: It Can be Done* only in 2005 (Sanchez et al 2005). How can one assess progress during the year that the plan is released, or just a year or two after that? What is being assessed? Are they monitoring the impacts of particular programmatic actions, or are they just monitoring trends that would have been followed regardless of the Millennium Development Project?

Indeed, what is the meaning of a global progress report when there really is no systematic global program of action toward the goal? The Millennium Development Project has been misleading because *there never has been any real global program of action*. This is not the story of a failed strategy; it is about the absence of strategy. Despite the lofty rhetoric of the Millennium Development Project and all the summits and agreements on hunger that preceded it, there never has been a truly global program of action to address the problem. It has always been treated as a collection of national problems. As the World Bank observes, "The development community, and the world as a whole, has consistently failed to address malnutrition over the past decades" (World Bank 2006b, p. 128).

The World Bank says that countries have not invested enough, but at the same time it acknowledges that, "between 2000 and 2004 its investments in the short route interventions that improve nutrition fastest amounted to not more than 3.8 percent of its lending for human development—and less than 0.7 percent of total World Bank lending (World Bank 2006b, pp. 16-128)." Surely, if the global community wants individual countries to devote more of their scarce resources to addressing problems of malnutrition, the international agencies should follow the same advice.

In paragraphs 21 through 28, *General Comment 12* is explicit about the need for strategy at the national level to assure implementation of the human right to adequate food. It says:

...the Covenant clearly requires that each State party take whatever steps are necessary to ensure that everyone is free from hunger and as soon as possible can enjoy the right to adequate food. This will require the adoption of a national strategy to ensure food and nutrition security for all, based on human rights principles that define the objectives, and the formulation of policies and corresponding benchmarks. . . . (UNCESCR 1999).

*General Comment 12* speaks about the obligation for strategizing at the national level. There is no reason why that obligation should be limited to the national level. Systematic strategies need to be formulated and implemented at every level if the goal of fulfilling every person's human right to adequate food is to be achieved.

What strategies have been proposed? If someone asked you how to build a house, you would not tell them simply to collect a bunch of wood, and then do lots of hammering and sawing, and nothing more. You would not walk away without saying where the wood is to come from, or who would pay for the hammer and the saw, or how the carpenters would be paid, or what sort of hammering and sawing is needed. If the job is to get done, one needs a far more complete answer as to how it is to be done. So far none of the global "strategies" relating to malnutrition would lead one to expect that the goal would be reached.

Serious strategies for addressing malnutrition would offer more than a few scattered recommendations. They would describe stepwise plans of action designed to reach the goal. There should be clear incentives for the actors to do what needs to be done, and there should be institutional mechanisms in place to assure that all actors are held accountable for doing their jobs. Just as the construction of a building or a bridge is only possible with detailed planning and periodic course corrections during the process of working toward the goal, the human right to adequate food can only be fully realized through carefully designed and implemented programs of action.

Historically, the story is not only about the absence of global plans; it is also about the absence of real global commitment. Where are the current manifestations of the promises made at all the summit conferences? It has been claimed that the global community made a commitment for the achievement of the MDGs by 2015, but where is the program of action now? The United Nations Millennium Campaign that is now in place is really only a small advocacy organization that "supports citizens' efforts to hold their government to account for the Millennium promise (Millennium Campaign 2006)." If a town wants a bridge built across a river, it is not going to get it simply by organizing an advocacy campaign for it. This would not signify true commitment. We would believe that those in power really wanted a bridge only if they had someone prepare a detailed plan for building it and laid down the money to cover its costs.

There are no scientific mysteries about how to end hunger in the way there might be with difficult diseases. People need food, education, and decent opportunities to do productive work. The challenge is to devise ways to assure that everyone always has these things.

The human right to adequate food means that there is an obligation to reach the goal of ending hunger and assuring food security for all. These obligations fall primarily on national governments, but they are shared by all of us. There are choices that can be made with regard to means, but there is no choice with regard to the obligation to move decisively toward the goal.



Thus, concrete obligations for assuring realization of the human right to adequate food for all can be specified through the formulation of a concrete strategy for realizing that goal. Once one knows what steps are required to reach the goal, then there is an obligation to take those steps. If there are several different ways to reach the goal, choices may be made among them, but there is an obligation to choose some path that can realistically be expected to reach the goal.

There have been many global plans for responding to the hunger problem, but they propose only to work around the edges of the problem, not to end it. There is a need for a global strategy and program of action that really could be expected to end malnutrition in all its forms as a major public policy issue in the world. Not only moral considerations but also a fair interpretation of human rights law and principles require such a strategy and program of action.

The challenge of ending malnutrition must be addressed at the global level, and not only on a nation-by-nation basis. Ultimately, global obligations regarding the human right to adequate food may be identified through the formulation of appropriate global strategies for realizing that right.

The final report of the Millennium Task Force on Hunger says that developed countries should contribute more generously to development in poor countries (Sanchez et al 2005). However, it does not suggest that they should have a legal obligation to fund the program to any particular level. Reducing the role of the global community to that of an occasional donor or lender leaves the challenge almost entirely to the separate nations. This amounts to an evasion of responsibility. With their greater capacity, it falls primarily on the developed countries of the world to assure realization of the *Universal Declaration of Human Rights* article 28: "Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized."

A child may be born into a poor country, but that child is not born into a poor world. That child has rights claims not only against its own country and its own people; it has claims against the entire world. If human rights are meaningful, they must be seen as universal, and not merely local. Neither rights nor obligations end at national borders. While national governments have primary responsibility for assuring the realization of the human right to adequate food for people under their jurisdiction, all of us are responsible for all of us, in some measure. The task is to work out the nature and the depth of those global obligations.

The material of this article is drawn from the forthcoming book *Global Obligations for the Human Right to Food* to be published by Rowman & Littlefield in 2007, George Kent (ed.).

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### Nutrition news from Iran: *Overweight and obesity in Asian populations*

In Iran and the rest of the Middle East, we are not only facing a sharp increase in the trend of obesity, but as it turns out the associated weight gain may imply higher health risk among the Asian population than it does among an European population. The BMI classification of overweight and obesity in Asian populations has been controversial, and investigating whether the accepted BMI cutoff points are appropriate for identifying increased health risks is an important challenge for Asian countries health systems. A WHO Expert Consultation on 'Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies' in 2004 reviewed scientific evidence, which suggests that Asian populations have different associations between BMI, percentage of body fat (BF%) and health risks than do European populations, and concluded that the proportion of Asians with a high risk of type II diabetes and CVD is substantial at BMIs lower than existing WHO cutoff point for overweight (i.e., BMI > 25 kg/m<sup>2</sup>) (see Shiwaku et al. in *Lancet* 2004, 363:157-63). Current research at the Jundi-Shapour University of Medical Sciences published in the October issue of the *European Journal of Clinical Nutrition* is investigating overweight measurements (BMI, %BF, BIA (Bioelectrical impedance analysis)) among more than 600 adult Iranian women. About one-half were found to be overweight or obese, and more than one-fifth had central obesity which, in turn, is a key risk factor for metabolic syndrome in the later life.

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## **Mysore Declaration: Capacity Strengthening in Nutrition**

We from Africa, Asia, Europe, and the Americas, met as participants in a meeting, "Building Leadership Skills in Food and Nutrition Essential for National Development," on 23-25 June 2006, **organized by the Central Food Technological Research Institute (CFTRI) at Mysore, India** under the auspices of the United Nations University (UNU), Capacity Strengthening in Nutrition in Asia (CASNA), International Union of Nutritional Sciences (IUNS), International Nutrition Foundation (INF), Tufts University, and UNICEF with support of the Government of India declare as follows:

### **The nature of the present global food and nutrition problems.**

We live in a world of great inequity in terms of access to food and existing nutrition conditions both within and among countries. This is not only morally unacceptable but also has enormous costs in terms of human lives, affecting social and economic development. In this world of plenty, more than 800 million people are undernourished and about 170 million infants and young children are underweight. More than five million children die each year as a result of under-nutrition. Furthermore, billions of people suffer from vitamin and mineral deficiencies, especially of iron, iodine, vitamin A, and zinc. Good nutrition is also constrained by inadequate safe drinking water and sanitation.

At the same time, obesity and other nutrition related chronic disease are becoming a serious problem, even in low income countries. More than one billion adults worldwide are overweight, of whom 300 million are obese. These issues are often rooted in poverty and co-exist in communities, some in the same households. While under-nutrition kills in early life, it also leads to a high risk of chronic diseases and death later in life. This is the double burden of malnutrition, with common causes: inadequate fetal, infant, and young child nutrition compounded by exposure to energy dense, nutrient poor foods, and limited physical activity.

The greatest opportunity for effective interventions comes from pre-pregnancy to 24 months of a child's age. Schools also provide a natural setting for effective interventions for older children and the promotion of adequate nutrition to future mothers. Malnutrition, in all its forms, amounts to an intolerable burden, not only on national health systems, but on the entire cultural, social and economic fabric of nations, and is the greatest impediment to the fulfillment of human potential.

Despite the impact of malnutrition in all its forms on mortality, morbidity, and national economies, only 1.8% of the total resources for health-related development assistance are allocated to nutrition activities. Of the World Bank's total assistance to developing countries, only 0.7% is for nutrition and food security, and at country level, even less. Adequate food is a human right and good nutrition is essential to achieve the aims of the Millennium Declaration and the Millennium Development Goals. Collaboration among the health, agriculture and education sectors is particularly important in capacity building. Without progress in addressing malnutrition, these goals will not be realized.

### **Building and Strengthening Capacity to Address Global Food and Nutrition Problems is Essential to a Sustainable Solution.**

We have come together to place capacity strengthening and development to improve nutrition at the center of the solution to this global problem.

### **We urge UN organizations, bilateral agencies, international NGOs, and other donor agencies:**

To act individually and together through the UN SCN to prioritize investments in the advance training of human resource and institutional capacities required to prevent and control all forms of malnutrition throughout life. This will contribute substantially to the achievement of the Millennium Development Goals, preventing death and disability while promoting health and well being.

*To include in their human resource recruitment, policies that mitigate the depletion of the limited pool of trained professionals. They are critical for sustaining national and regional actions in food and nutrition. A Nutrition Capacity Development Fund should be set up by all stakeholders and dedicated specifically to developing and strengthening individual and institutional capacities in food and nutrition*

This could be achieved by requiring that every project include two percent in its budget towards this fund. These resources could be disbursed with input of development partners within a regional and sub regional context. If professionals are hired from a developing country, UN and other development agencies should compensate the fund for these costs. These resources will serve to train one or more replacements.

*In addition, every project should have an inbuilt component of capacity building that would be measurable at the end of the project.*

### **We recommend that National Governments:**

Commit to establishing or strengthening institutions that can contribute effectively to the solution of food and nutrition problems through research, training and outreach programs. These institutions should be adequately funded and have policies that attract young leaders in this field, promote career development of staff, and support and encourage those who actively contribute.

Commit, in accordance with the UNU/IUNS model, to strengthening human resources capacities through a national system of advanced training to address food and nutrition problems. This encompasses especially, training at all levels including the community, community leaders, program implementers, researchers/ teachers/ program planners and policy makers to the highest level. Each level will acquire new knowledge, skills, attitudes, and commitment in nutrition science, communications and advocacy, social marketing, industrial research and development, policy and planning.

### **We propose networking with Civil Society, especially community based Non-Governmental Organizations (NGOs) to:**

Advocate for the building and strengthening national and regional capacity to address food and nutrition problems in accordance with local needs.

Adopt policies that promote, support and sustain the capacities of individuals and institutions necessary to address food and nutrition problems.

Hold governments at all levels to be responsible for effective implementation with regard to capacity development in food and nutrition.

### **We call on the private sector, especially the food processing industries and food services to:**

Mitigate the depletion of the limited pool of trained professionals, critical for sustained national and regional actions in food and nutrition by participating in the proposed Nutrition Capacity Development Fund and contribute to its objectives by sharing information, and research expertise for capacity building and education.

Support development of national and regional capacities to address food and nutrition problems, including responsible marketing practices and the development of healthier foods and beverages that will contribute to good nutrition throughout life.

### **We will work together to:**

Reposition nutrition as central to national development

Increase the investments in nutrition at global, national and local level to address the double burden of malnutrition with a single agenda.

### **We present at this meeting,**

Pledge ourselves to all of the above and to continue work together, as members of the UNU/IUNS/INF Regional Task Forces on Capacity Development in Nutrition in consultation with UN, international and bilateral agencies, national governments, private sector, NGOs, civil society and other constituencies.



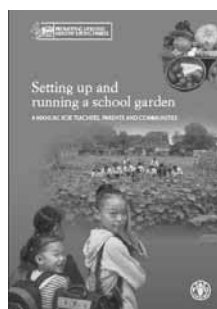
**Right to Food Guidelines.**  
**Information papers  
 and case studies**  
 FAO  
 2006, 228 pp.  
[www.fao.org](http://www.fao.org)

Seven information papers cover issues that were controversial during the negotiations preceding the adoption of the *Voluntary Guidelines to support the progressive realization of the rights to adequate food in the context of national food security*, or complex legal questions for which clarification was requested. A case studies report summarizes the outcome of studies in five countries to gather about practical in-country experiences with different policies and programmes that are conducive to realizing the right to adequate food. The full text of the Voluntary Guidelines is also included. The book is useful for development practitioners and governments, development agencies, civil society and academia.



**Right to Food Briefs:**  
**Putting it into practice**  
 FAO  
[www.fao.org/righttofood](http://www.fao.org/righttofood)  
 2006, 8 briefs

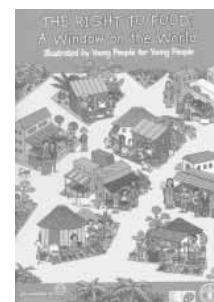
These briefs explain the use and relevance of the Right to Food Guidelines to different policy and professional areas. An introductory brief, describing the origin, nature and relevance of the Guidelines, is complemented by seven briefs that focus on functional areas such as agricultural policy, nutrition, food safety, and consumer protection, legal and institutional issues, education and public awareness raising as well as emergency situations. The set of briefs is accompanied by an overview of the Guidelines. The Briefs are useful for human rights and development practitioners, government officials and NGOs alike.



**Setting up and running a  
 school garden. A manual for  
 teachers, parents and communities**  
 FAO, 2006, E/S  
[www.fao.org/schoolgarden](http://www.fao.org/schoolgarden)

Investments in nutrition and in education are essential to break the cycle of poverty and malnutrition. FAO believes that schools can make an important contribution to countries' efforts to overcome hunger and malnutrition, and that school gardens can help to improve the nutrition and education of children and their families in both rural and urban areas. In this regard, it is important to stress that school gardens are *a platform for learning*. They should not be regarded as bulk sources of food or income, but rather as a way to *better nutrition and education*. Food systems are the unifying concept. "From plot to pot", students learn how to grow, tend, harvest and prepare nutritious seasonal produce, in the educational settings of the classroom, the garden, the kitchen, the school cafeteria and the home. The experience promotes the environmental, social and physical well being of the school community and fosters a better understanding of how the natural world sustains us. Links with home gardens reinforce the concept and open the way for the exchange of knowledge and experience between the school and the community. Nutrition concerns link the developed and the developing worlds, which share many dietary problems, e.g. the need to change perceptions of fruits and vegetables and to learn how they are best grown, prepared and eaten. FAO has prepared this Manual to assist school teachers, parents and communities. It draws on experiences and best practices of running school gardens all over the world. Classroom lessons are linked with practical learning in the garden.

## Publications



**The Right to Food:**  
**A Window on the World**  
 FAO/WAGGGS  
 2006, 92pp E/F/S/A/P/I  
[www.feedingminds.org](http://www.feedingminds.org)

This Instructional Cartoon Book Illustrated by Young People for Young People is a result of the "Feeding Minds, Fighting Hunger" global initiative in collaboration with the Right to Food Unit in FAO and World Association of Girl Guides and Girl Scouts (WAGGS). It aims to raise awareness among children and young people about the basic right to be free from hunger, and is intended to encourage them to become involved in the fight against hunger and malnutrition. Designed as an active learning initiative, the materials consist of a cartoon story book and a companion resource and activity guide for teachers and youth group leaders. Through these materials, children and young people will be helped to understand that each individual has the right to adequate food and that governments, consumer organizations, the private sector, communities and families have an obligation to help protect, promote and support that right. The story book includes an introduction to the topic of hunger and the right to food and eight individual stories, each of which highlights selected right to food issues in eight countries: Brazil, Canada, India, Indonesia, Italy, Jordan, Sierra Leone and Uganda. The illustrations were drawn by young artists and art students through national contests organized in each of the eight featured country stories. The teacher's guide provides additional information and learning material about the right to food, simple teaching tools, and suggested group learning activities. Both books present right to food issues in a simple, understandable and attractive style to capture the attention of youth.

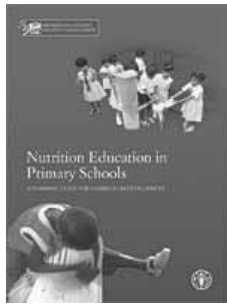
### Nutrition News for Africa

Helen Keller International

NNA disseminates state-of-the-art research and policy papers on a bi-monthly basis to Africans researchers, program planners, policy makers and opinion leaders working in the field of public health nutrition. To be included on the mailing list, contact [cfares@hki.org](mailto:cfares@hki.org).

**NNA and other Research and Publications by Helen Keller International**

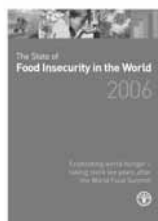
can be accessed at [www.hki.org/research](http://www.hki.org/research).



## Nutrition Education in Primary Schools – A Planning Guide for Curriculum Development

FAO  
2006, 510pp  
[www.fao.org](http://www.fao.org)

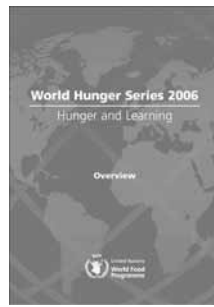
Efforts to protect and promote good nutrition need to be an integral part of every country's fight to eliminate poverty, food insecurity, hunger and malnutrition. Effective nutrition education in schools can make an important contribution towards this goal. FAO has developed this innovative material for governments and school systems wishing to establish nutrition education programmes and curricula in schools with the aim of making education more relevant to children's needs and of promoting lifelong healthy eating habits among current and future generations. The Planning Guide is a resource package consisting of three main elements: *The Reader* - a book (240pp) that explains the key ideas and processes in nutrition, health and education (pedagogy); refers to related worksheet activities; *The Activities* - a set of worksheets (270pp) that takes participants through the planning exercise; and, *The Classroom Curriculum Chart* - a poster providing learning objectives for nutrition education at different ages in primary schools in developing countries.



## The State of Food Insecurity in the World 2006

FAO  
2006, 40pp  
[www.fao.org](http://www.fao.org)

Ten years ago, world leaders met in Rome for the World Food Summit (WFS) to discuss ways to end hunger. They pledged their commitment to an ongoing effort to eradicate hunger in all countries and set themselves the immediate target of halving the number of undernourished people by 2015. To this purpose, they approved the World Food Summit Plan of Action. In October 2006, FAO's Committee on World Food Security is undertaking an assessment of the implementation of the Plan of Action and a mid-term review of progress towards achieving the target. *The State of Food Insecurity in the World 2006* reviews progress and setbacks in hunger reduction since 1990–92, the established baseline period.



## World Hunger Series 2006 WFP

2006, E/F/S  
193pp (full text), 13pp (overview)  
[www.wfp.org](http://www.wfp.org)

The World Hunger Series is a new annual publication from the United Nations World Food Programme. It is aimed at policymakers in developing and developed countries, and attempts to fill an important gap in existing reports on hunger. While other reports monitor trends towards international goals or serve primarily as advocacy tools, the World Hunger Series (WHS) will focus on practical strategies to end hunger. Each report in the new series will examine a key issue related to hunger – such as learning, health, markets, trade, crises and social exclusion. It will present state-of-the-art thinking on that year's theme, combined with an analysis of the practical challenges to implementing solutions. Based on this analysis, it will identify realistic steps to address hunger. This inaugural edition of the report explores one of the most promising areas for achieving lasting improvements: the relationship between hunger and learning.

## Human Development Report 2006: Beyond Scarcity - Power, Poverty and the Global Water Crises



UNDP  
2006, 442 pp  
E/F/S/A/C/R  
[www.undp.org](http://www.undp.org)

The 2006 Human Development Report focuses on water and human development. Water is central to the realization of human potential. It is a source of life for people and for the planet. Clean water and sanitation have a profound bearing on health and human dignity. Inequalities in access to clean water for drinking and to water as a productive input, reinforce wider inequalities in opportunity. With competition for water intensifying, there is a danger that poor and vulnerable communities will become increasingly marginalized. The twin challenge facing governments and donors is to accelerate progress towards universal access to water and sanitation; and to ensure that water management policies strengthen the rights of poor households to access water resources.



## IFAD targeting policy: Reaching the rural poor

2006, 29pp  
[www.ifad.org](http://www.ifad.org)

The purpose of the policy is to: (a) provide a clear definition of the International Fund for Agricultural Development's target group and establish a shared conceptual understanding of targeting; (b) outline the general principles that will guide IFAD in identifying and reaching the target group, and the methods and means that it will use to this end; and (c) provide an overview of how targeting will be addressed in the context of IFAD's operational instruments.



## The First Mile Project

IFAD  
2006, 8pp  
[www.ifad.org](http://www.ifad.org)

The First Mile Project is about how small farmers, traders, processors and others from poor rural areas learn to build market chains linking producers to consumers.

## World Population Prospects: The 2004 Revision

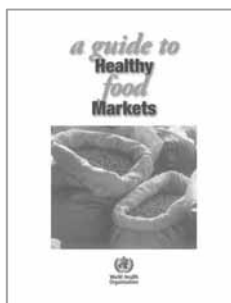
United Nations, 2006, 195pp  
[www.un.org](http://www.un.org)

The 2004 Revision of *World Population Prospects* represents the latest global demographic estimates and projections prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. This third and last volume of the 2004 Revision provides a detailed analysis of the results of the *World Population Prospects 2004* and documents data sources used and methods applied. An executive summary is available in the six official United Nations languages.



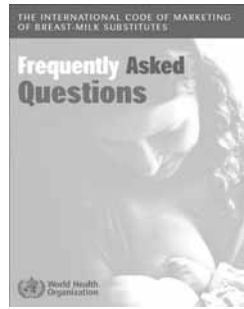
**The Health of the People:  
The African Regional Health Report**  
WHO  
2006, 196pp  
[www.who.int](http://www.who.int)

The Health of the People: the African Regional Health Report is the first report to focus on the health of the 738 million people living in the African Region of the World Health Organization. This fully-illustrated 196-page report provides expert analysis of all the key areas of public health in Africa. It also contains the most comprehensive annex of health statistics on the region to date.



**A Guide to Healthy Food Markets**  
WHO  
2006, 37pp  
[www.who.int](http://www.who.int)

With over half of the world's population now living in urban areas, food markets have become an important source of affordable food for many millions of people. At the same time, however, such markets have been associated with major outbreaks of diseases, including cholera, SARS and avian influenza. As part of its Healthy Cities Programme, WHO has developed an approach to improve that the safety and nutritional quality of foods sold in urban markets. The Healthy Food Markets approach is being used in several pilot projects in cities around the world to coordinate efforts of all stakeholders to achieve incremental, but sustainable improvements in food markets. In addition to improvements to the physical infrastructure and essential services, behavioural changes by various market participants, including primary producers, wholesalers, market vendors, and consumers, are emphasized. The WHO has issued a promotional brochure and guide for those interested in undertaking pilot projects in their countries.



**The international code of marketing of breast-milk substitutes. Frequently asked questions**  
WHO  
2006, 11pp  
[www.who.int](http://www.who.int)

Member States of the World Health Organization adopted the International Code of Marketing of Breast-milk Substitutes twenty-five years ago with the aim to protect, promote and support appropriate infant and young child feeding practices. The adoption of the Code was a key milestone in global efforts to improve breast-feeding, and countries have taken action to implement and monitor the Code and subsequent relevant Health Assembly resolutions. This booklet of Frequently Asked Questions aims to increase awareness and understanding of how the Code can help to ensure that mothers and caregivers are able to make fully-informed choices of how best to feed their infants, free of commercial interest.



**The Millennium Development Goals Report 2006**  
United Nations  
2006, 28pp  
[www.un.org](http://www.un.org)

This report shows where we stand in 2006 in achieving the Millennium Development Goals, six years after leaders from every country agreed on a framework for development and time-bound targets by which progress can be measured. The challenges the Goals represent are staggering, but there are clear signs of hope. The report presents the latest assessment on how far we have come, and how far we have to go in reaching these goals, in each of the world's regions. Similar data will be collected and presented each year until 2015, the target date for the Millennium Development Goals, in an effort to give further direction and focus to international cooperation and national action.



**WSH CD-ROM Water, Sanitation and Health Electronic Library, Fourth Edition**  
WHO  
2006, E/F/S/A  
[www.who.int](http://www.who.int)

The Water, Sanitation and Health electronic library, Fourth edition, includes more than 220 documents of new and current publications. The documents provide information on water supply and sanitation, recreational/bathing waters, achieving the Millennium Development Goals on water, sanitation and hygiene, drinking-water quality, water resources management and health-care waste.

**Protecting Groundwater for Health**



WHO  
2006, 678pp  
[www.who.int](http://www.who.int)

This book provides a structured approach to analysing hazards to groundwater quality, assessing the risk they may cause for a specific supply, setting priorities in addressing these, and developing management strategies for their control. For health professionals, it thus is a tool for access to environmental information needed for such a process and for professionals from other sectors, it gives a point of entry for understanding health aspects of groundwater management.

**Five Keys to Safer Food Manual**



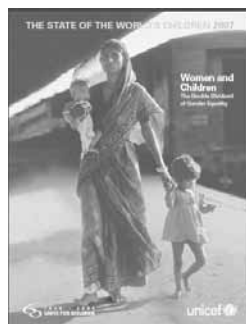
WHO  
2006, 28pp  
E/F/S/R/A/C  
[www.who.int/foodsafety](http://www.who.int/foodsafety)

The manual elaborates the food safety information provided in the WHO Five Keys to Safer Food poster and suggests ways to communicate the message. The manual also provides tips on how to adapt the training programme for different target groups (e.g. professional food handlers, consumers, children and women).



**Progress for Children: A report card on water and sanitation (No. 5)**  
UNICEF  
2006, 30pp, E/F/S  
[www.unicef.org](http://www.unicef.org)

Unsafe water and lack of sanitation and adequate hygiene contribute to the leading killers of children under five, and have implications for whether children, especially girls, attend school. Thus achieving Millennium Development Goal 7, and its 2015 targets of reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation, is of vital relevance for children and for improving nutrition, education and women's status. Progress for Children No. 5 reports on whether the world is on course to reach MDG 7 and where efforts are falling short.



**The State of the World's Children 2007**  
UNICEF  
2006, 150pp, E/F/S  
[www.unicef.org](http://www.unicef.org)

*The State of the World's Children 2007* examines the discrimination and disempowerment women face throughout their lives – and outlines what must be done to eliminate gender discrimination and empower women and girls. It looks at the status of women today, discusses how gender equality will move all the Millennium Development Goals forward, and shows how investment in women's rights will ultimately produce a double dividend: advancing the rights of both women and children.



**State of the World's Mothers 2006: Saving the Lives of Mothers and Newborns**  
Save the Children  
2006, 58pp  
[www.savethechildren.org](http://www.savethechildren.org)

Every year, 4 million babies die in the first month of life – equivalent to the number of babies born in the United States each year. Most of these newborn deaths (99 percent) occur in developing countries, where mothers lack access to basic health services and face great risk of death in pregnancy and childbirth. State of the World's Mothers 2006 reveals which countries are making the most progress in saving the lives of newborns, and which are lagging behind. It identifies 78 countries where newborn lives are especially at risk and shows how most of these deaths could be prevented with simple, low-cost tools and services for mothers and their infants. State of the World's Mothers 2006 concludes that no matter what the economic or cultural challenges, newborn lives can be saved. As in previous years, State of the World's Mothers 2006 presents a Mothers' Index. Using the latest data on health, nutrition, education and political participation, the Index ranks 125 countries – both in the industrialized and developing world – to show where mothers and children face best and where they face the greatest hardship.

### UNICEF Annual Report 2005



2006, 40pp  
E/F/S  
[www.unicef.org](http://www.unicef.org)

There are no magic bullets for reaching the Millennium Development Goals and achieving sustainable gains. But there are newfound commitments to partnership, strategies that are yielding meaningful results, and programmes that can and must be replicated. The Annual Report 2005 highlights UNICEF's work in 157 countries, areas and territories, outlines some of the important achievements that are pointing the way forward and shows why urgent action is still needed.

### Infant and Young Child Feeding Update (September 2006)



USAID  
2006, 23pp  
[www.measuredhs.com](http://www.measuredhs.com)

Adequate nutrition is critical to child health and development. The period from birth to two years of age is particularly important because of the rapid growth and brain development that occurs during this time. The Infant and Young Child Feeding (IYCF) Update provides data on key indicators, including new summary IYCF indicators for children 6-23 months. The data are taken from DHS results conducted during 1998-2004 in 43 countries. Feeding practices included in this update are related to breastfeeding practices, feeding solid and semi-solid foods to breastfed and non-breastfed children, micronutrient intake, and feeding during diarrhea.

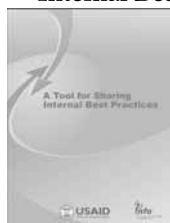
### The Context of Women's Health: Results from the Demographic and Health Surveys, 1994-2001



USAID  
2005, 103pp  
[www.measuredhs.com](http://www.measuredhs.com)

This report describes social, behavioral, and environmental contexts that encompass the lives of women in 46 developing countries in 5 regions around the world. The report provides evidence for renewed advocacy and commitment to women's nutrition, education, and environmental living conditions, along with continued emphasis on improving maternal and reproductive health.

### A Tool for Sharing Internal Best Practices



USAID  
2006, 23pp  
[www.infoforhealth.org](http://www.infoforhealth.org)

This tool includes a step-by-step process, tips, case studies and links to additional resources that explain how an organization can more effectively share its own best practices internally.

**Maternal Anemia: A Preventable Killer**  
USAID/ACCESS Program/FANTA Project  
2006, 4pp  
[www.fantaproject.org](http://www.fantaproject.org)

This brief details the causes and consequences of iron deficiency, IDA and anaemia, and emphasizes the importance of implementing a package of interventions to address the multiple causes of anaemia.





**Using Gender Research in Development**

AR Quisumbing and B McClafferty  
2006, 152pp  
[www.ifpri.org](http://www.ifpri.org)

This field-tested practitioner's guide presents key research findings from IFPRI's gender and intrahousehold program in the framework of project and policy cycles. The guide bridges the gap between research and practice by providing up-to-date, relevant information on why and how gender issues, when taken into account, can improve design, implementation, and effectiveness of development projects and policies.

**Promising Crop Biotechnologies for Smallholder Farmers in East Africa: Bananas and Maize**



M Smale, S Edmeades, and H De Groote (eds.)  
2006, 40pp  
[www.ifpri.org](http://www.ifpri.org)

Genetic improvement of planting material is an important component of agricultural growth for nations in the process of economic development. In East Africa, pests and diseases devastate both bananas and maize, and chemical treatment is not economically viable for most smallholders. Varieties with genetic resistance could reduce smallholder vulnerability to crop failure. These eight briefs present findings from two case studies that explore the potential for integrating transgenic varieties of cooking bananas and maize into smallholder agriculture in East Africa.

**Local action, global aspirations: Natural Resource Issues 4**



D Roe, B Jones, I Bond and S Bhatt  
2006, 67pp  
[www.iied.org](http://www.iied.org)

This review documents how community conservation can contribute to human well-being and conservation of natural resources in southern Africa. Additional examples and experience are drawn from India, South East Asia and Central America. The report concludes with eight recommendations to improve community conservation.

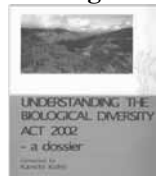


**Bioversity Annual Report 2005**

2006, 40pp  
[www.bioversityinternational.org](http://www.bioversityinternational.org)

This annual report provides a detailed overview of Bioversity's activities in agricultural biodiversity research aimed at improving the lives of current and future generations.

**Understanding the Biological Diversity Act 2002**



Kanchi Kohli (ed.)  
2006, 160pp  
[www.iied.org](http://www.iied.org)

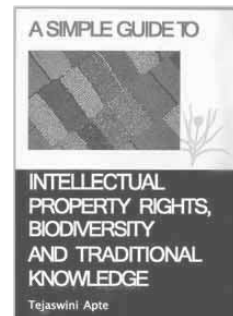
India's biodiversity legislation was enacted in 2002 as the Biological Diversity Act. This law aims at governing the conservation, sustainable use of and access to biological resources. Towards this end, the Act enables the setting up of new institutions and puts into force rules and agreements. This Dossier aims to put together scattered information available on the Act, related rules and agreements, so that the information is easily accessible. This publication is part of the Biodiversity Information Pack which includes three components. The other titles are: *A guide to the Biological Diversity Act 2002* and *A Simple Guide to Intellectual Property Rights, Biodiversity and Traditional Knowledge*.

**CAMPFIRE and payments for environmental services**



PGH Frost and I Bond  
2006, 35pp  
[www.iied.org](http://www.iied.org)

There has been increasing support in recent years for the use of payments for environmental services (PES) as a means to poverty reduction and conservation. PES are compensation mechanisms that reward people for managing ecosystems and providing environmental services, and are based on the premise that positive incentives can lead to changes in land-use practices. This paper describes the evolution of and explores lessons learned from the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE), a longstanding initiative originating from Africa.



**A Simple Guide to Intellectual Property Rights, Biodiversity and Traditional Knowledge**

T Apte  
2006, 151pp  
[www.iied.org](http://www.iied.org)

Patents, intellectual property rights, bio-piracy... These terms are appearing more frequently in the news. It is clear even to the layperson that these are controversial issues. What is not clear is what they mean. What implications do they have for an ordinary citizen? Why are they such a hot topic of debate? What connection do intellectual property rights (IPRs) have with biological resources? What is the link to India's traditional knowledge? This handbook is a step towards filling the gap of user-friendly information and encouraging mainstream debate on IPRs, biodiversity and traditional knowledge.

**Food for All: The Need for a New Agriculture**



John Madeley  
2006, 191pp  
[www.zedbooks.co.uk](http://www.zedbooks.co.uk)

World leaders have committed themselves to halving hunger by the year 2015 as a first step towards food for all. But is this an achievable target? This book shows we already have the experience on which to base a new approach to agricultural production and feeding the world's whole population. Millions need better access to the land from which the market forced them and a more equitable income distribution so that the poor can afford the available food. This is part of the solution. But the other part is an innovative, multi-faceted move away from a monoculture production system dependent on ever more tractors and fossil fuels, dangerous chemicals, and hybrid seeds monopolized by a handful of giant corporations. Instead, the author shows it is feasible to look to the spread of a low-external input approach, a reintegration of traditional farming techniques, new farming practices like organic agriculture and permaculture, and a range of 'green' technologies which can all play a role in bringing world agriculture back to a path which offers a viable livelihood to farmers, food for the hungry, and all without harming the environment.



**Food habits and consumption in developing countries: Manual for social surveys**

AP den Hartog, WA van Staveren and ID Brouwer  
2006, 224pp

[www.wageningenacademic.com](http://www.wageningenacademic.com)

This manual deals with the process of changing food habits and consumption patterns in developing countries. Nutritional implications, together with practical information are discussed in relationship to conducting field surveys. Part one of the manual provides insight into the dynamics of food habits and consumption and its socio-economic and cultural dimensions. Part two gives practical information on small scale surveys to be carried out within the framework of a nutrition issue; including data collecting on food habits and the measurement of food intake. This manual addresses professionals with practical or academic training and those who are involved in various types of food and nutrition programmes or related activities. It can also be used as a handbook in food and nutrition training courses at higher and at academic level.



**Ethics and the politics of food**

M Kaiser and M Lien (eds.)  
2006, 592pp

[www.wageningenacademic.com](http://www.wageningenacademic.com)

This book addresses the ethics and the politics of food from a broad range of academic disciplines, including sociology, philosophy, nutrition, anthropology, ethics, political science and history. The chapters expose novel problem areas, and suggest guidelines for approaching them. Topics range from fundamental issues in philosophy to sustainability, from consumer trust in food to ethical toolkits. Transparency, power and responsibility are key concerns, and special attention is given to animal welfare, emerging technologies in food production and marine domestication. Together, the chapters represent a wide range of academic responses to the fundamental dilemmas posed by food production and food consumption in the contemporary world.



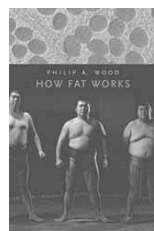
**Eating Well for Under 5's in Child Care**  
▪ Nutritional and practical guidelines

▪ Training Materials  
Caroline Walker Trust  
2006, manuals and CD

[www.cwt.org.uk](http://www.cwt.org.uk)

The second edition of Eating Well for under 5s in Child Care sets out new evidence for the importance of eating well for under 5s and provides a more detailed and updated rationale for nutrient based standards for this sector. These guidelines will provide the definitive advice on what eating well means for this age group and provides both nutritional and practical advice to all those who are involved in the early years sector.

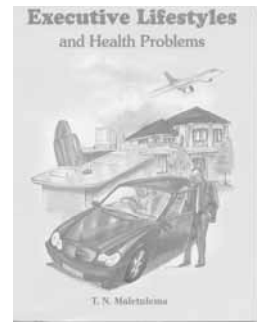
The new Training Materials which accompanies the report provides information for trainers or for individuals who want to find out more about what eating well means and also contains lots of practical advice about how to put eating well into practice. It also contains a CD-Rom which offers a database of foods and recipes for under 5s, extra menu plans and the training material text.



**How Fat Works**

PA Wood  
2006, 272pp

This book explains why not all fats are bad and provides a scientific basis for dietary fat recommendations. Until recently, the USDA recommendations simply stated that fats, sweets, and oils should be consumed only in moderate amounts. Understanding the molecular structures of fatty acids and how they influence diabetes, heart disease, and obesity has practical benefit because individual fatty acids may be beneficial or harmful to health. The book mixes explanations of the molecular mechanisms of disease with practical advice and can be useful for health-conscious consumers motivated to understand the scientific basis for dietary recommendations about various fats or those consumers interested in practical, evidence-based advice about fats and health. *Reviewed by the American Journal of Clinical Nutrition*



**Executive Lifestyle and Health Problems**

T. N. Maletnema  
2005, 140pp

[maletnema@yahoo.com](mailto:maletnema@yahoo.com)  
[mturepublishers@yahoo.com](http://mturepublishers@yahoo.com)

This book describes the challenges of the *nutrition transition* in Tanzania and Africa in general. Dr. Malentlema's book, focusing more on Tanzania, empowers individuals to address the problems of overweight and obesity and the related life styles. With illustrations and real life examples, Dr. Malentlema explains difficult concepts. He defines the "executives" and discusses the health problems they face including obesity, mental stress, high blood pressure, heart attacks, diabetes, peptic ulcers, arthritis, alcoholism and Sexually Transmitted Infections (STIs) including HIV. He summarizes in an easily understood manner the complex metabolic and social processes that make people fat or thin and importantly he also offers some solutions including a sample standard diet, the way to address stress including that caused by retirement. He ends by providing the scientific basis of the book. This book is good to anybody, especially those affected by the fast modern life styles and transiting from traditional to highly processed foods.

**The global Food Economy: The Battle for the Future of Farming**



A Weis  
2007, 256pp  
[www.zedbooks.co.uk](http://www.zedbooks.co.uk)

How we can sustain the human cost and ecological degradation behind what we eat. The modern food economy is a paradox: surplus 'food mountains' sit alongside global malnutrition; the developed world subsidizes its own agriculture while pressurizing the developing world to liberalize at any cost; and an increasingly aggressive export competition is accompanied by a growing reliance on imports in many countries. WTO's uneven application of neo-liberal economics to food production is relatively new, and the consequences of mounting deficits, rising 'food miles' and social upheaval are untested but ominous. In response to this, Weis sets out some answers to the central question: how can we build a sustainable and humane system of food production and distribution?

# Bulletin Board

## Society for Nutrition Education 40th Annual Conference

July 28 - August 1, 2007  
Hyatt Regency Chicago

The 40th Annual Conference will provide attendees with strategies and tools in the ever changing world of nutrition and health. SNE's goal is to highlight leading-edge research, programs and policies in the areas of nutrition, food safety and health across the life cycle. SNE invites food and nutrition education professionals and students from all arenas to contribute to and participate in the Conference. [www.sne.org](http://www.sne.org)

## 5<sup>th</sup> Euro Fed Lipid Congress and 24<sup>th</sup> Nordic Lipid Symposium Oils, Fats and Lipids:

### From Science to Applications - Innovations for a better World

16-19 September 2007

Gothenburg, Sweden

[www.eurofedlipid.org/meetings/gothenburg](http://www.eurofedlipid.org/meetings/gothenburg)

## Young Lipid Scientists Award 2007

The European Federation for the Science and Technology of Lipids (Euro Fed Lipid) announces the Young Lipid Scientists Award 2007. Applications submitted will be evaluated by experts of the Young Scientists Award Committee. Personal applications only will be accepted from scientists who are not older than 35 years as of the application date. Original paper(s) not older than 2 years since publication, a max 2-page summary of the work and a CV (all in English, six copies) should be submitted **by 31 March 2007**.

*Euro Fed Lipid, The President*

*Varrentrappstr. 40-42*

*D-60486 Frankfurt am Main, Germany*

*Phone +49 69 7917 345*

*Fax +49 69 7917 564*

[www.eurofedlipid.org/awards/ylsa.htm](http://www.eurofedlipid.org/awards/ylsa.htm)

## 7<sup>th</sup> International Food Data Conference

November 2007,  
São Paulo, Brazil

Would you like to post a notice on this board?

The next issue of *SCN News* will be published in Mid 2007.

Please send your contributions to [scn@who.int](mailto:scn@who.int)

## 10th European Nutrition Conference

Federation of the

European Nutrition Societies (FENS)

and Union Française pour la

Nutrition et l'Alimentation (UFNA)

**10-13 July 2007, Paris, France**

Nutrient control of food intake: the role of protein • Long-term effects of breastfeeding • Gene variants and response to diets • Nutrient signalling through nuclear receptors • Organ sensing of nutrients • Nutrients and adipose tissue development • Food properties affecting food intake • Dynamics of the food system in Europe • Stress and nutrition • Food structure and metabolic consequences • Innovative food product technologies • Double burden of malnutrition • Iron deficiency in infants and children • Pollutants in the food chain • Gut microbiomics and nutrition • Omics in nutrition research • Nutrition and cancers • Mediterranean diet and cardiovascular diseases • Nutrition and the ageing process • Nutrition and infections • Nutrition and migrant populations • Elderly nutrition • Personalized nutrition • European nutrition policies.

Abstracts must be submitted via the conference web site **by 15 January 2007**.

## 31<sup>th</sup> National Nutrient Databank Conference

27 April 2007, Washington, D.C.

(Satellite to Experimental Biology)

[www.nal.usda.gov/fnic/foodcomp/](http://www.nal.usda.gov/fnic/foodcomp/)

## Nutrition and Nurture in Infancy and Childhood: Bio-Cultural Perspectives 25-27 June 2007

Grange over Sands, Cumbria

Contact: Liz Kelly, Faculty of Health,

University of Central Lancashire,

[ejkelly@uclan.ac.uk](mailto:ejkelly@uclan.ac.uk)

## Consequences and Control of Micronutrient Deficiencies: Science, Policy, and Programs - Defining the Issues

Micronutrient Forum

16-18 April 2007, Istanbul, Turkey

**New web site:**

[www.micronutrientforum.org](http://www.micronutrientforum.org)

## 1st Meeting of FANUS Federation of

**African Nutrition Societies**

In collaboration with

Moroccan Society of Nutrition

**7-9 May 2007**

**Ouarzazate, Morocco**

Future of Nutritional Sciences - From Millennium Development Goals to Applied Nutrition Research - Micronutrient Deficiencies - Efficacy of Nutrient-rich Biofortified Staple - Foods and Nutrition in Emergencies - Nutrition and Child Development - Assessment of Complementary Foods - The Nutritional Impact of Replacement Feeding - Nutrition Interventions for Achieving Optimal Foetal Development - Assessment of Exclusive Breast Feeding Interventions in Africa - Managing Severely Malnourished Children using Local Foods in Africa - Nutrition and HIV - Nutrition and Infection - Evaluation of Local Food Supplementation on Nutritional Status of People Living with HIV/AIDS in Africa - Diet, Genome and the Metabolic Syndrome - The Double Burden of Disease-an African Dilemma - Nutrition of School Age Children and the Elderly - Mediterranean Diet - Food Safety and Security - Food Data Bases, Food Consumption Studies, Dietary Assessment and all the Methodological Issues - Cross-cutting Initiative on Nutrition and Biodiversity with a Focus on Composition and Consumption Studies - Africa Capacity Development Initiative - African Graduate Students Network.

[www.africannutrition.org](http://www.africannutrition.org)

[rekiabelahsen@yahoo.fr](mailto:rekiabelahsen@yahoo.fr)

## SAVE THE DATE! 19<sup>th</sup> International Congress of Nutrition Nutrition Security for All

4-9 October 2009

BITEC, Bangkok Thailand

[www.iuns.org](http://www.iuns.org)

## SCN 34<sup>th</sup> Annual Session 26 February - 2 March 2007

Rome, Italy

Hosted by FAO, IFAD and WFP

Programme to be posted soon at

[www.unsystem.org/scn](http://www.unsystem.org/scn)

Contact: [scn@who.int](mailto:scn@who.int)



## Alpro Foundation Award for Masters

The Alpro Foundation has since 1996 awarded Belgian college students who prepare a thesis on the subject of food and health, and has started the Alpro Foundation Award for Masters. This Award for university students will be presented for the first time in 2008 in five countries, namely Belgium, the Netherlands, Germany, the United Kingdom and Italy. Any university student taking his/her masters in science (nutrition and dietetics, medicine and health sciences, bio-science engineering, pharmaceutical sciences and economics) may participate in this competition. **The theme should focus on the impact of vegetable foods on our health, the environment or the economy.**

Contact: Dr. Stephanie De Vriese  
tel. +32 56/43 21 85  
[stephanie.devriese@alpro.be](mailto:stephanie.devriese@alpro.be)  
[www.aprofoundation.org](http://www.aprofoundation.org)

## Global Dimensions of Nutrition

A postgraduate course series offered annually by the **University of Oslo** and **Akershus University College**.

A total of three successive six weeks/10 ECTS modules conducted in English include:

1. The World Nutrition Situation – Data and Issues (January-February);
2. Nutrition, Globalisation and Governance (March-April); and,
3. Nutrition and Human Rights (May-June). Each can be taken separately but as there are important links between them a set of two of the modules is recommended.

**Start-up in 2007: 8 January.**

Contact: Alieu S.K. Cham,  
[a.s.cham@medisin.uio.no](mailto:a.s.cham@medisin.uio.no)

## Human Rights Tools

New website for human rights professionals offering: Online library, Key resources for country analysis, Daily updated human rights headlines, Newsletter, and much more...

[www.humanrightstools.org](http://www.humanrightstools.org)

## Journal of Nutrition, Health and Aging

The Official Journal of the International Academy Nutrition & Aging. If you want to receive a free copy, send an e-mail with your address to [lauque.sylvie@wanadoo.fr](mailto:lauque.sylvie@wanadoo.fr)  
[www.healthandage.com](http://www.healthandage.com)

The Department of Foods, Nutrition and Dietetics at **Kenyatta University**, Nairobi will run three weeks **Regional Training in Food and Nutrition Security**  
23 April - 17 May 2007  
20 August - 13 September 2007

For brochure and application form:

The Coordinator  
Regional Training in Food and Nutrition Security  
Dep. of Foods, Nutrition and Dietetics  
Kenyatta University  
P.O.Box 43844-00100GPO  
Nairobi, Kenya  
Tel:254-020-810901 Ext. 139  
Fax: 254-020-811575  
E-mail: [foodsnut@yahoo.com](mailto:foodsnut@yahoo.com)

**New Diarrhea Treatment Guidelines** are now available on the **WHO** website. These guidelines include the use of zinc and low osmolarity ORS for diarrhea management and can be found at:

[www.who.int/child-adolescent-health/New\\_Publications/CHILD\\_HEALTH/Diarrhoea\\_guidelines.pdf](http://www.who.int/child-adolescent-health/New_Publications/CHILD_HEALTH/Diarrhoea_guidelines.pdf)

Additional resources supporting zinc for diarrhea management are available through the **Zinc Task Force**.

Contact: *Christa Fischer Walker*  
[cfischer@jhsph.edu](mailto:cfischer@jhsph.edu)

## VACANCY NOTICE

Senior Program Officer, Nutrition  
**The Bill and Melinda Gates Foundation**

The Senior Program Officer will take a leadership role on developing and managing scientific, research, clinical and analytical strategies related to nutrition for the Maternal, Newborn Child Health and Nutrition (MNCHN) team within the Global Health Strategies Division. He/she will act as a change agent for achieving the goals through the development and management of contracts and a portfolio of grants. The position is located in Seattle, Washington, USA and is open to all nationalities.

[www.gatesfoundation.org/AboutUs/WorkingWithUs/Jobs/JobsSearch](http://www.gatesfoundation.org/AboutUs/WorkingWithUs/Jobs/JobsSearch)

## Australian Aid Resource & Training Guide

The Australian Aid Resource and Training Guide (AARTG) is an entry point for the humanitarian aid and development sector. Includes advice for those seeking to apply their skills in overseas projects, Australian and overseas contacts in the aid field, and main aid-related training courses on offer in Australia.

[www.developmentgateway.com.au](http://www.developmentgateway.com.au)

## VACANCY NOTICE

### Three Faculty Positions at Tufts University:

- Faculty Position in Food and Nutrition Policy  
Rank: Open (Assistant, Associate or Full Professor)
- Faculty Position: Nutrition Communication and Behavior  
Rank: Open (Associate or Full Professor)
- Faculty Member/Senior Researcher in Public Nutrition in Emergencies  
Rank: Open (Assistant, Associate or Full Professor)

The Friedman School of Nutrition Science and Policy, Tufts University, in Boston, Massachusetts, is seeking to enhance its faculty complement in the realms of food and nutrition policy analysis, behavior change communication, and nutrition in emergencies. We are seeking professionals wanting to join a dynamic, multi-disciplinary graduate school dedicated to excellence in teaching, research and student mentoring. Successful candidates will have:

- An earned doctorate in an appropriate field.
- A strong record of independent research and publications.
- Successful grant proposal writing.
- University teaching experience.
- A demonstrated commitment to working in a multi-disciplinary context.

For full descriptions of each position, download the appropriate position ([nutrition.tufts.edu/careers/](http://nutrition.tufts.edu/careers/)) or contact Mr. Patrick Curtis, [patrick.curtis@tufts.edu](mailto:patrick.curtis@tufts.edu), 617-636-3702.



## WHO European Ministerial Conference on Counteracting Obesity

*Diet and physical activity for health*

Istanbul, Turkey, 15-17 November 2006



EUROPE

EUR/06/5062700/8

16 November 2006

61995

ORIGINAL: ENGLISH

### European Charter on counteracting obesity

To address the growing challenge posed by the epidemic of obesity to health, economies and development, we, the Ministers and delegates attending the WHO European Ministerial Conference on Counteracting Obesity (Istanbul, Turkey, 15-17 November 2006), in the presence of the European Commissioner for Health and Consumer Protection, hereby adopt, as a matter of policy, the following European Charter on Counteracting Obesity. The process of developing the present Charter has involved different government sectors, international organizations, experts, civil society and the private sector through dialogue and consultations.

We declare our commitment to strengthen action on counteracting obesity in line with this Charter and to place this issue high on the political agenda of our governments. We also call on all partners and stakeholders to take stronger action against obesity and we recognize the leadership on this issue being provided by the WHO Regional Office for Europe.

Sufficient evidence exists for immediate action; at the same time, the search for innovation, adjustments to local circumstances and new research on certain aspects can improve the effectiveness of policies.

Obesity is a global public health problem; we acknowledge the role that European action can play in setting an example and thereby mobilizing global efforts.

#### 1. THE CHALLENGE

We acknowledge that:

- 1.1 The epidemic of obesity poses one of the most serious public health challenges in the WHO European Region.** The prevalence of obesity has risen up to three-fold in the last two decades. Half of all adults and one in five children in the WHO European Region are overweight. Of these, one third are already obese, and numbers are increasing fast. Overweight and obesity contribute to a large proportion of noncommunicable diseases, shortening life expectancy and adversely affecting the quality of life. More than one million deaths in the Region annually are due to diseases related to excess body weight.
- 1.2 The trend is particularly alarming in children and adolescents,** thus passing the epidemic into adulthood and creating a growing health burden for the next generation. The annual rate of increase in the prevalence of childhood obesity has been rising steadily and is currently up to ten times higher than it was in 1970.
- 1.3 Obesity also strongly affects economic and social development.** Adult obesity and overweight are responsible for up to 6% of health care expenditure in the European Region; in addition, they impose indirect costs (due to the loss of lives, productivity and related income) that are at least two times higher. Overweight and obesity most affect people in lower socioeconomic groups, and this in turn contributes to a widening of health and other inequalities.

WORLD HEALTH ORGANIZATION • REGIONAL OFFICE FOR EUROPE

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Electronic mail: [postmaster@euro.who.int](mailto:postmaster@euro.who.int) World Wide Web address: <http://www.euro.who.int>

**1.4 The epidemic has built up in recent decades as a result of the changing social, economic, cultural and physical environment.** An energy imbalance in the population has been triggered by a dramatic reduction of physical activity and changing dietary patterns, including increased consumption of energy-dense nutrient-poor food and beverages (containing high proportions of saturated as well as total fat, salt, and sugars) in combination with insufficient consumption of fruit and vegetables. According to available data two thirds of the adult population in most countries in the WHO European Region are not physically active enough to secure and maintain health gains, and only in a few countries does the consumption of fruit and vegetables achieve the recommended levels. Genetic predisposition alone can not explain the epidemic of obesity without such changes in the social, economic, cultural and physical environment.

**1.5 International action is essential to support national policies.** Obesity is no longer a syndrome of wealthy societies; it is becoming just as dominant in developing countries and countries with economies in transition, particularly in the context of globalization. Taking intersectoral action remains a challenge, and no country has yet effectively managed to bring the epidemic under control. Establishing strong internationally coordinated action to counteract obesity is both a challenge and an opportunity, as many key measures are cross-border both in character and in their implications.

## **2. WHAT CAN BE DONE: the goals, principles and framework for action**

**2.1 The obesity epidemic is reversible.** It is possible to reverse the trend and bring the epidemic under control. This can only be done by comprehensive action, since the root of the problem lies in the rapidly changing social, economic and environmental determinants of people's lifestyles. The vision is to shape societies where healthy lifestyles related to diet and physical activity are the norm, where health goals are aligned with those related to the economy, society and culture and where healthy choices are made more accessible and easy for individuals.

**2.2 Curbing the epidemic and reversing the trend is the ultimate goal of action in the Region.** Visible progress, especially relating to children and adolescents, should be achievable in most countries in the next 4-5 years and it should be possible to reverse the trend by 2015 at the latest.

### **2.3 The following principles need to guide action in the WHO European Region:**

- 2.3.1 High-level political will and leadership and whole-government commitment are required to achieve mobilization and synergies across different sectors.
- 2.3.2 Action against obesity should be linked to overall strategies to address noncommunicable diseases and health promotion activities, as well as to the broader context of sustainable development. Improved diet and physical activity will have a substantial and often rapid impact on public health, beyond the benefits related to reducing overweight and obesity.
- 2.3.3 A balance must be struck between the responsibility of individuals and that of government and society. Holding individuals alone accountable for their obesity should not be acceptable.
- 2.3.4 It is essential to set the action taken within the cultural context of each country or region and to acknowledge the pleasure afforded by a healthy diet and physical activity.
- 2.3.5 It will be essential to build partnerships between all stakeholders such as government, civil society, the private sector, professional networks, the media and international organizations, across all levels (national, sub-national and local).
- 2.3.6 Policy measures should be coordinated in the different parts of the Region, in particular to avoid shifting the market pressure for energy-dense food and beverages to countries with less regulated environments. WHO can play a role in facilitating and supporting intergovernmental coordination.

- 2.3.7 Special attention needs to be focused on vulnerable groups such as children and adolescents, whose inexperience or credulity should not be exploited by commercial activities.
- 2.3.8 It is also a high priority to support lower socioeconomic population groups, who face more constraints and limitations on making healthy choices. Increasing the access to and affordability of healthy choices should therefore be a key objective.
- 2.3.9 Impact on public health objectives should have priority consideration when developing economic policy, as well as policies in the areas of trade, agriculture, transport and urban planning.

**2.4 A framework, linking the main actors, policy tools and settings, is needed to translate these principles into action.**

- 2.4.1 **All relevant government sectors and levels should play a role.** Appropriate institutional mechanisms need to be in place to enable this collaboration.
  - Health ministries should play a leading role by advocating, inspiring and guiding multisectoral action. They should set the example when facilitating healthy choices among employees in the health sector and health service users. The role of the health system is also important when dealing with people at high risk and those already overweight and obese, by designing and promoting prevention measures and by providing diagnosis, screening and treatment.
  - All relevant ministries and agencies such as those for agriculture, food, finance, trade and economy, consumer affairs, development, transport, urban planning, education and research, social welfare, labour, sport, culture, and tourism have an essential role to play in developing health promoting policies and actions. This will also lead to benefits in their own domain.
  - Local authorities have great potential and a major role to play in creating the environment and opportunities for physical activity, active living and a healthy diet, and they should be supported in doing this.
- 2.4.2 **Civil society can support the policy response.** The active involvement of civil society is important, to foster the public's awareness and demand for action and as a source of innovative approaches. Nongovernmental organizations can support strategies to counteract obesity. Employers', consumers', parents', youth, sport and other associations and trade unions can each play a specific role. Health professionals' organizations should ensure that their members are fully engaged in preventive action.
- 2.4.3 **The private sector should play an important role and have responsibility in building a healthier environment, as well as for promoting healthy choices in their own workplace.** This includes enterprises in the entire food chain from primary producers to retailers. Action should be focused on the main domain of their activities, such as manufacturing, marketing and product information, while consumer education could also play a role, within the framework set by public health policy. There is also an important role for sectors such as sports clubs, leisure and construction companies, advertisers, public transportation, active tourism, etc. The private sector could be involved in win-win solutions by highlighting the economic opportunities of investing in healthier options.
- 2.4.4 **The media have an important responsibility** to provide information and education, raise awareness and support public health policies in this area.

- 2.4.5 **Intersectoral collaboration is essential not only at national but also at international level.** WHO should inspire, coordinate and lead the international action. International organizations such as the United Nations Food and Agriculture Organization (FAO), the United Nations Children's Fund (UNICEF), the World Bank, the Council of Europe, the International Labour Organization (ILO), and the Organisation for Economic Co-operation and Development (OECD) can create effective partnerships and thus stimulate multisectoral collaboration at national and international levels. The European Union (EU) has a principal role to play through EU legislation, public health policy and programmes, research and activities such as the European Platform for Action on Diet, Physical Activity and Health.

Existing international commitments such as the Global Strategy on Diet, Physical Activity and Health, the European Food and Nutrition Action Plan and the European Strategy for the Prevention and Control of Noncommunicable Diseases should be used for guidance and to create synergies. In addition, policy commitments such as the Children's Environment and Health Action Programme for Europe (CEHAPE), the Transport, Health and Environment Pan-European Programme (THE PEP), and the Codex Alimentarius within the limits of its remit, can be used to achieve coherence and consistency in international action and to maximize efficient use of resources.

- 2.4.6 **Policy tools range from legislation to public/private partnerships, with particular importance attached to regulatory measures.** Government and national parliaments should ensure consistency and sustainability through regulatory action, including legislation. Other important tools include policy reformulation, fiscal and public investment policies, health impact assessment, campaigns to raise awareness and provide consumer information, capacity-building and partnership, research, planning and monitoring. Public/private partnerships with a public health rationale and shared specified public health objectives should be encouraged. Specific regulatory measures should include: the adoption of regulations to substantially reduce the extent and impact of commercial promotion of energy-dense foods and beverages, particularly to children, with the development of international approaches, such as a code on marketing to children in this area; and the adoption of regulations for safer roads to promote cycling and walking.
- 2.4.7 **Action should be taken at both micro and macro levels, and in different settings.** Particular importance is attached to settings such as the home and families, communities, kindergartens, schools, workplaces, means of transport, the urban environment, housing, health and social services, and leisure facilities. Action should also cover the local, country and international levels. Through this, individuals should be supported and encouraged to take responsibility by actively using the possibilities offered.
- 2.4.8 **Action should be aimed at ensuring an optimal energy balance by stimulating a healthier diet and physical activity.** While information and education will remain important, the focus should shift to a portfolio of interventions designed to change the social, economic and physical environment to favour healthy lifestyles.
- 2.4.9 **A package of essential preventive actions should be promoted as key measures; countries may further prioritize interventions from this package, depending on their national circumstances and the level of policy development.** The package of essential action would include: reduction of marketing pressure, particularly to children; promotion of breastfeeding; ensuring access to and availability of healthier food, including fruit and vegetables; economic measures that facilitate healthier food choices; offers of affordable recreational/exercise facilities, including support for socially disadvantaged groups; reduction of fat, free (particularly added) sugars and salt in manufactured products; adequate nutrition labelling; promotion of cycling and walking by better urban design and transport policies; creation of opportunities in local environments that motivate people to engage in leisure time physical activity; provision of healthier foods, opportunities for



daily physical activity, and nutrition and physical education in schools; facilitating and motivating people to adopt better diets and physical activity in the workplace; developing/improving national food-based dietary guidelines and guidelines for physical activity; and individually adapted health behaviour change.

**2.4.10 Attention should also continue to be focused on preventing obesity in people who are already overweight and thus at high risk, and on treating the disease of obesity.**

Specific actions in this area would include: introducing timely identification and management of overweight and obesity in primary care, provision of training for health professionals in the prevention of obesity; and issuing clinical guidance for screening and treatment. Any stigmatization or overvaluation of obese people should be avoided at any age.

**2.4.11 When designing and implementing policies, successful interventions with demonstrated effectiveness need to be used.**

These include projects with proven impact on the consumption of healthier foods and levels of physical activity such as: schemes to offer people free fruit at school; affordable pricing for healthier foods; increasing access to healthier foods at workplaces and in areas of socioeconomic deprivation; establishing bicycle priority routes; encouraging children to walk to school; improving street lighting; promoting stair use; and reducing television viewing. There is also evidence that many interventions against obesity, such as school programmes and active transport, are highly cost-effective. The WHO Regional Office for Europe will provide decision-makers with examples of good practice and case studies.

### 3. PROGRESS AND MONITORING

- 3.1** The present Charter aims to strengthen action against obesity throughout the WHO European Region. It will stimulate and influence national policies, regulatory action including legislation and action plans. A European action plan, covering nutrition and physical activity, will translate the principles and framework provided by the Charter into specific action packages and monitoring mechanisms.
- 3.2** A process needs to be put together to develop internationally comparable core indicators for inclusion in national health surveillance systems. These data could then be used for advocacy, policy-making and monitoring purposes. This would also allow for regular evaluation and review of policies and actions and for the dissemination of findings to a wide audience.
- 3.3** Monitoring progress on a long-term basis is essential, as the outcomes in terms of reduced obesity and the related disease burden will take time to manifest themselves. Three-year progress reports should be prepared at the WHO European level, with the first due in 2010.



Professor Recep Akdağ  
Minister of Health of Turkey



Dr Marc Danzon  
WHO Regional Director for Europe

Istanbul, 16 November 2006



International Obesity TaskForce

## Guiding Principles for Reducing the Commercial Promotion of Foods and Beverages to Children ('Sydney Principles')

### Consultation on Draft Principles

#### The issue

The epidemic of obesity is affecting the health and well-being of many millions of children around the world in affluent and less affluent countries alike. There are many drivers of this pandemic with an important one being the high levels of commercial marketing of energy-dense, nutrient-poor foods and beverages that specifically target young children. Numerous studies and several reviews have concluded that these marketing strategies clearly contribute to the unhealthy diets which are promoting childhood obesity. This commercial marketing also undermines the healthy eating messages in the dietary guidelines of every country and is contrary to the objectives of the World Health Organisation (WHO) Global Strategy on Diet, Physical Activity and Health which has been endorsed by 192 countries.

There is a consensus that multi-strategy approaches will be needed to reduce childhood obesity. Many governments, non-government organisations, food, beverage and advertising industries, and international organisations like WHO are now actively examining strategies to reduce commercial marketing to children as an important and integral part of a multi-pronged approach to this rapidly increasing problem.

#### International Obesity Taskforce & International Association for the Study of Obesity

IOTF and IASO are promoting global action on commercial marketing to children through two complementary initiatives. As part of the Global Prevention Alliance, a coalition of international non-government organisations, IOTF and IASO are calling on WHO and its Member States to develop an International Code of Marketing of Food and Beverages to Children. In addition, an IOTF Working Group is developing a set of underlying principles to guide action to substantially reduce commercial promotions that target children. The first draft was launched at the International Congress on Obesity in Sydney in September 2006 and, following feedback from delegates, the second draft of these 'Sydney Principles' is now out for global consultation.

#### Scope

1. The Principles do not relate to non-commercial promotion of healthy eating, for example government-funded social marketing campaigns.
2. The UN Convention on Rights of the Child defines a 'child' as under the age of 18 years but recognises that, for different situations, a 'child' may be defined as 18 or a younger age. The age at which restrictions in commercial promotions to children applies to needs to be debated. A stepped approach for children and adolescents may be possible.
3. Debate is also needed about the products that restrictions would apply to: either
  - i. energy-dense, nutrient-poor foods and beverages, or
  - ii. all foods and beverages, or
  - iii. all products.



## International Obesity TaskForce

# Guiding Principles for Reducing the Commercial Promotion of Foods and Beverages to Children ('Sydney Principles')

### Draft Principles

#### Actions to reduce commercial promotions to children should:

- 1. SUPPORT THE RIGHTS OF CHILDREN.** Regulations need to align with, and progress, the UN Convention on the Rights of the Child and the Rome Declaration on World Food Security which endorse the rights of children to adequate, safe and nutritious food.
- 2. AFFORD SUBSTANTIAL PROTECTION TO CHILDREN.** Children are particularly vulnerable to commercial exploitation, and regulations need to be sufficiently powerful to provide them with a high level of protection. Child protection is the responsibility of every section of society – parents, governments, civil society, and the private sector.
- 3. BE STATUTORY IN NATURE.** Only statutory regulations have sufficient authority to reduce the volume of marketing to children and the negative impact that this has on their diets. Industry self regulation is not designed to achieve this goal.
- 4. TAKE A WIDE DEFINITION OF COMMERCIAL PROMOTIONS.** Regulations need to encompass all types of commercial targeting of children (e.g. television advertising, print, sponsorships, competitions, loyalty schemes, product placements, internet) and be sufficiently flexible to include new marketing methods as they develop.
- 5. GUARANTEE COMMERCIAL-FREE CHILDHOOD SETTINGS.** Regulations need to ensure that schools and other child care and education settings are free from commercial promotions that specifically target children.
- 6. INCLUDE CROSS BORDER MEDIA.** International agreements will be needed to regulate cross-border media such as internet, satellite and cable television, and free-to-air television from neighbouring countries.
- 7. BE EVALUATED, MONITORED AND ENFORCED.** The impact of regulations on children's dietary patterns needs to be evaluated when instituted and the ongoing compliance with regulations needs to be monitored and enforced.

#### Feedback (please distribute this through your own networks):

The IOTF Working Group is seeking your feedback on the Principles and their scope of application (definitions of age and products covered). It is recognised that existing regulations fall far short of these Principles in all countries and that it will take years to progress the agenda of protecting children from the negative impacts of the commercial promotion of the foods and beverages that are promoting childhood obesity. Therefore, we ask you to critique these as guiding principles for a long term vision – will they keep us on the right track to create a better world for the children of the future?

Please provide your feedback at: [www.iotf.org/sydneyprinciples](http://www.iotf.org/sydneyprinciples) by 30 March 2007

Thank you from the IOTF Prevention Group  
(Boyd Swinburn, Louise Baur, Kelly Brownell, Tim Gill, Shiriki Kumanyika, Tim Lobstein, Jaap Seidell)

The logo features a green globe with latitude and longitude lines, surrounded by a laurel wreath. The text is centered over the globe.

UNITED NATIONS SYSTEM  
**STANDING COMMITTEE  
ON NUTRITION**

The Administrative Committee on Coordination (ACC), which was comprised of the heads of the UN Agencies, recommended the establishment of the Sub-Committee on Nutrition in 1976, following the World Food Conference and with particular reference to Resolution V on food and nutrition. This was approved by the Economic and Social Council of the UN (ECOSOC) by resolution in July 1977. Following the reform of the ACC in 2001, the ACC/SCN was renamed the United Nations System Standing Committee on Nutrition or simply “the SCN”. The SCN reports to the Chief Executives Board of the UN, the successor of the ACC. The UN members of the SCN are ECA, FAO, IAEA, IFAD, ILO, UN, UNAIDS, UNDP, UNEP, UNESCO, UNFPA, UNHCHR, UNHCR, UNICEF, UNRISD, UNU, WFP, WHO and the World Bank. IFPRI and the ADB are also members. From the outset, representatives of bilateral donor agencies have participated actively in SCN activities as do nongovernmental organizations (NGOs). The SCN Secretariat is hosted by WHO in Geneva.

The *mandate of the SCN* is to serve as the UN focal point for promoting harmonized nutrition policies and strategies throughout the UN system, and to strengthen collaboration with other partners for accelerated and more effective action against malnutrition. The *aim of the SCN* is to raise awareness of and concern for nutrition problems at global, regional and national levels; to refine the direction, increase the scale and strengthen the coherence and impact of actions against malnutrition worldwide; and to promote cooperation among UN agencies and partner organizations. The SCN’s annual meetings have representation from UN agencies, donor agencies and NGOs; these meetings begin with symposia on subjects of current importance for policy. The SCN brings such matters to the attention of the UN Secretary General and convenes working groups on specialized areas of nutrition. Initiatives are taken to promote coordinated activities—interagency programmes, meetings, publications—aimed at reducing malnutrition, reflecting the shared views of the agencies concerned. Regular reports on the world nutrition situation are issued. *Nutrition Policy Papers* are produced to summarize current knowledge on selected topics. *SCN News* is published twice a year, and the *NICS* (formerly *RNIS*) is published quarterly. As decided by the SCN, initiatives are taken to promote coordinated activities—interagency programmes, meetings, publications aimed at reducing malnutrition, primarily in developing countries.

**ANN VENEMAN**  
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