

**Challenges for the 21st Century: A Gender Perspective on Nutrition
through the Life Cycle – Nutrition policy paper No. 17**

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*Papers from the ACC/SCN
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UNITED NATIONS ADMINISTRATIVE COMMITTEE ON COORDINATION – SUB-COMMITTEE ON NUTRITION (ACC/SCN)

The ACC/SCN is the focal point for harmonizing the policies and activities in nutrition of the United Nations system. The Administrative Committee on Coordination (ACC), which is comprised of the heads of the UN Agencies, recommended the establishment of the Sub-Committee on Nutrition in 1977, following the World Food Conference (with particular reference to Resolution V on food and nutrition). This was approved by the Economic and Social Council of the UN (ECOSOC). The role of the SCN is to serve as a coordinating mechanism, for exchange of information and technical guidance, and to act dynamically to help the UN respond to nutritional problems.

The UN members of the SCN are FAO, IAEA, IFAD, ILO, UN, UNDP, UNEP, UNESCO, UNFPA, UNHCR, UNICEF, UNRISD, UNU, WFP, WHO and the World Bank. From the outset, representatives of bilateral donor agencies have participated actively in SCN activities. The SCN is assisted by the Advisory Group on Nutrition (AGN), with six to eight experienced individuals drawn from relevant disciplines and with wide geographical representation. The Secretariat is hosted by WHO in Geneva.

The SCN undertakes a range of activities to meet its mandate. Annual meetings have representation from the concerned UN Agencies, from 10 to 20 donor agencies, the AGN, as well as invitees on specific topics; these meetings begin with symposia on subjects of current importance for policy. The SCN brings certain such matters to the attention of the ACC. The SCN sponsors working groups on inter-sectoral and sector-specific topics.

The SCN compiles and disseminates information on nutrition, reflecting the shared views of the agencies concerned. Regular reports on the world nutrition situation are issued, and flows of external resources to address nutrition problems are assessed. Nutrition Policy papers are produced to summarize current

knowledge on selected topics. *SCN NEWS* is normally published twice a year. As decided by the Sub-Committee, initiatives are taken to promote coordinated activities – inter-agency programmes, meetings, publications – aimed at reducing malnutrition, primarily in developing countries.

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Foreword and Acknowledgements

To accelerate progress in tackling malnutrition, adequate food, health, and care must be ensured throughout the lifecycle. Good nutrition during pregnancy reduces the likelihood of low birth weight and improves pregnancy outcomes. Promotion of growth and development in the young infant and child leads to a well-nourished school-aged child who can participate fully in the educational process. Good nutrition during adolescence, especially for girls, is important for their growth, development, and wellbeing, and eventually for their children's.

This report presents a collection of papers discussed at the 25th Session of the United Nations Sub-Committee on Nutrition, held March 30 to 2 April, 1998, in Oslo, Norway. This report provides new analysis and thinking from both nutrition research and practice. It is meant to stimulate discussion and inform policy setting. The intended audience is a broad constituency of professionals concerned with development, for which nutrition is an indicator of achievement and a central aim.

The ACC/SCN is most grateful to the Government of Norway for hosting its 25th Session and to the Norwegian National Nutrition Council, especially Dr Gunn-Elin Aa. Bjørneboe, Arnhild-Haga Rimestad and Bodil Blaker who collaborated on the general organisation and local logistics of all the associated Session meetings. This was the first time that an SCN Session was hosted by a donor government. The subject of the symposium, held traditionally on the first day of the Session, was *Challenges for the 21st Century: A Gender Perspective on Nutrition Through the Life Cycle*. We are indebted to the Honorary Chair and keynote speaker of the symposium, Dr Gro Harlem Brundtland, now Director-General of the World Health Organization. She was assisted in this task by Professor Kaare Norum, then Director of the Institute for Nutrition Research in Oslo (now Rector of the University of Oslo), and a member of the SCN's *Commission on the Nutrition Challenges for the 21st Century*. In addition, we thank Dr Hilde Frafjord Johnson, Minister of International Development and Human Rights in Norway; Professor Philip James, Chair of the SCN's *Commission* and Director of the Rowett Institute in Aberdeen; Suttalak Smitasiri, Mahidol University, Thailand; Per Pinstrup-Andersen, International Food Policy Research Institute, Washington, DC; and Alan Lopez of WHO. Our grateful thanks to Ms Isatou Jallow Semega-Janneh of the Gambian Ministry of Health who gave a most lively and stimulating Second Abraham Horwitz Lecture.

Lindsay Barrett provided the cover illustration. Cathy Needham served as rapporteur for the Symposium. This report was edited by Cathy Needham and Sonya Rabeneck. We are grateful to Arne Oshaug and Gerd Holmboe-Ottesen for taking the initiative to welcome the SCN to Oslo and in generating such enthusiastic support for the work of the SCN in Norway.

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Chapter 1: Overview

The 25th Session of the ACC/SCN was held in Oslo, Norway on March 30 to April 2, 1998, hosted by the Government of Norway. The subject of the symposium, held traditionally on the first day of the Session, was *Challenges for the 21st Century: A Gender Perspective on Nutrition Through the Life Cycle*.

This topic was inspired by debate during the 24th SCN Session held in Kathmandu the year before. The symposium took as its starting point the notion that to accelerate action, malnutrition needs to be tackled throughout the lifecycle by ensuring adequate food, health, and care. Good nutrition during pregnancy reduces the likelihood of low birth weight and improves pregnancy outcomes. Promotion of growth and development in the young infant and child leads to a well-nourished school-aged child who can participate more fully in the educational process. Adolescent nutrition, especially for girls, is important for their growth, development and wellbeing, and eventually for their children's.

This report presents the proceedings of the symposium. This overview summarises the content of the individual presentations, as well as the main issues discussed during the plenary. The Honorary Chair of the symposium was Dr Gro Harlem Brundtland, now Director-General of the World Health Organization. She was assisted in this task by Professor Kaare Norum, Director of the Institute for Nutrition Research in Oslo, and a member of the SCN's *Commission on the Nutrition Challenges for the 21st Century*.

Introductory remarks were made by Dr Hilde Frafjord Johnson, Minister of International Development and Human Rights in Norway. Following the opening session, Dr Richard Jolly, Chair of the SCN, introduced Dr Brundtland, who gave the keynote address. Following the opening session, Professor Philip James, Chair of the SCN's *Commission on the Nutrition Challenges for the 21st Century* and Director of the Rowett Institute in Aberdeen, presented the main themes of the Commission's work. Subsequent presentations were given by Suttalak Smitasiri (Mahidol University, Thailand), Per Pinstrup-Andersen (International Food Policy Research Institute, Washington, DC), and Alan Lopez (WHO). At the end of the day, Dr Jolly introduced Ms Isatou Jallow Semega-Janneh of The Gambian Ministry of Health who gave the second Abraham Horwitz Lecture.

Dr Hilde Frafjord Johnson welcomed participants to Norway and to the SCN's 25th Session. She drew attention to the fact that the goal set at the World Food Conference in 1974, to eradicate hunger within a decade, was not achieved. The subsequent World Food Summit held in Rome in 1996 called for governments to take prime responsibility for action in their countries. Dr Johnson spoke of an 'enabling environment' for development that includes the functioning of the world trade system, efforts to provide effective debt relief, and appropriate macro-economic reforms lead by the Bretton Woods Institutions. She spoke of the feminisation of poverty, stressing that a poverty-oriented policy in development is a gender-oriented policy. Dr Johnson noted that the Norwegian government has identified education and health as top priorities in their cooperation with developing countries. An important aspect of this work is taking a human rights approach, whereby people are fully active in the development process and have established rights.

Given that this was the 25th Session of the SCN, Dr Richard Jolly in his opening address offered remarks on the origins of the SCN, which first met in 1977. From its beginnings, the SCN has involved agencies of the United Nations, bilateral agencies and non-governmental organisations. He gave tribute to Professor Nevin Scrimshaw who, some twenty years before the SCN was created, saw the need for the agencies to collaborate on technical issues of nutrition. Dr Jolly highlighted the many accomplishments of the SCN, noting especially the work of Dr Abraham Horwitz and Dr John Mason, past Chair and Technical Secretary. Under their leadership, the SCN issued a series of reports on the world nutrition situation and important lessons learned from successful community nutrition action programmes. This work provides a very rich source of material to draw upon in mobilising accelerated action into the next century.

When introducing keynote speaker Dr Gro Harlem Brundtland, Dr Jolly noted Norway's commitment to development assistance, which far exceeded the 0.7% target for many years. Dr Jolly wished Dr Brundtland every success in her new role of leadership for health in the United Nations. In her keynote address, Dr Brundtland posed the question: how can we best stimulate positive change in political processes? The Hot Springs discussions of some 55 years ago identified poverty as the first cause of hunger and malnutrition. However, the fundamental objectives set out then have not been achieved: namely orderly management of domestic and international investment, and sustained international economic equilibrium. However, with more democracy in the world today, we have more opportunities to implement sound policies.

Dr Brundtland cited a policy in Norway as an example of a national action to alleviate a public health problem. A national nutrition and food policy was formulated in Norway in the seventies. This policy emphasised reducing fat intake and increasing intake of fruits and vegetables as priority actions. Advocacy was underpinned by economic and social policies that influenced household choices, as well as the production, distribution, and pricing of food. Despite some significant delays in implementation, this policy eventually resulted in a widespread change in dietary preference for low-fat milk, now widely available in food outlets throughout the country. Dr Brundtland highlighted the need for consistent effort to get good policies implemented, especially when there are strong interest groups working against the public health interest.

Dr Brundtland went on to stress the need for targeted policies to improve nutrition in developing countries, noting that economic growth and more equity will not necessarily improve nutrition. The importance of micronutrient interventions to health outcomes has not been sufficiently emphasised. Vitamin A interventions, known to have a dramatic effect on young child mortality, are but one example.

Dr Brundtland also discussed changes to be introduced into WHO'S work. She stressed that capacity building and health sector development will be part of all WHO programmes. The WHO will also speak out on the need to safeguard the role of health and social services. This message will be directed not just to the financial institutions, but also to governments. Finance ministers of all countries need to hear about the central role of health for development. Evidence-based health and nutrition policies will serve this task well, she said.

In closing, Dr Brundtland likened the Secretary-General's team of UN agency heads as his cabinet, and the Secretary-General himself as a Prime Minister. Mandates of agencies need to be openly discussed at this level, and integrated. Only with this kind of thinking will the goals that have been set out by the global conferences be achieved.

Professor Philip James began his presentation titled 'The Global Nutrition Challenge in the Millennium' by explaining the origins of the SCN's *Commission on the Nutrition Challenges of the 21st Century* and introducing its members. The Commission was established following the SCN's discussions in Kathmandu one year ago. Its purpose is to identify the emerging nutrition challenges and to examine the role of the United Nations agencies in meeting these challenges.

Professor James began by presenting numbers and trends in preschool malnutrition, noting that some 157.6 million children are underweight worldwide, according to 1996 figures published by the ACC/SCN. According to simulations carried out by the International Food Policy Research Institute (IFPRI), by the year 2020, at current rates of progress, about 150 million children will still be underweight. Importantly, the definition of malnutrition conventionally used for these estimates hides the true impact of malnutrition on societies. This is because the majority of children may have depressed growth, even when only modest numbers are specified as malnourished, because they fall below a given cutoff.

Professor James then traced the origins of young child malnutrition to low birth weight, and to low body mass (BMI) in women and poor weight gain during pregnancy. Evidence from a review of randomised controlled trials of nutrition interventions during pregnancy shows that poor foetal growth responds to nutritional interventions. "We need to look at antenatal care in a completely new way in order to avoid the huge handicap

that arises from low birth weight”, he stated.

In introducing the agricultural dimension, Professor James covered several points. Firstly, if being well–nourished ensured growth to an optimum height, in India for example, one–third more food would be needed. Secondly, reliance on only a small number of food crops introduces an element of vulnerability and risk in terms of sustainable development. Thirdly, seasonal fluctuations in the annual provision of food significantly affect adult and infant nutrition. This may have profound long–term implications on the development of societies.

Professor James also addressed the issue of dietary chronic disease. He noted that in numerical terms, diseases of the circulatory system and cancers are now greater in the developing world than in the industrialised world. There is also a profound rise in rates of obesity in developing countries. Some of these problems, diabetes for example, have foetal origins and major implications for policy. Professor James summed up by saying “... with a coherent public health strategy... not simply adult education... the course of coronary heart disease can be changed.”

In conclusion, Professor James urged that coherent strategies need to be formulated in relation to the magnitude of the problem and the level of population risk. This has been done by the Institute of Medicine for three micronutrient deficiencies, and a similar approach could be developed for the range of malnutrition problems that societies face.

Dr Suttalak Smitasiri’s presentation on “Nutrition Challenges and Gender in Asia” focused first on the experience of Thailand in tackling undernutrition in children. The speaker drew attention to the high rates of underweight in children in Asia, and anaemia among pregnant women. Anaemia of pregnancy is especially widespread, over 80% in India and Bhutan.

Thailand is known for having dramatically reduced malnutrition in young children, from over one half to about 19% within one decade. What were the elements of this success? Dr Smitasiri pointed out that policies and programmes were created to reduce both poverty *and* malnutrition. Targeting poor areas, focused interventions, a primary health care structure that promoted community participation, and a strong emphasis on nutrition in rural income generation schemes were important elements. Advocacy and commitment at the highest political levels were also key. These aspects were galvanised by a small group of senior professionals with strong backgrounds in primary health care and management. This group was effective in merging nutrition work into the national poverty alleviation plan. Because of the massive scale of implementation, and high levels of volunteer recruitment at the village level, results were communicated widely, which helped to raise awareness.

How relevant is this experience to other countries in Asia? Dr Smitasiri outlined some of the contrasts between the situations of South Asian women and Thai women. In Thailand, women and men have both been involved in nutrition policy implementation. However, there are three important gender differences that might limit application beyond Thailand: 1) South Asia faces more difficulties in terms of food production and living standards, 2) South Asia has a wider economic and social gap between the ‘haves’ and the ‘have nots’, and 3) the role of women in South Asia is more limited than in Thailand and elsewhere in South–East Asia. Systematic efforts are needed to create a critical mass of leaders, especially women leaders in South Asia. Nutrition work needs to build upon a solid understanding of the potential for change.

The speaker noted in conclusion that “the Thai experience... can be considered by other Asian countries,” and despite the need for urgent action in South Asia, she cautioned that nutrition work should not dis–empower the poor.

In his paper “Achieving the 2020 Vision,” Dr Per Pinstrup–Andersen first expanded on the six priority areas of action required to realise the 2020 Vision set out by the IFPRI:

- strengthen the capacity of developing country governments to perform appropriate functions, such as maintaining law and order and assuming private sector competition in markets. “The efforts of the past decade to weaken developing country governments must be turned around”, he stated. Governments should facilitate food security by facilitating a social and economic environment that provides all citizens with the opportunity to assure their food security.
- invest more in poor people to enhance their health, nutrition and productivity, and to increase their access to remunerative employment. Female education is among the most

important investments for assuring food security.

- accelerate agricultural productivity by strengthening agricultural research and extension systems. Agriculture is the lifeblood of the economy in most developing countries, providing up to three-quarters of all employment and half of all incomes. Agriculture has long been neglected in developing countries resulting in stagnant economies and widespread hunger and poverty.
- promote sustainable agricultural intensification and manage natural resources soundly. Local control over natural resources must be strengthened and local capacity for management improved.
- develop effective low-cost agricultural input and output markets. Policies and institutions that favour large-scale, capital intensive enterprises over small-scale labour-intensive ones should be removed.
- expand and realign international assistance. The current downward trend in international development assistance must be reversed, but aid effectiveness also needs to be improved. Recipient countries should develop a coherent strategy for achieving goals related to food security and poverty and should identify the best use of international assistance.

Dr Pinstrup-Andersen went on to discuss the role of women in achieving the 2020 Vision, noting that women account for 70–80% of household food production in Sub-Saharan Africa despite unequal access to land, inputs, and information. Overlooking the potential benefits from effective integration of women into development is costly to developing countries. It also results in fewer development gains per dollar spent on development projects. The human resource embodied in women is poorly utilised in the development process.

Extensive research done by IFPRI has shown that improvements in household welfare depend not only on the level of household income but also on its control. Women tend to spend their income disproportionately on food and other family needs. Thus women's incomes are more strongly associated with improvements in child health and nutrition. Further, ensuring nutrition security of the household through a combination of food, health care, and child care is almost exclusively the domain of women. Technology is urgently needed to increase the productivity of women.

In conclusion, the speaker stressed that women are key to food security, and must be given equal access to productive resources and to education, health care, and other factors that increase their wellbeing and their human capital.

Dr Alan Lopez, in his presentation "Gender and Nutrition in the Global Burden of Disease", began by explaining the origins of the Global Burden of Disease (GBD) project. Statistics on health status traditionally have enormous limitations that affect their practical value to policy makers. Health statistics tend to be partial and fragmented, and sometimes misused by advocates competing for scarce resources. Also, traditional health statistics do not allow policy makers to compare relative cost-effectiveness of different interventions. Working together, the World Bank and the WHO in 1991 commissioned a study of the Global Burden of Disease to provide a full assessment of global health conditions. The results of this work have been widely published. Two main findings arise from the mortality analyses:

- for several major developing regions (Latin America and the Caribbean, for example) more people die of non-communicable than communicable diseases. In China, for example, there are more than four times as many deaths from non-communicable than communicable causes;
- only in India and sub-Saharan Africa do communicable causes still predominate.

However, analysis of mortality outcomes does not give a full picture of a population's health. The leading causes of disability are much different from the leading causes of death. The central role of disability in determining overall health status "has until now been almost invisible", Dr Lopez stated.

The GBD team has shown that the leading causes of disability include, surprisingly, depression and other mental illnesses. Iron-deficiency anaemia is ranked second among leading causes of disability. Turning to the issue of sex differences, Dr Lopez underlined that women suffer disproportionately from their reproductive role. The burden of reproductive ill-health, almost entirely confined to developing regions, is so great that,

worldwide, maternal conditions make up three of the ten leading causes of disease burden in women 15 to 44 years.

Where does malnutrition figure in these estimates? To deal with this question Dr Lopez presented data on exposures to hazards. Exposure to particular hazards can significantly increase an individual's risks of developing disease. Policy makers need solid information on these risk factors to devise effective prevention strategies. The burden of disease or injury that can be attributed to past exposure to a given risk factor is an estimate of the burden that could have been averted if that risk factor had been eliminated.

Importantly, of the ten risk factors studied, malnutrition is the dominant hazard responsible for about 16% of the global burden of disease; poor water supply and sanitation are responsible for an additional 6.8% of the global burden. Malnutrition is a major cause of disease burden in Sub-Saharan Africa where it accounts for one-third of all disability life-adjusted years (DALYs) lost and in India where it accounts for 22% of DALYs lost. These estimates do not capture the effects of mild and moderate underweight in children, micronutrient malnutrition and other forms of undernutrition in other age groups. This important work is yet to be done.

The importance of taking into account malnutrition as an underlying cause of mortality was stressed during plenary discussion of Dr Lopez's paper. Similarly, for Eastern Europe and countries of the former Soviet Union, the importance of overnutrition and poor nutrition to declining health and rising rates of premature mortality was underlined.

Ms Isatou Jallow Semega-Janneh spoke on "Breastfeeding: From Biology to Policy", as the second Abraham Horwitz Lecturer. The theme of her presentation was exclusive breastfeeding. She began by reviewing aspects of the biology of breastfeeding, pointing out that "the full benefits of breastfeeding may not be realised if optimal breastfeeding, including exclusive breastfeeding, is not practised". Citing data available from WHO'S Global Data Bank on Breastfeeding, the speaker noted that exclusive breastfeeding to the age of four months is quite rare despite very high initiation rates, especially in Africa. In describing barriers to exclusive breastfeeding, Ms Semega-Janneh notes that local perceptions of what constitutes optimal infant feeding may differ greatly from international recommendations.

The speaker then described an innovative community action project, called the Baby Friendly Community Initiative, which was carried out in The Gambia beginning in 1991. The Initiative focused on providing community support to exclusive breastfeeding. The rationale for this approach was that most deliveries in The Gambia occur at home and feeding practices, including breastfeeding, are influenced to a great extent by traditional beliefs at home.

The *Ten Steps* of the Baby Friendly Hospital Initiative were adapted to the community level. Messages on maternal nutrition, complementary feeding, environmental sanitation, and personal hygiene were also incorporated. Village support groups on infant feeding were created. These groups – made up of five women and two men – were trained to implement and monitor the Initiative. Traditional birth attendants were included in the support groups because of their key role in the communities. Training built on local and traditional knowledge. Village support groups were entirely responsible for information dissemination. During the lifetime of the Initiative, breastfeeding initiation rates (within 24 hours) increased from 60.2% to 99.8%. Similarly, exclusive breastfeeding became universal. Attitudes also changed and a local term for exclusive breastfeeding was adopted. Rest houses in the field were constructed for breastfeeding women. Because of the success of the Initiative, national expansion in The Gambia has been recommended.

The speaker then reflected on the importance of maternity protection for all working women, and explained how different aspects of maternal protection are covered in existing international instruments, such as the Innocenti Declaration and others. Ms Semega-Janneh concluded by challenging the SCN member agencies to "bring home the importance and benefits of breastfeeding to governments and their policy makers."

Chapter 2: Address by Hilde Frafjord Johnson, Minister of International Development and Human Rights, Norway

Distinguished delegates, ladies and gentlemen, it is an honour and a pleasure for me to welcome you all to Norway and to Oslo. You are faced with one of the most daunting challenges for the 21st century: the elimination of hunger and malnutrition, with particular emphasis on a gender perspective on nutrition through the life cycle. At the World Food Conference in Rome in 1974, it was decided to eliminate hunger within a

decade. We did not succeed with this important moral obligation – far from it, in fact. Poverty and the great division between the rich and poor in the world today present us with a moral imperative. We cannot refuse to become involved in the fight against poverty and malnutrition. Globally, there are more than 800 million chronically hungry people and 160 million malnourished children under the age of five. Twelve million children under the age of five die annually and 50% of these die of malnutrition. Billions of people suffer from illnesses related to bad nutritional habits and millions of people suffer from famine as a result of natural disasters and conflict. These numbers must go down and we have to contribute to their reduction.

There is no simple solution to the elimination of malnutrition and hunger. The challenge before us is immense. If we are to solve this problem we have to supply a broad range of measures. The UN, donor countries, civil society, and developing countries must work together in a coordinated manner to contribute to its elimination. The Declaration and Plan of Action of the World Food Summit in Rome, 1996, recognised that governments must take the prime responsibility for action in their own countries. National policies will have to put the interests of poor and starving people first. The international community has an obligation to support national efforts. The failure by rich countries to fulfil the UN target of 0.7% of GNP for official development assistance is unacceptable. The reduction in the aid budgets of the donor countries must be reversed.

In 1988, I spent a year in a village in Tanzania doing fieldwork for my thesis in social anthropology. I lived and worked among village farmers, and measured at close range how international prices affected government subsidies (and the lack thereof), and how adjustment programmes affected local women and their families. Make no mistake about it, these seemingly abstract, almost academic structural phenomena about which we publish books, papers, and articles are matters determining the lives of millions of people. An assistance programme is not of much use unless it takes these conditions fully into account.

The international community must make extensive efforts to improve the enabling environment for development. Among our most important tasks are:

- to improve the functioning of the world trade system through the World Trade Organization, taking into account the poorest countries' needs;
- to support the efforts to provide effective debt relief through, for example, the Paris club;
- to support, although not necessarily without criticism and conditions, macro-economic reforms lead by the Bretton Woods Institutions.

In addition, national policies and aid resources are crucial in order to attain development goals in the poorest countries. In this regard, the 20/20 Initiative is of great importance. On the basis of this Initiative, launched at the Social Summit in Copenhagen, donor countries should allocate 20% of their development aid to basic social services, such as primary education and basic health care. Likewise, developing countries should allocate 20% of their own budgetary resources to the same end.

The implementation of the 20/20 Initiative should be a top priority, and is also a pre-condition for reaching results in the area of gender and nutrition for the 21st century. Women are often the prime producers in the households. They take responsibility for the children and take care of meal preparation and family nutrition. Investing in education for women and reaching women with basic health services are investments in the future. It gives a lot in return in food security and nutrition and in health and prevention. That is why gender should be our prime focus.

The development efforts by many countries are currently being complicated – some might even say jeopardised – by the lack of coordination among donors. Tanzania has to relate to some 30 donors at the same time, each with often very different demands and agendas. There are around 3000 projects in the country. Each project might in itself be worthwhile, but they are not necessarily a result of priorities stated by the government. Often they are more a result of the donors' own priorities. This diverse and uncoordinated project portfolio might instead be a serious impediment to development. In fact, our presence can do more harm than good. The host government might have to use most of its resources to follow up all the donor projects, and have less time and even fewer resources to set their own agenda for development and to implement a comprehensive strategy for sustainable economic growth. We have to get our act together in all donor furor to strengthen donor coordination. In this context, everyone has to let go of self-interests. I am calling for a comprehensive approach to the fight against poverty and malnutrition. What matters are results on the ground, among the poor – not at home.

There is now broad support for emphasising women in development. Most of us recognise the importance of the role of women for economic and social development. On the other hand, we have a long way to go before we can say that we are anywhere near equality between the sexes in most countries. The question is how to best fight inequality and discrimination against women, and thereby establish an environment that leads to development. Statistics show that 70% of the world's poor are women. This is often called the feminisation of poverty.

Statistics show that 70% of the world's poor are women. This is often called the feminisation of poverty.

A key element in any strategy to eliminate malnutrition and reach women is targeting the poor. We have to target the poorest countries, the critical sectors of health, education, and agriculture, and the poorest parts of the population. Our goal is not to feed people, but to enable people to feed themselves. We have to stimulate income-generating activities in the private sector. Only through growth and productivity will people find work, incomes grow, and families be fed.

A poverty-oriented policy in development is a gender-oriented policy. Fighting poverty and achieving food security are two sides of the same struggle. A key to positive results is improved access to education, health care, employment, land, technology, and credits for the poorer segments of the population. However, environmental degradation and population growth threaten to disrupt the equilibrium between people and resources. Increased investment in agriculture is needed, not least in the poorest developing countries where agriculture contributes a major share of GNP, employment, and exports. We must implement sustainable rural development policies that ensure stable food supplies and food security for all. Supply of micro-credits to female entrepreneurs is one way to mobilise women in the private sector.

The Norwegian government has put education and health at the top of the priority list in its cooperation with developing countries. By educating girls and improving primary and maternal health care, we contribute to lowering population growth, to increasing family incomes, and to reducing gender inequalities. We reach a number of development goals simultaneously. Reducing poverty and meeting the basic needs of individuals are in themselves, means of promoting human rights. Adequate access to food and nutrition is a fundamental human rights issue. If the right to food is not fulfilled, then other human rights will be of less importance. The human rights approach is an essential part of the work for sustainable social and economic development. With this approach, people are not just defined as beneficiaries with certain needs, but recognised as active subjects with established rights. The State is obliged to respect, protect, facilitate, and when necessary, to realise these rights.

By educating girls and improving primary and maternal health care, we contribute to lowering population growth, to increasing family incomes, and to reducing gender inequalities.

As for all human rights, the right to adequate food and nutrition must be guaranteed without any form of discrimination as to national or social origin, race, gender, language, religion, political or other opinions. It is inherent in the definition of the right to adequate food, that food should never be used as an instrument for political or economic pressure. In the case of nutrition and malnutrition, it is crucial to keep the gender dimension in view. It has repeatedly been documented that in many societies girls and women are exposed to poverty and malnutrition more so than boys and men. Malnutrition among women has severe consequences for the next generation. Poor maternal nutrition results in low birth weight infants, which in turn leads to increased health risks during childhood and adolescence. Therefore, it is vital to keep in mind the gender dimension in our struggle for better conditions for the millions of people living in poverty.

It is my hope that this symposium will help increase involvement and knowledge in this area and stimulate further action.

Ladies and gentlemen, it is not the case that some human rights apply today and others tomorrow. Nor do some, like the right to food and basic needs, apply to us and not to them. Nor do some apply to men and others to women, some to the rich and others to the poor. The obligations are universal, as are the responsibilities for their implementation. It is no less than that challenge we are here to take on – realisation to the right for food and nutrition for everyone on this planet. With these few words I welcome you to Norway, to Oslo and to this important conference, and wish you all the best in your deliberations.

Chapter 3: Opening Speech by Richard Jolly, Chairman, ACC/SCN

Dr Brundtland, Madam Minister, on this 25th meeting of the SCN, I think we should realise that we have a wonderful example of civil society before us, and this has been part of the SCN from its beginning in 1977. I welcome our special guests, Dr Antezana, Deputy Director-General of the World Health Organization, Dr Tomris Turmen, and our Horwitz lecturer this afternoon, Isatou Jallow Semega-Janneh. I would like to welcome the SCN members from 15 UN agencies. I would like to welcome the members of the Advisory Group on Nutrition, of which Dr Ricardo Uauy is currently our chair. I would like to welcome the members of the Commission on Nutrition, of which Professor Philip James is chair. I would like to welcome the many loyal and supportive friends from bilateral agencies, with Elly Leemhuis-de Regt as their current focal point.

I would like to also welcome the assembled non-governmental organisations (NGOs) – I think we have 30–40 NGOs present and perhaps a good number more from within Norway. I would like to mention particularly Barbara Underwood of the International Union of Nutritional Science (IUNS) who is with us today. She is no stranger to the SCN and she tells me we now have three IUNS people as part of the structure of the SCN. I would like from within Norway particularly to mention Arne Oshaug and Inge Nordang. The reason we are here is because of the initiative that Arne took last year in Kathmandu at the last SCN Session. On the other end of the phone here in Oslo was Inge Nordang. Between them, they made the offer that has brought us here and I want to say to all of you, thank you very much for your part in getting the meeting started. I want to mention the Secretariat members: Sonya Rabeneck, our Technical Secretary, and Jane Hedley, Cathy Needham, Jane Wallace, and Arie Groenendijk, who have played such a major role over the last year.

This is the 25th meeting of the ACC/SCN. It is actually our 22nd year so you can say as we embark on our 22nd year that it is our 21st birthday. With the help of George Beaton, who has been digging around a little in the historical files, I would just like to say a word about the SCN – not so much to glory in the past, but to be inspired by some of the achievements that the SCN has made to practical action on nutrition worldwide. SCN's first meeting was held 21 years ago, in September 1977 in Rome, to a mandate established by the Economic and Social Council of the UN (ECOSOC). The first meeting was under the chairmanship of Graham Kermode of the Food and Agricultural Organization (FAO). From the beginning, the structure of the ACC/SCN has involved what we now call civil society. At the moment, the UN, under the leadership of Secretary-General Kofi Annan, is saying, 'How can we reach out? How can the UN be less of a group locked into itself just talking to itself?' I hope you all feel proud to be part of the SCN which, since 1977, has been showing how that can be done.

From the beginning, civil society, the involvement of the advisory group of distinguished experts, and the bilateral agencies were part of the SCN as set down by ECOSOC. I want at this point to praise just a few of our founding fathers: Dick Heywood, Deputy Executive Director of the United Nations Children's Fund (UNICEF) and SCN's second chairman, who used to refer to the triumvirate of the SCN – the agencies, the AGN and the bilaterals; Sol Chafkin of the Ford Foundation, who chaired the AGN; and Leslie Burgess, who was the first Technical Secretary. But I want to call for special praise for an even earlier founding father who I am delighted to see is still with us and very actively involved—Professor Nevin Scrimshaw, who is representing the UNU, the United Nations University. Nevin was one of a group that decided there was need to bring the agencies together. He focused on the technical issues of nutrition and helped create, 20 years before the SCN, the Protein Advisory Group, formerly created by Dr Candau, then Director-General of WHO, co-sponsored by UNICEF and with FAO joining in from the beginning. We thank you for your vision. I am proud that we can now build upon that.

I want to note some of the achievements that we can see on the ground – those issues related to nutrition action that this committee helped bring into being.

First, the early mobilisation of action for the control of iodine and vitamin A deficiencies. Now major areas of action, we can say that with iodine deficiency there have been major and remarkable areas of success, and with vitamin A, there has been growing success. At our 11th meeting in Nairobi in 1985, a 10-year plan to control vitamin A deficiency was presented at the request of the SCN. I am also told that at that same meeting, Basil Hetzel was asked to prepare a paper on the control of iodine deficiency and to form a small working group to formulate a strategy.

Other highlights of the SCN's contributions include promoting nutritional concerns and monitoring the nutritional status of refugees and displaced persons, closely linked to the work of the United Nations High Commissioner for Refugees (UNHCR) and the World Food Programme (WFP).

Thirdly, holding symposia on key topics such as the symposium on Nutrition and Economic Adjustment in Tokyo, 1986, under the auspices of the UNU, which the IMF attended for the first time. Soon after, M. de Larosier, the Managing Director of the IMF, spoke on the need to incorporate nutritional concerns into adjustment policy. That speech was the first time their Director-General had spoken out on nutritional concerns. There was more interest in that speech, IMF colleagues told me, than any other that the Managing Director had given until that time. That was the first meeting chaired by Dr Abraham Horwitz, my very distinguished predecessor.

Fourthly, under Dr Horwitz, and with the support of then Technical Secretary, John Mason, the series of Reports on the World Nutrition Situation, which the SCN had long called for, started to be produced. We have three authoritative reports – the fourth is underway.

Fifthly and very importantly, the Nutrition Policy Papers (formerly State-of-the-Art papers) that drew on the experience of country-by-country action. Some were supported by the agencies—all are of importance for the agencies and the others in this civil society in addressing the question ‘what can be done to accelerate action in nutrition?’ These are practical papers filled with important lessons and focused often on success stories.

Friends, all this has emerged from our work on collaboration and strengthening coordination. It has been far from perfect. We have had our differences. We have even had our fights. But at our best, we have made a big difference. But not enough. As you, Madam Minister, have just reminded us, there are still enormous problems of nutrition and challenges of undernutrition in the world today, and this is the focus for our meeting today. You have summarised the statistics of the children under five, with more than a quarter of the world’s children in developing countries under-nourished. Over half of women and girls suffer from anaemia; and 50–60% of children in South Asia are stunted. But we should come to our tasks today, not in a mood of despair, but in a mood of new determination, because in this room is a powerhouse of knowledge and experience, not only on what needs to be done, but on what can be done. We don’t have all the answers, but let us not underestimate that we do have many of the answers. Any one of us could go down the list of things that we know have been applied in Tanzania, or have been applied successfully in Thailand, or have been used in Chile, but are not being carried forward in other countries to anywhere near the extent of this success. Last year’s *Human Development Report* noted that the world has made more progress in reducing poverty in the last 50 years than in the previous 500 years. We know a great deal of what needs to be done. The challenge is to mobilise ourselves to build on this experience, to identify the questions where we are not yet sure, but to make sure that in the next few years we do much more than present trends suggest.

I would like to end by quoting the words that were quoted often by Dr Abraham Horwitz:

Keep the faith that you are committed to a most noble cause, the wellbeing of people, most of whom you do not know, whose needs you feel intensely.

Redouble your efforts in whatever you do in nutrition, while being bold and imaginative.

May that thought motivate and focus our minds today, tomorrow, Wednesday and Thursday, to make this 25th session of the SCN worthy of our heritage. Thank you.

Chapter 4: Address by Dr Gro Harlem Brundtland

Introductory paragraph by Richard Jolly

It is a great pleasure, Dr Gro Harlem Brundtland, to welcome you. It is a special honour and privilege for us to have your participation as honorary chairperson for today. You agreed to play this role even before your selection as nominee to the high post of Director-General of the World Health Organization. It is now therefore a double honour for us. Your nation—wonderful Norway – has already given the United Nations its first Secretary-General. Your country has inspired many of us with its principle of internationalism and its generous humanitarian commitments. I remind those from outside Norway, that we are in a country that for many years has far exceeded the 0.7% target in aid. We thank you, Dr Brundtland, for Norway’s intellectual contributions and leadership, and we thank you especially for your country’s long concern for human rights. We wish you every success on drawing on this wonderful heritage in what we trust will be your future role of leadership for health with the United Nations.

Thank you very much. Dear guests and dear participants at this symposium, our development minister has already greeted and welcomed you all to Norway with the enthusiasm expected from someone with her

portfolio and field of responsibility in this country. Based on my own experience from the Norwegian political scene, let me first share with you my deep feelings of gratitude that Norway's role, profile, and contribution to international cooperation and humanitarian work will certainly continue as you have known it over decades. I could applaud every word that the development minister of the other party – the Christian Party, now in government – was addressing to you. There is a strong consensus on the priorities of our international cooperation as well as our national nutrition policy and health policy. Indeed, the Christian Party has been a long-standing partner with the Social Democrats when setting our priorities in development cooperation. I feel confident that Norway will have a strong voice on the alleviation of poverty, on focusing on the countries with greatest needs, and on taking seriously the broad human rights perspective in our follow-up to the series of global conferences during the last decade. We have focused on the basic needs of health and education as being central in an environmentally friendly and sustainable development process. We have focused on the key role of women in all societies, on the importance of empowerment of women in social development for the potential of the next generations and for the economic prosperity of nations and populations.

We have focused on the importance of empowerment of women in social development for the potential of the next generations and for the economic prosperity of nations and populations.

But now, at the very outset of my speech, I believe it is important that there is no misunderstanding as to my platform while addressing you. I am speaking in my own personal capacity. I am between chairs. I am the former, not the present Prime Minister of Norway. I am the future, if indeed elected, Director-General of the WHO. So I will not today be speaking on the political and technical priorities of the WHO. That address I will give to the Health Assembly in May.

During the whole of this century, with the milestones of creating our international institutions, the conviction has been that we must face common concerns and that we share the responsibility for our common future. The founding fathers addressed war, hunger, poverty, and disease. This conference has links to them all. We are still far from a world freed from these scourges of humanity. But we have more tools to do so, we have more knowledge, more lines of communication, more shared experience, more democracy and I believe we have more shared values and beliefs – in short, we do have more opportunities. In Hot Springs, Virginia, 55 years ago, an act on food and agriculture, with seven short paragraphs, was formulated. They pointed the way ahead. They declared their belief that the goal of freedom from want of, food, suitable and adequate for the health and strength of all peoples, can be achieved. They declared that there has never been enough food for the health of all people, but that this is justified neither by ignorance nor by the harshness of nature. They called for concerted efforts to economise consumption, to increase supplies and distribute them to the best advantage. They identified the first cause of hunger and malnutrition – *poverty*. They solemnly declared it useless to produce more food unless men and nations provide the markets to absorb it. With full employment, enlarged industrial production, the absence of exploitation, increasing flow of trade within and between countries, an orderly management of domestic and international investment and currencies, and sustained internal and international economic equilibrium, the food that is produced can be made available to all people. They were very good at that time in formulating short and precise documents.

They identified other important aspects. The primary responsibility lies with each nation for seeing that its own people have the food needed for life and for health. Steps to this end are for national determination, but each nation can fully achieve its goal only by working together. These were fine words. They were wise and it was a good analysis 55 years ago. They still hold true, but we can easily identify some reasons why it went wrong. We have not achieved an orderly management of domestic, economic and international investment, economic equilibrium, and absence of exploitation. This is why the minister today spoke about debt, why she spoke about the importance of the WTO, even from a health perspective. Our global scene and our scene internally in nations have not met these fundamental objectives of fairness, of an economy that works and where democracy in a wide sense can take the lead.

But today, we are assembled under the headline 'a gender perspective'. I know it's a long philosophical discussion whether 'men' also means women, but I prefer to say it outright, 'men and women'. They spoke about men – we must speak about women and children. We must speak more loudly about equity and solidarity. We must speak about nature and the environment to secure the long-term living conditions on earth. We must speak about human rights. When doing so, we are in the midst of political decision-making – of making an impression on political decision-making, on opinion building around the world, the allocation of resources, the values that they build on and the choices that are taken by governments and societies. It raises the questions, how can we best stimulate positive change in these political processes? How can we move more people and civil society to take more enlightened action? How can we build public opinion and create the basis for more concerted action? The programmes have been formulated and declared at the Rio conference, in Vienna, in Cairo, in Copenhagen and in Beijing. I take the perspective of the major conferences

over the last few years to illustrate an important part of the political framework that we live in. The conferences on environment and development, women and human rights are as important to the issues involved in our agenda today, as are those mentioned in your Commission report to this conference, where nutrition goals have been addressed directly and have been adopted at the World Summit for Children, the International Conference on Nutrition, and the World Food Summit.

Just as health inequities cannot always be resolved through action by health professionals and experts, so nutritional action is not always appropriate to tackle malnutrition. As concerned citizens, as experts, policy makers or practitioners, we know that the test of all our efforts is only what can be measured on the ground. That is the public health perspective. Not the declarations, but the implementation on the ground.

Poverty is the greatest polluter. This was what Indira Gandhi, the Indian Prime Minister, said when she came to Stockholm in 1972 to the first Conference on the Environment. The alleviation of poverty is still, 25 years later, a major concern and a key challenge in all of our development efforts. This comes clearly to the forefront also in the report to this meeting. Poverty-related human suffering and tragedy are still an unmet challenge to us all. We know the effects of lack of food, clean water, and unsafe motherhood. Still, we are only underway in implementing the cure and in applying the preventive and practical steps. We know the long-term effects of malnutrition in pregnant women and young children. We know about stunting in unbelievable numbers of children in some parts of the world, but do we in fact realise the terrifying long-term results when children grow to become adults deprived of their full mental and intellectual capacity? Do political leaders know the consequences? There is reason to doubt it. So we need to speak out. This is part of a major public health problem.

Prevention of disease, disability and ill health is a good investment in the future, not only in humanitarian terms, but also in economic terms. The burden of disease is at the same time the burden of unfulfilled human and societal development. When one billion adults in developing countries are underweight, this impairs work capacity, leads to infection, and increases the risk to future generations. A strategy of investing in health and education, in meeting basic needs, cannot be questioned. There is a long way to go in partnership and coordinated efforts at the country, regional, and international levels. However, we must not shy away from taking seriously the changing total picture of the disease burden that is related to food, nutrition, daily life conditions and behavioural change. The chronic disease burden is to a great extent linked to diet; diet-dependent diseases are increasing worldwide. Some of you in this audience feel very strongly that these facts are not taken seriously enough given the emerging scientific evidence. I believe it is psychologically easy to take this attitude. If you eat too much, it is your problem. If you eat too little, it is everybody's problem. The changing total picture of nutritional deficiencies is partly two sides of the same point as you have noted in the Commission report.

The burden of disease is at the same time the burden of unfulfilled human and societal development.

We do face a double challenge – to counter both the consequences of dietary deficiencies, poverty and undernutrition, and the consequences of unbalanced overnutrition that often occur side-by-side in the same countries. Increasingly, they pose a double disease burden. It also means a greatly added burden on health budgets and competes for the resources so sorely needed to secure basic community service and health care. Prevention is clearly called for on both these aspects. The burden of chronic diseases is emerging so rapidly that the developing world already carries the greatest numerical burden. In Central and Eastern Europe, there are dramatically rising rates of chronic diseases and falling life expectancy.

Let me briefly mention a Norwegian experience when trying to link global and national concern on food security, food production, and nutrition. Based on the recommendations from the FAO/WHO World Food Conference in 1974, a national nutrition and food policy was formulated in Norway in the seventies as a policy document to the Norwegian parliament from the Norwegian government. Taking into account the existing scientific knowledge and drawing up guidelines for the necessary regulations and economic incentives and disincentives to be used, the government advised a reduction in fat and an increase in vegetables, potatoes, whole grains and fruits, and of course, fish! We have seen results. Teaching, information, and opinion building have been underpinned by economic and social policies that have an impact on household choices, and on the production, distribution, and pricing of food.

There has, from the very start, been close cooperation and dialogue between sectors, of course with the academic world – the experts – but also with the different ministries of agriculture, health, and social affairs. We have seen results in the improvement of the disease pattern and health indicators in Norway from this policy that was formulated by political bodies. And I say that because I think more countries need to do so than those who are doing it today.

Along that road, however, I remember some instances of slow decision making, of strong interests that succeeded in spending an enormous amount of effort and time producing political and practical counter arguments to the right cause. Although political decisions had already been taken in principle by the Norwegian cabinet, which also had a majority in the parliament, it sometimes took years and years before implementation happened. Why? I will give you this example. The National Nutrition Council had proposed to the government the good idea of having a new product – low fat milk – on the Norwegian market. The government, after a discussion, supported this, and also agreed to price it at a lower level than the regular milk product.

Several years later, when I had been out of government, I asked what had happened to this political decision, because I didn't see the low fat milk in the stores. What happened? I had this explanation given to me by the cabinet ministers. Firstly, it would have cost more for the farming and food production sector to make this new product. Secondly, it would convey the impression that the regular milk product, for many consumers, had too much fat. Indeed, *that* message was the message! When Professor Kaare Norum demonstrated to the public on TV that you could indeed mix the regular milk and the skimmed milk to achieve the wanted result, people started doing this in practice and gradually we were able to overcome the resistance. We now have low fat milk, skimmed milk and regular milk on the Norwegian market, and what happened? Low fat milk is the product that most households prefer. I tell you this because it is a lesson: constructive, well-founded policies require consistent effort. We must not give up, even when pressure groups and strong industrial or other economic actors are working against us.

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We should never give up, we should continue. You have said that in the struggle for improvement in nutrition and health. I also want to mention that the same struggle has been true to stop the decline and then secure an increase in breastfeeding. It started in this country in the 1960s and, when I went to the Harvard School of Public Health, I wrote a paper that studied the patterns of breastfeeding around the world and looked at why we had this decline. But in the 1960s and onwards in Norway we have been working hard to change the pattern. Baby-friendly hospitals, support of mothers, and advocacy of best practices completely changed the downward trend. Much work is needed on this issue globally, however, in close cooperation between WHO, UNICEF, and other actors in the field. We have to speak of course with the business sectors who are influencing in many ways the total picture and our ability, but it has to be done in an open and substantive dialogue on the effects and the consequences in this area, as well as in all others relating to nutrition and health.

Economic growth and more equity will not by themselves create nutrition improvement. We need to realise that we are dependent upon a targeted policy to improve nutrition. The experience of South Asia shows this very clearly, where the incidence of pre-school malnutrition still affects half of all children. Investing in health and nutrition can be an effective investment to abate poverty and to improve economic growth.

Building a healthy economy is the most direct road to ensuring a healthy people.

There is one specific area of importance that I think should be mentioned. In the most recently produced food-based dietary guidelines of the WHO, the importance of micronutrients has been highlighted. There has not been sufficient emphasis in international health on the important contribution that micronutrients make to human health. Look at the facts. A simple inexpensive vitamin A capsule taken two or three times a year by a child deficient in that micronutrient can reduce a child's chance of dying from measles by some 50%, from diarrhoea by 40%, and cut the overall risk of death by about 25%. Of course we also know about the importance of vitamin A in pregnancy – the risks to the foetus and newborn. But this is only one of several examples where it is important that we base our action on results–substantive results – that can be advocated and that can spread the knowledge needed for action. Clear goals, advocacy, political commitment, and community action must all be part of the answer. This is a consistent public health experience and approach. With primary health care available, nutrition concerns can also be addressed more consistently.

In these last couple of months I have addressed the Executive Board of the WHO, putting forward my vision, my beliefs and my view of some of the global health issues and the role and priorities of the WHO. I can share some of the points on which I focused in that address. I have also addressed the World Bank during my recent visit to the United States and emphasised the close partnership that will be needed between these two important institutions for world health. I would also like to share with you some of this, which is related I think to the theme of this Symposium.

Capacity building in countries with greatest need must be a priority issue for the international community. That is why I have stated my ambition of introducing health sector development as a dimension in all WHO programmes. Building a healthy economy is the most direct road to ensuring a healthy people. The fundamental cure, as you have heard, is economic and social development, it is the empowerment of people – both women and men – and it is in this overall framework that we shall place our comeback for global health. It is not a separate task. There are important lessons to be learned from the way structural adjustment programmes have been devised and carried through. There are successes and failures and we can learn from both so we can avoid victimising the vulnerable by cutting essential social services, and this we need to monitor, measure, and address. This is the role of the WHO – to help to do. And you can expect the WHO to be there with its advice on sector-wide reform, speaking out for the need to safeguard the role of health and social services. But that message will not only go to the World Bank and to financial institutions, it must also reach the governments themselves. They too, have to make the right priorities. Health has no real *quid pro quo*. It is not a question of 'it is my money so do it my way'. Health has no border and few issues illustrate the global interdependence better.

During my recent visit with Jim Wolfensohn, he said that too often health ministers are absent from the meetings he has with governments. That, he said, has to change, and I agree. But I would add that we also have to remind presidents, prime ministers, and finance ministers that they are truly health ministers themselves. Their overall decisions are decisive for the wellbeing of their people. I believe that WHO as a leading advocate in health can help set the agenda around the world. But then we need to provide the evidence that health is key, not only as a moral obligation and an ethical obligation, not only as a human right, but also because it is pure and sound economics.

A decade ago it became widely accepted that education, especially of young women, was crucial for development. It still is, but now we have new evidence, clearer evidence of the central role of health in this context. Finance ministers around the world need to know it. And we need to remind them and be able to back our statements up with facts. What we need is evidence-based policy, i.e., evidence-based health policy and evidence-based *nutritional* policy. And this is what you in this forum help create.

Health has no border and few issues illustrate the global interdependence better.

We need what I call the scientific underpinning of policy, because it is the only thing that carries solidly across borders, across the world, into all nations, into all parts of population groups. As communication possibilities increase, the only real common language is science.

The Sub-Committee on Nutrition and the ACC itself symbolise the cross-sectoral approach and the inter-agency cooperation that are absolutely necessary to address the global nutritional challenge.

We need a broad, concerted effort, and the test is on the ground at the local, national, and international levels. The SCN was an early undertaking to share responsibility among a number of agencies. It also incorporated the essential component of non-governmental actors similar to the present UN reform. Those are the initiatives that are now carried forward with open contact with the rest of the world, including the business community and civil society – not only our institutions talking together internally. And certainly, in this context, the WHO has a key role to play. The Sub-Committee on Nutrition and the ACC itself symbolise the cross-sectoral approach and the inter-agency cooperation that are absolutely necessary to address the global nutritional challenge. Partnership, the involvement of science, the public and private sectors and the whole of civil society are key in this area as in other vital areas for human progress. At the national level we need open dialogue. We have experienced that in many countries, and we need a broad process to create positive change. Developing clear policy guidelines and securing practical implications are key to success. But the same holds true at the global level. It is not only at the national level that you need to have serious dialogue between the different institutions to avoid overlapping of mandates and duplication of effort.

I want to end by referring to this picture. The Secretary-General of the United Nations, drawing upon the whole UN family of agencies and institutions, needs to promote an integrated, unified approach to global issues and this indeed is his ambition for UN reform. To succeed, he and his colleagues will need the support of the world of science, of concerned citizens, of a broad range of governmental and non-governmental actors working together. All the discussions – 'this is my table and not your table' – have led to a lot of wasted effort. We have to speak openly and directly and look each other in the eye around the table, as if the Secretary-General was the Prime Minister or president and his cabinet ministers were the leaders of agencies. He should be able to ask each and every one of us to answer his questions about how the mandates of UN agencies are like one integrated approach, with no overlap and no duplication. There is only one audience – the people of the world, the nations of the world, the populations of the world – not the

mandates of single organisations. If they don't fit together today because they were made at different times, then we have to rearrange them. We have to discuss how we avoid this tendency of overlap and, of course, have the discussion with the whole of civil society, understanding how we cooperate, how we are coherent in our message and how we work together for the common goal. Without that kind of thinking, we will continue losing efficiency and not reaching the goals that have been set by the big international conferences or the goals set by each separate agency. I think we have a great challenge. You have a lot of experience on how that needs to be done.

Philip James has spoken to me about what we can do to improve implementation and to improve practical results on the ground. Well, the test is on the ground at the country level where people live, and if the international institutions all go together to support a country-oriented integrated approach at that level, then we can succeed in supporting what governments decide. But we can never get away from building on the political decision making in each country and then supporting what they want. Of course, if we have vulnerable groups and the violation of human rights, we have to speak out to governments and to the world about issues that are not being taken care of according to basic guidelines for human rights. Thank you for your attention.

Discussion

Richard Jolly (SCN Chairman): Thank you very much, Dr Brundtland, for covering such a wide range of important issues for the SCN, and for focusing them so well at many different levels of implementation. From your own experience, what do you think are the two or three critical steps to get across to a Prime Minister concerning how she or he could mobilise more attention to nutrition?

Dr Brundtland: You have to put nutrition into the context of health and education. Without nutrition, you don't have the ability to learn and to become a productive and active human being. Coupled with that are not only the humanitarian concerns but also the economic consequences for any country, any population, of not having the building blocks from the start in young children. You have to put it into the context of economic and social development, not only on a humanitarian basis, because we can see that this is not always sufficient for all political leaders who are under strain of many different pressures. They need to have a clear argument about why it is also a good idea from an economic point of view.

Aileen Robertson (WHO): Based on your personal past experience in environmental issues, do you see a means by which nutrition can be more firmly placed on the political agenda through environmental movements? Is there an opportunity for the health sector to work closer on environmental issues and with environmental movements?

Dr Brundtland: The answer is yes, and that is why I also referred to the Rio Conference. The links between health, nutrition, and the grass roots level, even looking at it environmentally with regard to agricultural patterns and food security, are clear. There is a lot to be said in this common concern from an environmental and health point of view, which is also already part of the WHO programme today. I think that generally the answer is 'yes' because you cannot take care of nature and the environment without being concerned about people. That is the key message in our common future – environment and development, concern for choices, and the ability for future generations and not only for present generations, to have their rights, possibilities and opportunities. So this generational perspective requires us to look at the environmental aspects also, going further than considering only the children of today.

Judy McGuire (World Bank): At the beginning of your speech you cited a number of international conferences: the World Food Conference of 1973, the World Summit for Children, the International Conference on Nutrition, and the World Food Summit. All of these conferences have set goals to reduce malnutrition by half in ten or twenty years. Twenty years is far too long for any political or even economic planning, and I wondered what your thoughts are on shortening the duration of our goals or changing our perspective on how we get the UN system moving. The UN system is 50 years old. The right to food was set out at its outset as you pointed out. We still have not fulfilled that goal. We have had major changes, both in the Secretary-General and in the three major UN organisations concerned with nutrition – UNICEF, FAO and now WHO – and I wondered what your thoughts are on getting the UN system moving in the short-term, not 20 years hence, but now.

Dr Brundtland: I think one of the problems is that the UN system is an inter-governmental system; an inter-country system. When we say 'test on the ground' it means that you have to measure what has happened in each country with all the different goals that have been set, not by the UN, but by the countries

who sit together in the conference hall signing a common document. We have to monitor and survey what is happening on the ground in each part of the world, in close cooperation with civil society and governments. The international organisations become a source of setting common goals and a source of giving support, stimulus, and debate about results. We have to be more aware of what I am saying because sometimes I listen to people talking as if we, at a kind of philosophical global level, have set goals. Then the UN Secretary-General or one of the leaders of the institutions are asked why they have not reached the goal, as if it were a personal goal for the one person sitting at that time at the head of the agency. No, the goals have to be made by humanity and they have to be achieved using democracy. Moving democracy, putting requests to governments and political leaders, and working at the national level and at the local level to implement. But I agree with you, one should have shorter targets and shorter time frames. If the time frames are too long, the existing people in every position will never have to answer to why nothing has happened, and that relates to the country level and to all our different agencies.

While I mentioned the conferences that have specifically talked about goals in nutrition and malnutrition, some of the other conferences that I mentioned may be even more important. If we don't reach the goals set by the Cairo, Beijing and Rio Conferences – which are even more fundamental in many ways – you will never be able to pursue and implement the goals set by the food conferences without getting into focus education, health systems, development and reaching women and children at the local level. How can you change habits of everything from cooking and energy use to eating habits if you don't have a system to do it and to help do it? We are in it together. That is why I speak about the Secretary-General and his cabinet. Also in the cabinet is the leader of the World Bank, the IMF, and the WHO, all of them around the table trying to look at what goals also can be abbreviated. What are the common goals for a broader agenda of agencies? It is easier to set shorter-term goals if we focus.

Judy McGuire (World Bank): When we look at *the Third Report on the World Nutrition Situation*, we see very little nutrition improvement, and the improvement we do see would have come anyway from economic development. When we list the commitments we have made, I think we have failed. Based on your experience with the Rio Conference on the Environment, what can we learn here? What have you learned from your own experience on how to move from words to action?

Dr Brundtland: It is my experience that this is due to the sectorisation of political decision making and public opinion making. The people who are active, who go to meetings and conferences where commitments and resolutions are made, stretch their imagination about what they can sign, what they can say, and what they can hope for. It is not the same as a political programme in a specific country that can be checked point-by-point after several years. General resolutions and commitments cross country lines, and the person who signs these resolutions is usually not responsible for the implementation. It is not my suggestion that we stop making resolutions or having conferences and discussing the issues, because then public opinion, which puts pressure on the political decision-makers, would be even less. I think we have to live with this kind of tension in order to move, at least at some pace.

When you say that much of what we have discussed as targeted approaches in the area of nutrition has not been the main reason for change, and that it is economic development that has resulted in most of the change, you may be right. But I have no doubt that the scientific work, the advocacy work, and all the sectoral work that have been done also have made a difference. I am not one of those who give up. To give you one example, I remember leading the Norwegian delegation at a conference in 1976. When I came to the conference hall on the first morning, there were a number of journalists asking me questions. One question made a deep impression on me – 'does this meeting have any meaning – will it make a difference?' Already this showed a basic cynicism towards international work. Such cynicism is understandable, but it will never move the world ahead. So I answered as a young minister 'even if this conference does not make a major difference, I am convinced that the work that has been going on in different countries to prepare for this conference, has moved some important issues higher up the consciousness of many people – including decision-makers'. This was 22 years ago, and I still feel the same way.

I have tried to move and focus by being more direct in my discussion with government leaders. If the cabinet does not take seriously what the foreign ministry is giving as instructions to the different delegations, and if they agree to more than what they are willing or ready to do, then they should modify what they say. The inconsistency between the big declarations and what is happening on-the-ground is undermining the credibility of political work and democratic decision making. We have to try to bring these things together, not by lowering to the lowest denominator, but by speaking about targets for a shorter-time span, and differentiating between the philosophical, long-term, value-based goals and the goals that are related to on-the-ground systematic implementation.

In any political programme, you have the principle guidelines and value–base of a party. These are discussed and debated and they focus on long–term visions. Then you have a programme for a 4– or 5–year period saying what the party intends to carry through within that time frame. It then becomes more concrete. So, we should not mix principles with more practical, short–term goals to the extent that I feel is being done – both at the country level, and at the international level.

I mentioned that the Hot Springs declaration was one page with 7 paragraphs. They were mostly basic guidelines, but they were based on a discussion and analysis that they felt was practically possible to carry through, I think, within a 5– to 10–year timeframe. You can see that the people who wrote it thought that it was possible. Out of the points they made, those that we have not been able to achieve are the economic policy points of income creation, income distribution, public concern and state efficiency. It is not enough to privatise, and discuss competitive economies and other things that have dominated the last 10–15 years. Although many of these things are very important, without a determined, strong, government that takes care of common concerns, you cannot do what the people in Hot Springs said. In order to have a sufficiently strong government, there is a necessity for democracy with a strong civil society making it effective and making the choices.

Decision–makers have to be met within countries – at the country level, or at regional conferences. We must reach them with the necessary information and imagination to move them to rethink some of their allocation. It's a vast work, and all of you here are needed to make it possible.

Chapter 5: The Global Nutrition Challenge in the Millennium: Presentation of the Draft Commission Report

Philip James

The Commission on Nutrition Challenges in the 21st Century was established by the ACC/SCN in Kathmandu in March 1997. Its purpose is to consider how best to meet the nutritional challenges of the 21st century and to consider the role that the UN can play in meeting these challenges, taking into account the goals and commitments established at the major international conferences of the 1990s. This paper presents the preliminary findings of the Commission as set out in the draft report '*Ending Malnutrition by 2020: an Agenda for Change in the Millennium*' (1998).

With the exception of Richard Jolly (SCN Chairman) and Ricardo Uauy (Chairman of the Advisory Group on Nutrition), the members of the Commission are completely independent of the SCN process (see Box 1). This independence has both advantages and disadvantages. The main advantage is that the Commission members perceive it as their job to speak their minds. However, there are disadvantages in that they may be preaching to the converted, and they may also be engaging in issues that the SCN has already considered in detail.

The Commission is taking a new perspective to address the persisting problem of malnutrition, and is attempting to identify whether there are other, previously unconsidered dimensions to the global nutritional problem that need to be taken into account. This paper will not therefore consider the huge problems of iodine deficiency disorders, vitamin A deficiencies, and iron deficiency anaemia, as these are already being addressed. The ACC/SCN Working Group meetings on micronutrient deficiencies (Oslo, 1998), suggest that real progress is being made in combating iodine deficiency, that progress in combating vitamin A deficiency is accelerating, but that very little progress is being made in the area of iron deficiency.

Box 1: Members of the Commission on Nutrition Challenges in the 21st Century

- *Philip James*, Director, Rowett Research Institute, Aberdeen, Scotland
- *Mahbub ul Haq*, President, Human Development Centre, Islamabad, Pakistan¹
- *Kaare Norum*, Director and Professor, Institute for Nutrition Research, Oslo, Norway
- *M.S. Swaminathan*, Chairman, M.S. Swaminathan Research Foundation, Chennai, India

- *Suttitak Smitasiri*, Head, Division of Communication and Behavioural Science, Institute of Nutrition at Mahidol University, Nakhn Pathom, Thailand
- *Julia Tagwireyi*, Director, Nutrition Department, Ministry of Health, Harare, Zimbabwe
- *Ricardo Uauy*, Director and Professor, Institute of Nutrition and Food Technology, University of Chile, Santiago, Chile
- *Richard Jolly*, Chairman, ACC/SCN, Special Advisor to the Administrator, UNDP, New York, USA

¹ Mahbub ul Haq died on July 16, 1998

Malnutrition in Young Children

Globally, over 150 million children are underweight. The distribution of underweight children by region shows that the dominant problem occurs in South Asia (Figure 1). This contrasts with the long-held view that Sub-Saharan Africa is the major crisis region of the world and perhaps reflects the way in which nutritionists often associate the nature of the problems in South Asia as being part of normal society, without recognising the presence of a vast endemic problem that needs to be tackled.

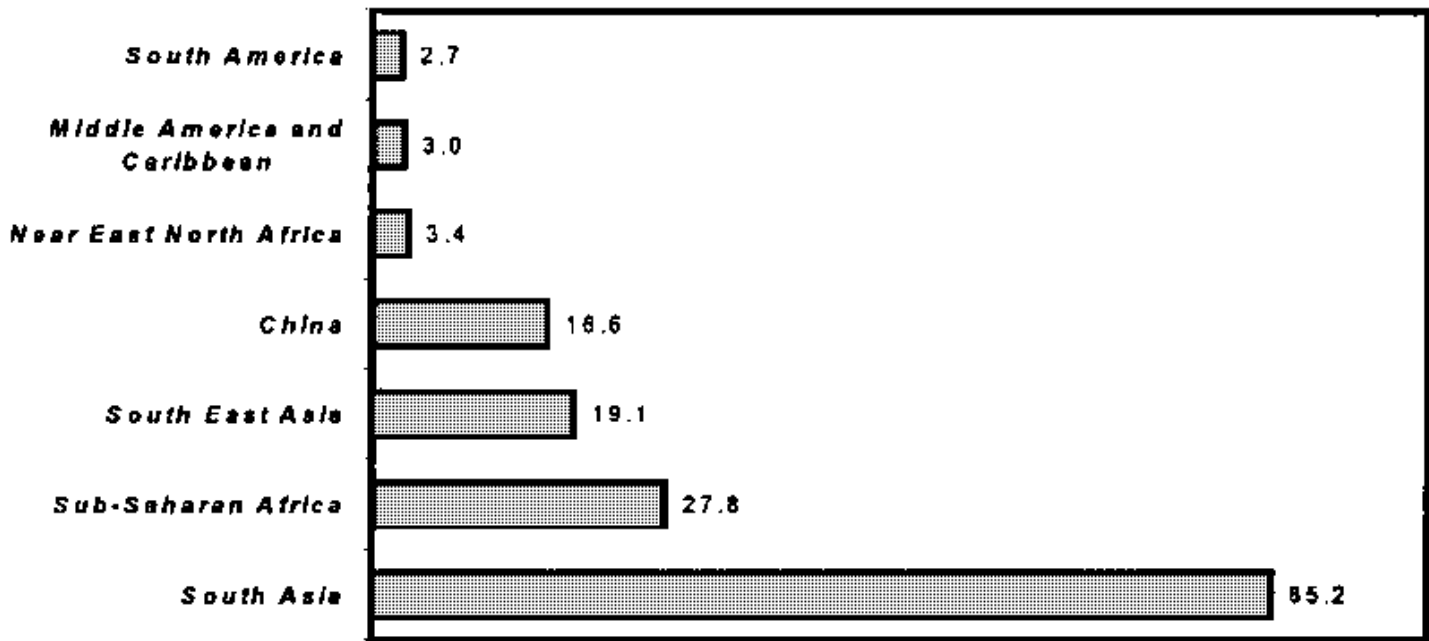


Figure 1: Total numbers (millions) of underweight children (under 5 years old) by region, 1995

Source: ACC/SCN (1996)

Furthermore, a current definition of undernutrition tends to underestimate its true impact within populations because the definition is based on specifying only those at the extremes of underweight, with those classified as being malnourished falling below the lowest limit (-2 SD) of the reference population. In practice, the whole population tends to exhibit a 'shift' so that the majority of a country's children may have sub-optimal growth (Figure 2).

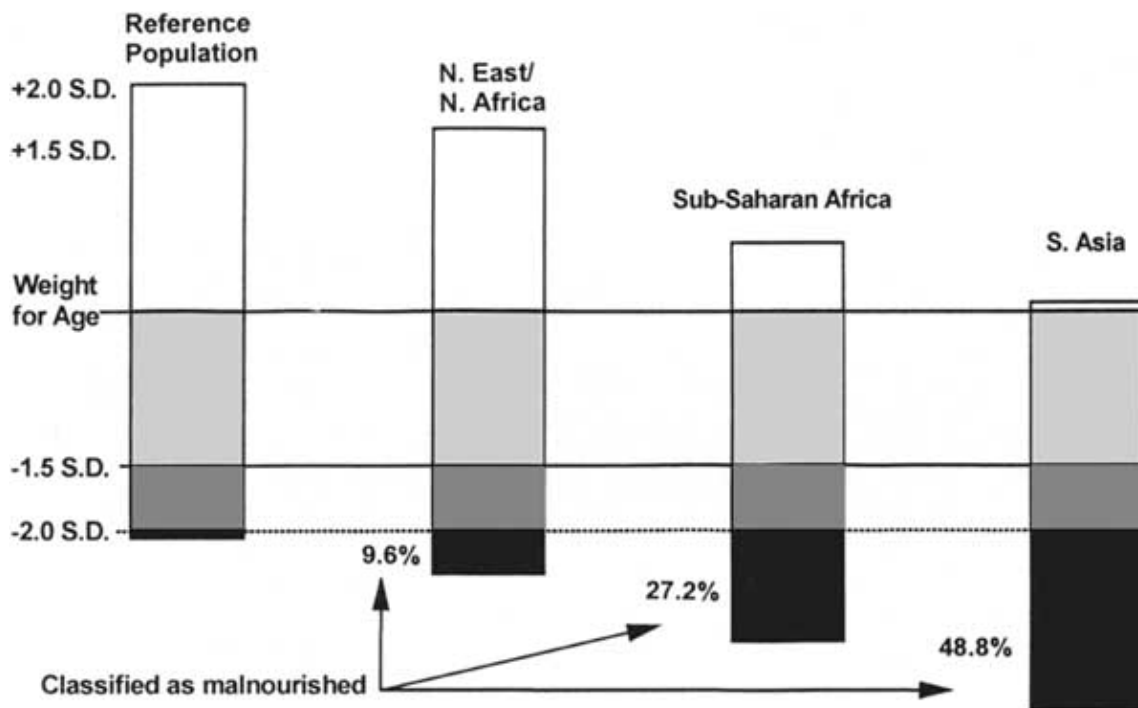


Figure 2: The hidden impact of undernutrition

Substantial progress has been made in reducing stunting in all regions of the world except Sub-Saharan Africa (ACC/SCN, 1997). However, recent simulations by IFPRI/IMPACT projecting progress to the year 2020 suggest that continued progress, over what is quite a substantial period of time, will only be modest (Figure 3). The nutrition community has not confronted this problem in a coherent way, and it is now time to rethink the basis on which we set out analyses and plan action.

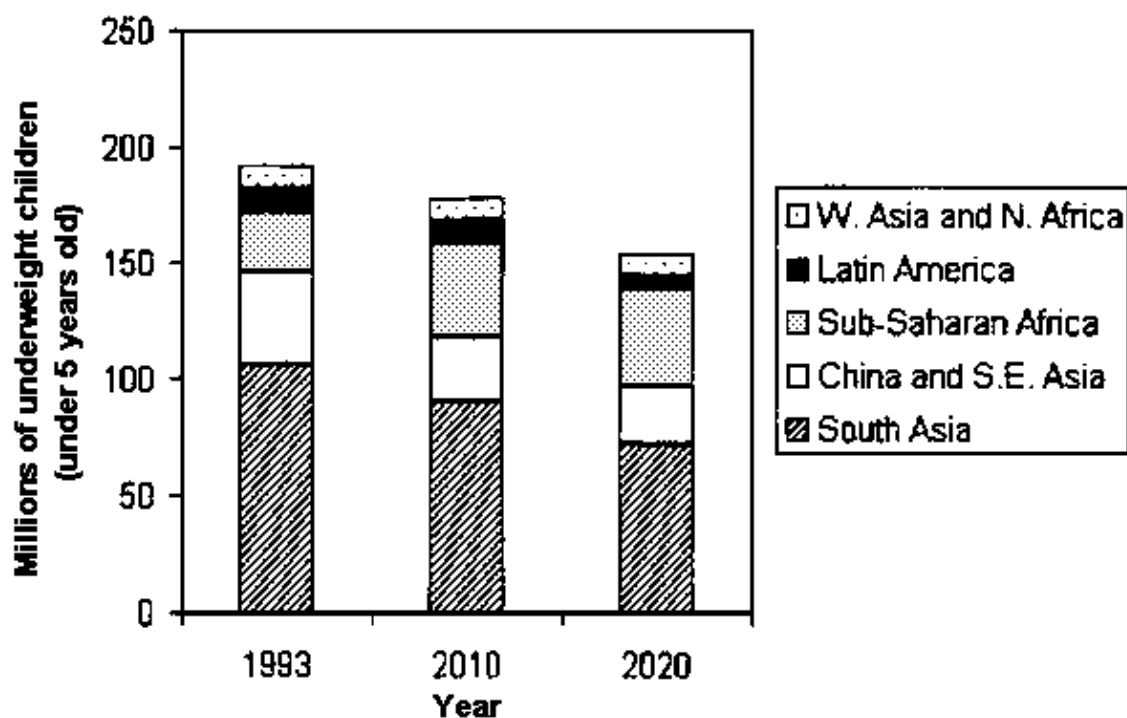


Figure 3: Projecting progress in reducing underweight in children

Source: Pinstrup-Andersen et al. (1997)

Maternal Nutrition

In some communities, the basis for malnutrition starts before birth, with mothers of low body mass index (BMI) on average giving birth to babies of low birth weight (Shetty and James, 1994). Although this direct

relationship between maternal weight and birth weight is not a new finding, the nutritional state of women, both before pregnancy and during pregnancy, is something that should be given more emphasis, especially by major policy makers.

The amount of weight gain required by a woman during pregnancy in order to ensure giving birth to a child with normal birth weight, is set out in maternal nutrition criteria described by WHO (1995). In spite of this, there is as yet no system in society where the requirements of antenatal care, even in a crude way, are locked into the pre-existing weight and rate of weight gain of the mother during pregnancy.

Studies in South Africa and elsewhere during the 1960s and 1970s have demonstrated quite profound effects of supplementary folic acid in dramatically reducing the likelihood of low birth weight (for example, Baumslag et al., 1970). In a recent review of trials evaluating different prenatal interventions to prevent or treat impaired foetal growth (de Onis et al., 1998), folate, zinc, and magnesium supplementation during pregnancy were shown to have possible beneficial effects, with protein/energy supplementation shown to be beneficial (Table 1). On the basis of these analyses, we need to look at antenatal care in a completely new way in order to avoid the huge handicap that arises from low birth weight.

Table 1: Nutrition interventions to prevent intrauterine growth retardation

<i>Intervention</i>	<i>Number of trials</i>	<i>Effect (odds ratio)</i>
<i>Beneficial effect</i>		
Protein/energy supplement	7	0.77
<i>Possible beneficial effect</i>		
Zinc	4	0.77
Folate	5	0.6
Magnesium	2	0.59

Source: de Onis et al. (1998)

Focusing on women, a study carried out in ten states of India has shown that half the adult female population in rural areas is malnourished. Other studies in India have shown chronic energy deficiency in nearly 70% of women (Table 2). In Asia, similar levels are seen in Bangladesh and Pakistan. There are 30–40% malnourished women in Viet Nam. In Africa, the figure varies between 20 and 40% depending upon whether there has been a catastrophe, war, famine or drought.

Table 2: Chronic energy deficiency in India in the late 1980s

<i>Women</i>	<i>III (%)</i>	<i>II (%)</i>	<i>I (%)</i>	<i>Total (%)</i>
10 States	11	13	25	49
Hyderabad village	10	15	33	58
IFPRI rural village	16	18	27	61
EC rural pool	19	16	33	68

Source: NIN (1989–90)

The consequences of adult malnutrition extend beyond those of maternal risk of underweight babies. The ability of women to sustain work and their sheer physical capacity to cope are markedly dependent upon their body mass. Illness and handicap, in terms of sickness, days off work, days sick in bed and death rates, all increase with increasing malnutrition (Shetty and James, 1994). We are therefore dealing with a new dimension of malnutrition, which so far has not been incorporated into our thinking. Malnutrition in women, with its links to low birth weight, inability to sustain work, and reduced capacity to care for the family, is an area that we have not taken on board at all.

The Agricultural Dimension

In addressing the agricultural dimension of malnutrition, the Commission has taken the population of India to give an example of the current lack of food provision. Approximately 1800 calories of food is supplied per person in India. If, however, India were a society in which people could grow to an appropriate height by virtue of being well fed during childhood, in which people were not wasted, and in which people were able to engage in all the activities that they desired, then a third more food per person would be needed (Figure 4).

Not only is there a fundamental challenge for the provision of food, but there are also the considerable problems and risks associated with the fact that, globally, we have come to rely on amazingly few types of food crops (Mann, 1997). We are becoming increasingly dependent on the mono culture, single system of agriculture with all the implications in terms of intensive production.

Many neglected and under-utilised crops, currently referred to as 'coarse cereals', have highly desirable nutritional profiles and should therefore be redesignated as 'nutritious cereals'. In considering how best to ensure nutritional diversity, or 'global nutrition security', in addition to the number of calories produced from a crop, an eight-point strategy has been developed as an important long-term insurance policy for agriculture (see Box 2).

A new approach of measuring and comparing weights and heights of both children and mothers has been developed in order to prioritise village, regional and national policies for combating malnutrition (James et al., 1999). Figure 5 shows a schematic representation of this new approach. If mothers are thin, they may simply not have enough food. It is not surprising therefore that thin mothers are associated with thin children, as the problem is a fundamental problem of food security and household provision of food on a daily basis. But the model also illustrates other scenarios. Adequately fed mothers may have thin, malnourished children, and this raises a number of issues in relation to UNICEF's concern for caring.

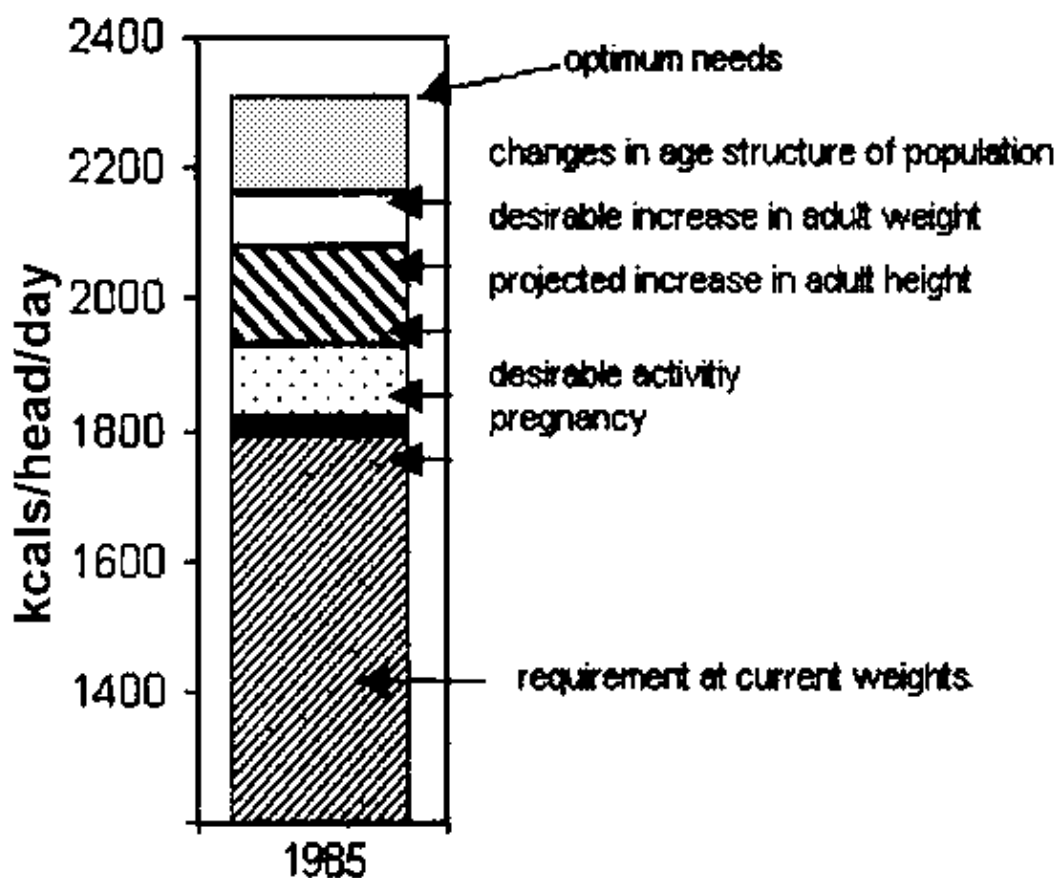


Figure 4: Projected food needs of the Indian population

Source: IDECG (1992)

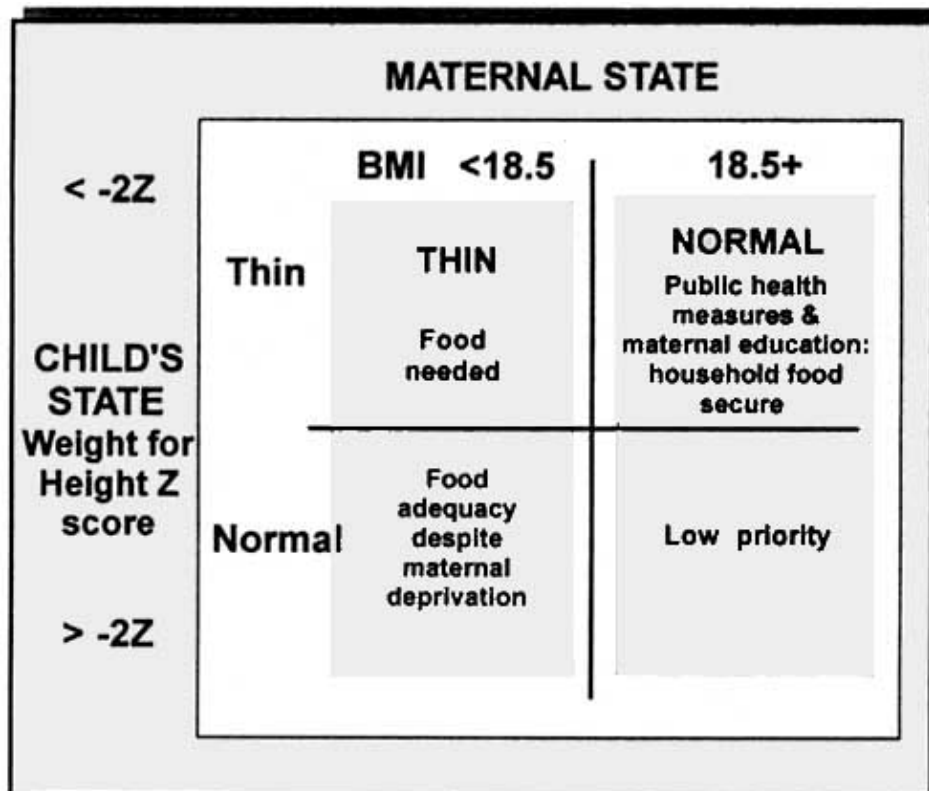


Figure 5: A new approach to prioritising village, regional and national policies

Source: James et al. (1999)

Box 2: Global nutrition security (Swaminathan, 1998)

1. Re-focus national priorities in agricultural research to allow for crop diversity as well as the intensity of production
2. Recreate the demand and market for a wide range of crops
3. Develop processed foods based on a mixture of nutritious crops
4. Include minor crops in national food security measures
5. Redesignate 'coarse cereals' as 'nutritious cereals' in order to alter the image of such micronutrient rich crops in public perception
6. Promote conservation of a wide range of food crops
7. Promote breeding efforts designed to increase the micronutrient content of crops like rice, wheat and maize
8. Promote mixed cropping and multiple cropping sequences which provide space in the cropping system for under-utilised but nutritionally desirable crops

The world today sees a society where foods are transported in enormous amounts on a daily basis across the globe to feed the affluent. The human food chain is rapidly being transformed into a global market with developed countries intent on providing their populations with a huge variety of foods at ever-lower prices and irrespective of seasonal availability. This, however, has huge implications for food safety—how can food safety be assured? In addition, as the global free trade opens up, how can farmers in the developing world compete effectively with Western industries already bolstered by decades-long subsidies?

Seasonal Deprivation

Seasonal fluctuations in the annual provision of food can have significant effects on adult and infant malnutrition. Analyses reveal that weight changes of adults alter in response to seasonal shortages of food, and that these food shortages are induced by complex interactions of climate and soil (Ferro–Luzzi et al., 1994). Recent studies in The Gambia have shown that seasonally–induced adult body weight changes are linked to low birth weight, a greater propensity for neonatal death, childhood stunting, anaemia and the risk of permanent brain impairment. These effects on children born during and after seasonal deprivation can, however, be combated by food supplements: supplementation of pregnant women during the hungry season has been shown to result in a substantial shift in birth weight and a marked reduction in the proportion of children with low birth weight (Ceesay et al., 1997). This seasonal impact of deprivation currently affects millions of women of normal body weight and is additional to the 200 million malnourished women of reproductive age.

Seasonal deprivation also has profound long–term implications. Comparison of adult survival curves in The Gambia for those born in the harvest season and those born in the hungry season shows a remarkable effect due to season of birth (Figure 6). The premature deaths of those born during the hungry season are due both to increases in deaths from infections and to increases in deaths during childbirth. The implications are that if seasonal deprivation were eliminated overnight, the burden of physical survival and reproductive capacity would still remain for another 50 years.

In a similar way, by comparing blood glucose levels in adults born at different times during the second world war Dutch famine, Ravelli and colleagues (1998) have recently shown that foetal nutritional deprivation leads to high susceptibility to diabetes in later life. We are therefore programming a health budget 40 years hence if we continue to neglect maternal nutrition.

Mental and Cognitive Development of Children

Studies by Sally Grantham–McGregor and her colleagues in Jamaica (1991) show the remarkable effect of different treatments for stunted children on development quotient (Figure 7). Supplementation with food markedly improves the development quotient. An even more remarkable finding is that in the absence of supplementation, the provision of stimulus and care – encouraging the children to interact with society and explore their environment – results in a greater improvement in development quotient. When supplementation and care are combined, children essentially catch up with non–stunted children in their development quotient.

Furthermore, evidence is now emerging to suggest that children who have received maternal care, interaction and nurturing during early childhood have a higher intellectual ability in secondary school.

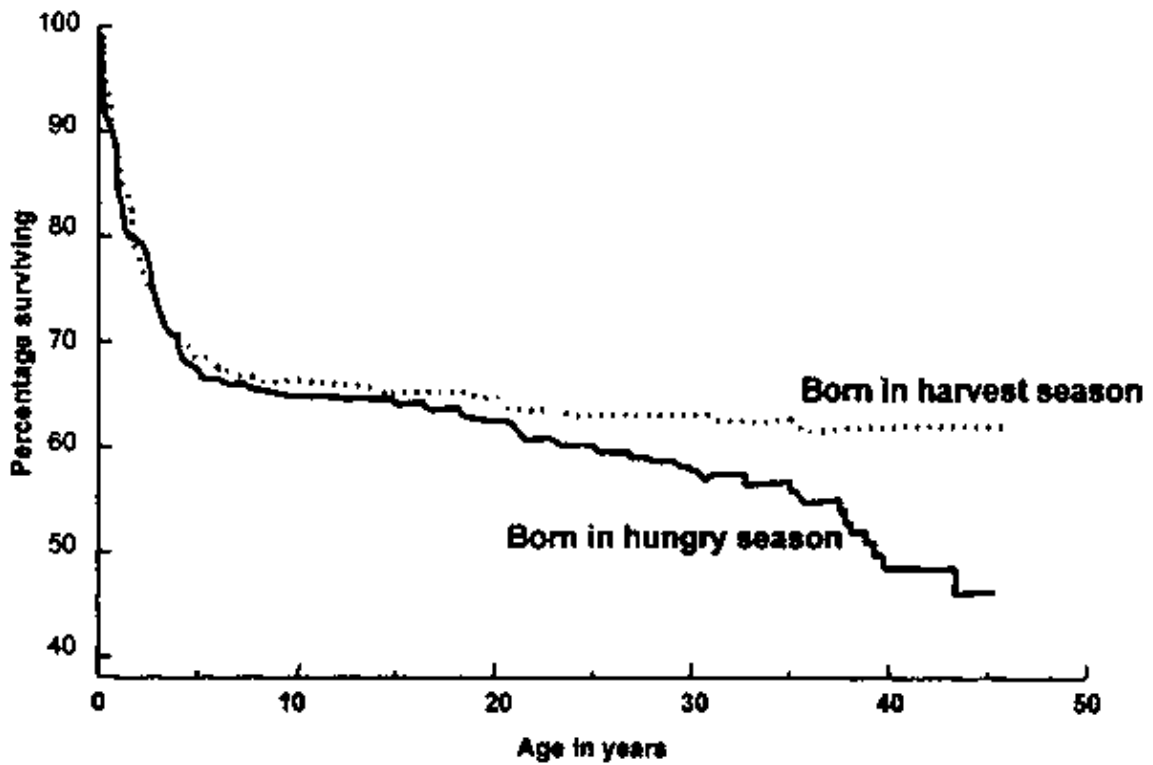


Figure 6: Survival curves according to season of birth in rural Gambia

Source: Moore et al. (1997)

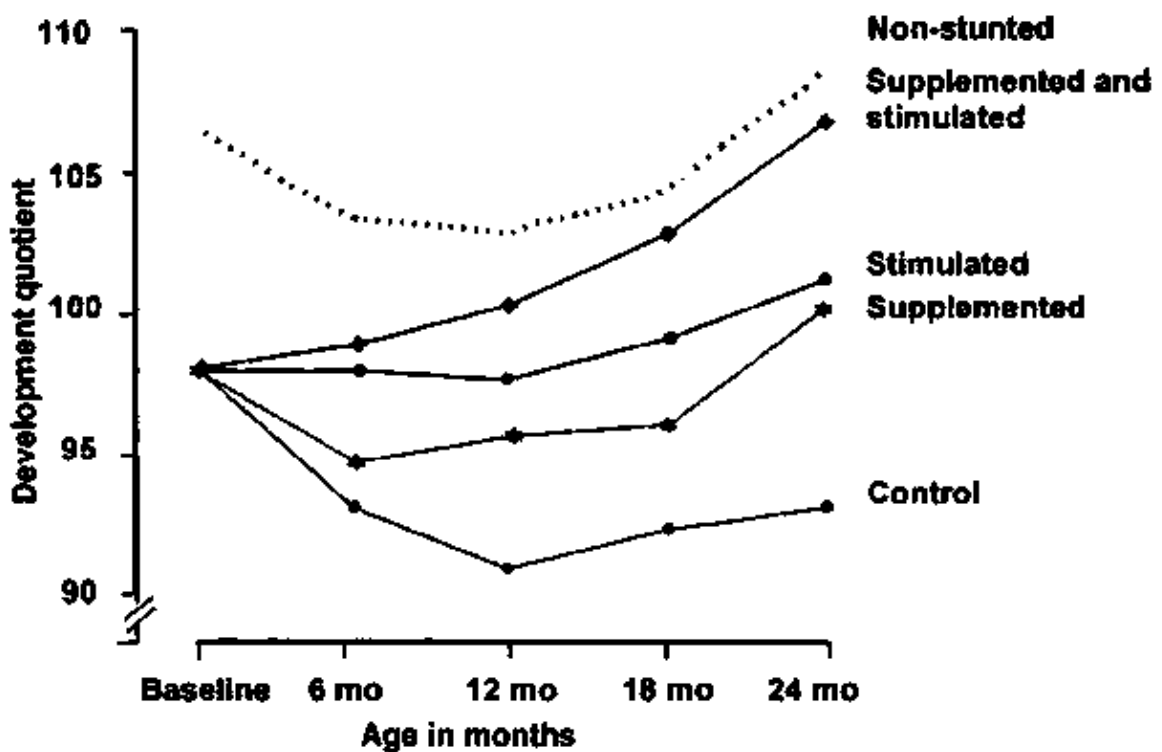


Figure 7: Development quotient of stunted children treated differently

Source: Grantham-McGregor et al. (1991)

New Dietary Challenges: Chronic Diseases

Diet-related chronic diseases not only afflict affluent society, but are now also the scourge of the developing world. In numerical terms, diseases of the circulatory system and cancers are greater in the developing world than in the developed world (Figure 8). Cancer is enhanced by overweight, and Figure 9 shows the high

proportion of overweight people in some developing countries. An extraordinary transition is occurring – from the malnutrition of India, to the huge problems of chronic disease in Colombia, for example. There is a global pandemic of obesity (WHO, 1998). In the Pacific Islands, for example, three quarters of adults are clinically obese and half are diabetic (Table 3).

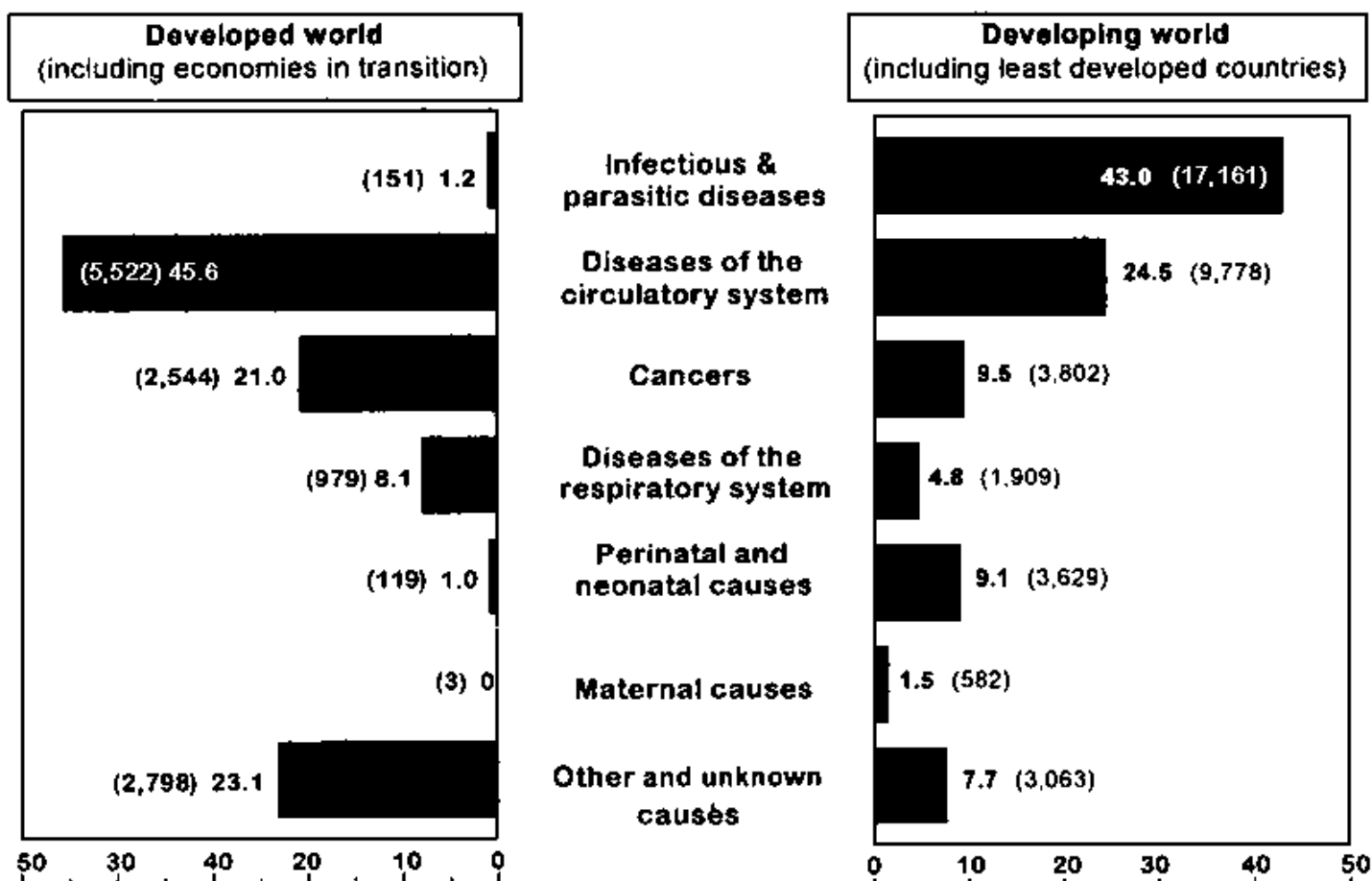


Figure 8: Causes of death in the developed and developing world, 1999

Figures in bold are percentages and figures in brackets refer to the number of deaths in thousands.

Source: WHO (1997)

Table 3: The epidemic of obesity in Asia and the Pacific

Country	Year	Age group	Prevalence of Obesity (%)	
			Men	Women
India	1988/90	Adults	0.5 (mixed)	
Japan	1993	20+	1.7	2.7
China	1992	40+	2.2	5.2
Australia	1989	20–69	9.3	11.1
Western Samoa – whites	1991	25–69	41.5	59.2
Western Samoa – blacks	1991	25–69	58.4	76.8

Source: WHO Collaborating Centre, Rowett Research Institute, Scotland

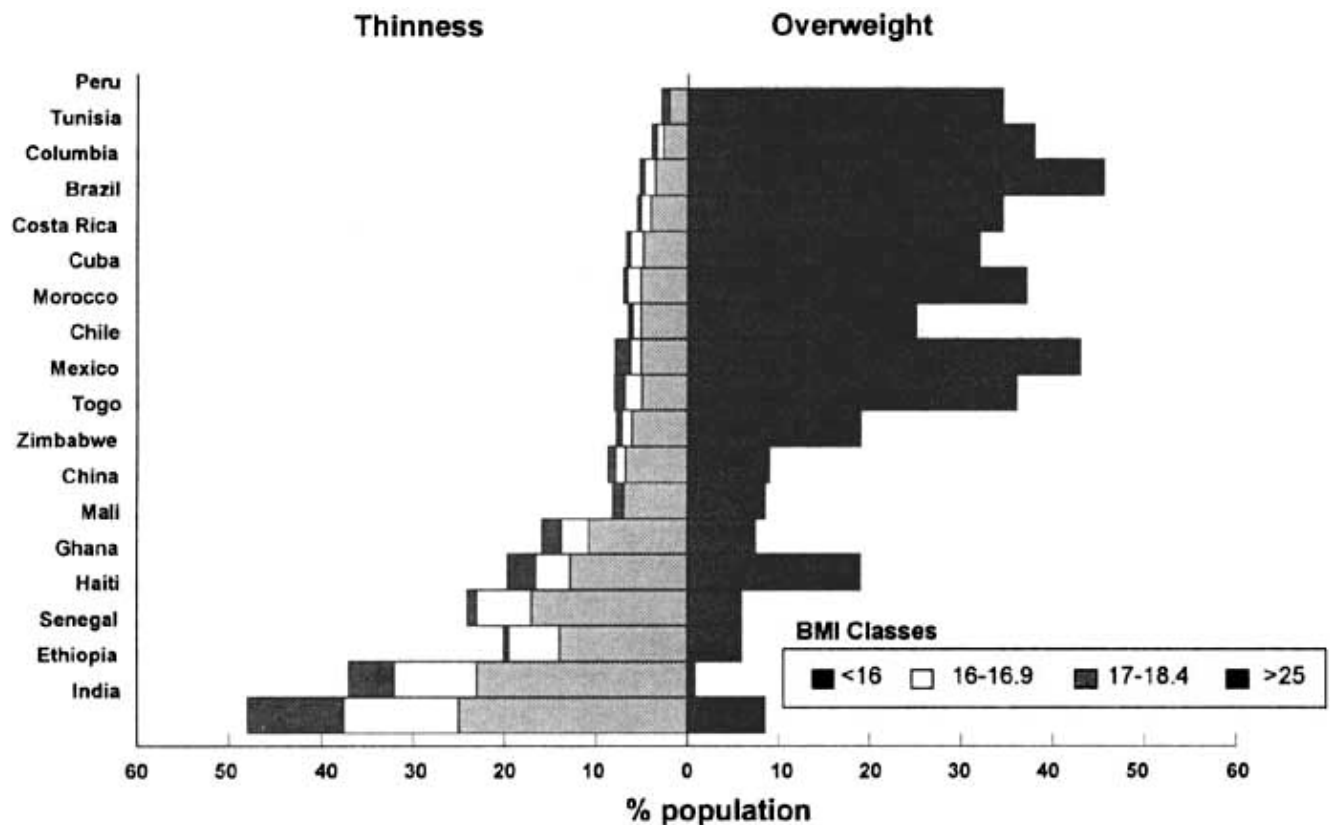


Figure 9: BMI distributions in adult populations (male and female)

Source: WHO (1995)

In looking where the problem of heart disease is most prevalent, the ex-USSR, Czech Republic, and Hungary come top of the league table (1992 figures) according to the Cardiovascular Epidemiological Unit (1994). Undoubtedly, this is primarily caused by environmental and dietary factors. In Norway, a decrease in death rates due to coronary heart disease in the 1980s was preceded by a progressive reduction in total and saturated fat intake and with an increase in polyunsaturated fat consumption. The situation in Norway during this century demonstrates that with a coherent public health strategy, and not simply adult education and individual behavioural management, the course of coronary heart disease can be changed.

One of the effects of dietary change is illustrated in Figure 10, which shows that as the fat content of the diet in Denmark increased from 1935 to 1985, so did the prevalence of obesity in 18-year-old recruits. In Brazil, middle-aged women are the first group in the population to become overweight – indeed, in almost every part of the world, women are more obese than men. Not only therefore are women handicapped in the rural under-privileged part of society by underweight, but as soon as one sees a shift in dietary patterns and physical activity, women are again handicapped.

The current regional estimates of diabetes will undoubtedly escalate over the next few years diverting health resources unless a new approach to addressing this problem is found (WHO, 1997).

Areas for Action and Ways Forward

In order to devise coherent strategies, priorities for action need to be set to reduce maternal malnutrition, low body weight, numbers of stunted children and all the issues related to diet-related chronic disease (Box 3). Furthermore, the priorities need to be set in relation to the magnitude of the problem and the level of population risk. This approach has been applied to the major micronutrient deficiencies, where four levels of population risk have been selected (Table 4).

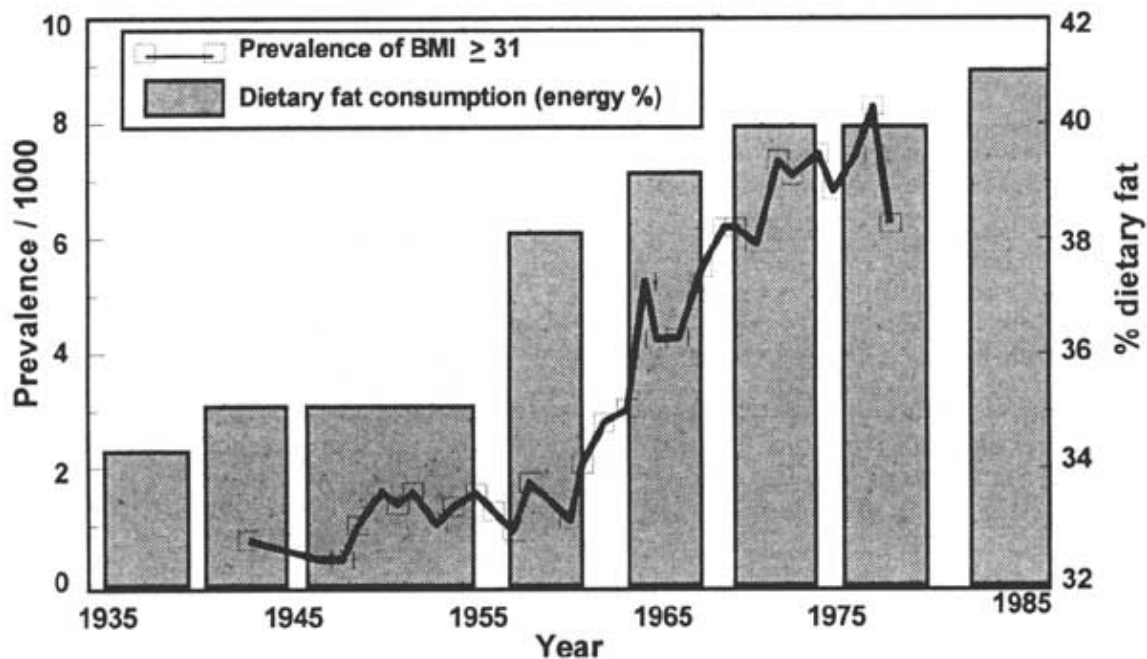


Figure 10: Secular trends in dietary fat and the prevalence of obesity in Danish army recruits

Source: Lissner and Heitmann (1995)

Box 3: Areas for action

1. Micronutrients: Vitamin A, Iron, Iodine
2. Maternal nutrition: avoidance of low birth weight
3. Adult malnutrition: household security
4. Obesity: maternal nutrition; physical activity; diet with major intersectoral policies
5. Cardiovascular disease: major dietary policies in addition to consumer education
6. Cancers: major reappraisal of horticultural needs, farming, transport and refrigeration policies for increased vegetable and fruit consumption especially in urban areas.

Table 4: Prevalence of subclinical deficiency by level of population risk

Level of population risk	Subclinical signs of deficiency (%)		
	Iron	Vitamin A	Iodine
IV (severe deficiency)	? 80 – 100	? 20	> 99
III (moderate to severe deficiency)	? 50 – < 80	? 10 – < 20	? 50 – < 99
II (mild and widespread deficiency)	? 30 – < 50	? 2 – < 10	? 20 – < 50
I (mild and clustered deficiency)	< 12	< 2	< 20

Source: IOM (1998)

We have a dilemma. We need targets, but we also need to go to countries. But how do we go to countries and capture the imagination of political leaders and financiers, whilst at the same time, have a discerning plan involving interagency cooperation? This is where we are rather inept in the way in which we put across our proposals.

If we are going to develop a global compact (see Box 4), we will need to take on a completely new approach, recognising that if we are going to take on some of the major global challenges, we have a whole array of

conditions to account for. We have to be far more flexible, coherent, policy-driven and action-motivated than we ever have been in the past. We need to prioritise, but need to be coherent, integrative and effective in order to combat this array of challenges.

Box 4: A new global compact for nutrition

1. Formulate a Social Compact

- Prime Ministers/Presidents
- People representatives
- UN agencies/World Bank/IMF
- Bilaterals

2. End childhood malnutrition by 2020

3. Develop national regional views of principal issues

4. Implement locally developed action plans with coherent inter-agency collaboration with subsidiarity of decision making.

5. Use nutritional wellbeing as a critical marker during financial readjustments

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Discussion

Tim Frankenberger (CARE): In any sustainable development activity it is important to not only have civil society and government working together, but also the private sector. What is your perspective on the private sector in this activity?

Ricardo Uauy (Commission): The report that has just been presented is a conceptual framework. The action side is only just starting, and this is one of the stages of the action side. Parallel to this technical report there will be two levels of activities. One that will involve high–level political leaders and community leaders who would influence the decision–making process—including the private sector, and one that will be linked to the human rights approach. In this aspect, the Commission has contacted high–profile leaders like Mary Robinson. We are at first creating a consensus that is based on the technical side. This is a process that hopefully will continue in the months ahead, enrolling the contribution and the reaction of political leaders, social leaders, of community leaders, of business leadership around the world. The process is only in a first draft stage.

Rainer Gross (GTZ): I appreciate very much that the obesity factor has been taken up. All the surveys in Latin America suggest that obesity is not just an aspect of women but it is an aspect of *poor* women. Similar patterns are also seen in South–East Asia, and particularly in the country where I am working – Indonesia. I would conclude therefore that not only undernutrition, but also overnutrition, is a problem of the whole society, and not just a problem of individuals. I would like to refer you to an excellent recent overview in *Scientific American*, which presented some exciting news on the biochemical insights regarding the interaction between stress and obesity. We are learning a lot about this issue and I think we have to address the problem in relation to poverty. What I miss in the report, is the interaction between environmental pollution and nutrition. With the new wave of chronic or non–communicable diseases, in particular in developing countries, we have

to address this problem.

Philip James (Commission): I agree. We are beginning to have tremendous concern about the environmental problems in, for example, Central Europe.

Roger Shrimpton (UNICEF): I would like to give a UNICEF response to the Commission's report. Firstly, I would like to say that UNICEF sees the fulfilment of the right to good nutrition as the principal challenge to the United Nations system for the new century. This is the central message of the *State of the World's Children 1998*, and a long-held agency position. We, therefore, welcome the creation of the Commission and the charge given to it by the SCN and its member agencies. We now welcome the Commission's report, which is a thought-provoking reflection on the complex and compelling problem. It is all to the good that a distinguished panel of scholars and practitioners share with the international community, through the SCN, the visionary ideas and recommendations embodied in the report. Discussion of the report is also in the spirit of improving on this draft as a guide for interagency collaboration to advance the fulfilment of nutrition rights. We hope that the report will be an important tool in keeping nutrition as a high priority for all agencies, even amidst competing priorities and in the challenging environment of UN reform. UNICEF welcomes in particular the suggested focus for action on the reduction of stunting through the central strategies of reduction of low birth weight, and improved infant feeding. Recognising maternal care as the key to combating stunting in the next generation highlights the connectedness of nutrition actions through the life cycle. Maternal care for nutrition is a neglected element of policy and programmes, even as the recognition of the importance of birth weight and nutrition in very early child development has increased. In the constructive spirit, we would like to point out four aspects of the report that we think could be strengthened, making it even more useful for all of our agencies.

The first one is related to *historical underpinning*. We feel that the report could be stronger if it better reflected the recent history of consensus building that the SCN agencies have been through, both in the SCN and in the International Conference of Nutrition of 1992. The principles in the ICN declaration are still relevant, and the process by which they were reached should not be minimised. Furthermore, the extensive exercise conducted by the ACC/SCN to understand how nutrition has improved by drawing lessons from real experience in several countries was also an important consensus-building exercise. These lessons learned, presented in the SCN document *How Nutrition Improves*, also represent a consensus on a number of factors that should figure in any discussion of strategies. Among these is the importance of the status of women, which should be embodied in all nutrition-related action and advocacy. Advocacy in favour of governments spending on basic social services and mobilisation of communities are also parts of those elements. Structuring the report more closely on the range of lessons already articulated in the SCN documents would have provided some continuity to this analytical base.

The second issue is around the *nature of the malnutrition problem*. One aspect of the consensus captured in the ICN was about the nature of the problem of malnutrition and its causes. In particular, it was agreed at the ICN that care for nutrition in households, particularly care of women and young children, was treated on a par with household access to adequate food and to health services and a healthy environment as determinants of malnutrition. The ICN background paper on care for nutrition explained clearly the phenomenon by which child malnutrition exists, even in the face of adequate health services, sanitation, and household food security. These ideas are no less relevant today than in 1992. The Commission report is weak in its consideration of the elements of care for nutrition as well as for links to food security and health.

The third issue is about the *centrality of rights*. As the Secretary-General has noted categorically, all activities of the United Nations must be based on, and reflect, a human rights approach. The report would be stronger and more credible as a UN document were human rights more central to this analysis and recommendations. To call for a new social contract for nutrition for example, ignores the well-established body of human rights instruments that form the basis for the work of the United Nations and already constitutes a social contract for nutrition. The report would do well to call for a strengthening of the focus on nutrition in the existing processes by which States Parties report on their human rights obligations to the relevant United Nations bodies. There is great scope for making nutritional concerns more pronounced in this reporting and the SCN, as well as member agencies, have a clear role to play in this regard.

The fourth issue is around the *scope of priorities for nutrition problems*. There is no question that non-communicable chronic diseases related to nutrition and other factors are a growing problem, both in developing and industrialised worlds. There is also convincing evidence that reducing low birth weight and undernutrition in its many forms in the early months of a child's life reduces that child's risk of suffering from a number of chronic diseases in adulthood. UNICEF believes that this should be a principal strategy for the SCN agencies to address the problems of chronic diseases in adulthood as it is consistent with a wide range

of other objectives, including reduction of stunting. Approaches that aim first at the problems of undernutrition more directly associated with poverty, disenfranchisement and poor access to resources and basic services at the household level are necessarily those that should be of most concern to our central agencies and to the SCN.

The fifth and last item concerns *follow-up processes*. UNICEF appreciates the report's conclusion that regional strategies are necessary and useful to combat malnutrition. Nonetheless, regional nutrition strategies already exist in many cases, although we agree they can be strengthened. Existing regional meetings should be used to articulate and advocate the agenda of the Commission report, but a new series of regional meetings would be burdensome for government partners who have already participated in the formulation of regional agendas related to nutrition. We hope that our constructive consideration of the report, together as SCN member agencies, will result in a common commitment to some key principles and actions that will move forward the fight against global malnutrition.

Mike Golden (University of Aberdeen and ACF): The startling data that has just been presented shows how devastating stunting and wasting are – in both children and adults – and how the legacy of past failures is building up for the future. The data have all been observational and epidemiological. Philip James has shown us that we are in a terrible state, but he has not shown us what we can, or should, do about it. In 1982, George Beaton reviewed supplementary feeding programmes – over 200 of them. On reading that report and looking at the original papers, it is quite clear that the supplemental feeding programmes were universally unsuccessful. Looking at the programmes that have occurred since 1982, which I have reviewed, the supplemental feeding programmes have, by and large, also been unsuccessful. We still have the problems of stunting and wasting and we don't have a successful strategy to implement, we don't know what to do about the problem or, in biological and physiological terms, why the problem occurs.

I would like to ask the Commission whether they have considered the underpinning science – the causation of stunting; the causation of thinness in adults; the causation of low birth weight. Has the Commission come across any successful programmes at all? I am reminded of data published by Michael Gracy on Australian Aboriginals, which described four decades of nutritional surveys, showing that the nutritional state today is no different than it was four decades ago. During that time, public health measures were put in, children were vaccinated, and there were social security and food security. But these have had zero effect on the weight and the height of the Aboriginal populations. Clearly the strategies that we have had in the past have been failures. So why do we persist with the same strategies? I suggest this is because we need to do something because of the magnitude of the problem, but we do not know what else to do.

We can talk about addressing these problems, and we can all see that we have a major problem, but I do not see that we know what to do about them. I do not see that there has been an investment in nutritional science to understand the causation of stunting, of low birth weight or of thinness in adults, so that we can formulate reasonable strategies based on science.

It is axiomatic that we cannot apply what we do not know!

Ricardo Uauy (Commission): There is always room for more science. The Commission feels that the body of science that has emerged over the last 15 years at least allows us to move forward. In the *Third Report on the World Nutrition Situation* you will find that science has made an impact in programmes, and that progress is being made. The missing link to strengthen action is not the need for more science – we will always need more science – but the need to apply the science that we know and the science that is emerging. At present, the bottleneck is in the application of science at the programme level, especially at national level. Successful pilot projects around the world have demonstrated that we can advance. We don't have all of the answers, but at this point I think there is enough knowledge to put into action, while at the same time, we generate new knowledge. Hopefully, by putting this knowledge to work we will learn how to make these programmes more effective. So your point is well taken. But at present, the call is for action in terms of reducing stunting. If you look at the progress, many of the countries around the world are making dramatic progress at improving stunting with an integrated approach where the three components of the agencies are present—care, food security, and health.

Basil Hetzel (ICCIDD): My comment is related to our experience in meeting the gap between available knowledge and its application, which has just been alluded to by the panel. I offer this experience as being relevant to other problems. How has the progress with iodine deficiency disorders been achieved? I submit that it has been achieved, first of all, as a result of the level of scientific knowledge. This permits the available technology to be applied, and the understanding of the problem as a major cause of brain damage (considered by WHO as the major preventable cause of brain damage in the world today), to be widely

accepted. The second step was the establishment of an international NGO, which I have the honour of chairing. George Beaton made the comment in his 'history' that the establishment of this NGO in relation to the SCN was indeed a critical step. That NGO has been able to work in the UN system in advocacy. It has been able to reach countries. It has developed various strategies at the global, regional, and country levels. The remarkable progress that we have seen has resulted from collaboration between agencies in the UN system, the multilateral agencies, the bilateral agencies, the NGOs, the private industry (the salt industry) and finally, the world service club, the Kiwanis who have raised US\$ 25 million towards the campaign so far. I offer the model of the International Council for Control of Iodine Deficiency Disorders (ICCIDD) as one where there has been the establishment of a global partnership. That global partnership has brought about a very dramatic improvement in the situation and control of iodine deficiency as a cause of brain damage in the last decade. I believe this model deserves consideration by the Commission and by the SCN in relation to other problems.

Tom Marchione (USAID): I look forward to taking the Commission results back to the Bureau for Humanitarian Response in Washington, which is in charge of an US\$ 800 million food assistance programme where food supplementation plays a large part. In response to Michael Golden's comments, if one looks at the SCN publication *How Nutrition Improves*, indeed you will see that there are examples where one can have an impact on child malnutrition through programmatic approaches. However, I would also like to support his view that there be an emphasis on programming and how to do it. We have set a goal of reducing general malnutrition by one half and I think we have to focus on how we go about achieving that goal, if not by the year 2000, then shortly after that.

Philip James (Commission): Concerning Mike Golden's issue, i.e., trying to create a substantive body of knowledge and a capacity within developing countries, we have actually been discussing that here in Oslo with the IUNS. There is a real need for us to go from our near colonialist approach where we essentially, dare I suggest it, seduce the most able in developing countries into UN or NGO organisations. We are very troubled by the need to nurture a powerhouse of intellectual analysis and independent national thought within particular countries, and I think that we do see programmes where we are absolutely convinced that this is the right approach. It would be so much better if that were done in a coherent way with the local institutes full of their vigorous analysis of what's needed on a national basis. I would very much hope that as we develop this report we will see that in some way we need to lock that process of nurturing and capacity building, which Dr Brundtland mentioned, into the whole mechanism by which we achieve change.

Anna Ferro-Luzzi (Italy): I enjoyed your presentation, and the way it brought together a whole picture. In this respect, I appreciated particularly one aspect of it, namely the concept that malnutrition should not be seen only as expression of food deprivation, but also as a consequence of unbalanced diets. As you pointed out, this problem is not limited to developed countries. The developing country burden in chronic diet-related diseases such as obesity, cancer, and ischaemic heart disease, is already great, and is bound to increase exponentially in the near future with an ageing population and change in lifestyle. The problem we face today is the difficulty of persuading policy makers and academia in developing countries that these aspects should be taken into serious consideration. The same applies also to donors – be it governments or agencies – who are very reluctant to put chronic diet-related diseases on their agenda. I would warmly wish that the next draft of the report include advice on the strategies and arguments needed to increase the awareness on this aspect, perhaps emphasising the economic benefits of early prevention of chronic diseases.

Julia Tagwireyi (Commission): One of the areas for discussion is 'how to do it'. If you look at the successful case studies that have been developed, there is certainly a lot of information. But we have not extended the 'how to do it' in terms of how we sustain the political commitment to nutrition in a way that makes it politically expedient for the politician to support nutrition and to make it beneficial in economic terms. It is all very well to have well-conceived programmes but they just remain on paper. If we don't manage their scarce resources, how would I, as head of nutrition, make an argument so that my minister of finance sees it as economically possible or expedient to invest in nutrition? I think the 'how to do it' in that aspect is a bit deficient and I think that here we can learn. There are a lot of agencies that have been past masters at this and I think we need to harness those experiences. The ICCIDD is one. UNICEF has also been quite successful in engaging policy makers. We have to move from science to practice. We have to engage in political dialogue. If we do not make a coherent enough argument for making nutrition an investment, then we can have good science and the best programme design, but we won't get very far. This is where we have to move to when we look to the 21st century.

Judy McGuire (World Bank): What we have is a partial analysis of the problem. We have a far more coherent epidemiological presentation than a presentation of the rest of the issues. It is partial because even with the epidemiology, which is well represented, we really don't know what to do about it. Take the case of low birth weight, which is absolutely critical. There is a very serious debate as to whether you can intervene at all in

pregnancy, whether you can deal with adolescent girls, or whether you have to really start with the zero to 2-year-olds and improve their growth. It is an inter-generational problem, so even at that level of diagnosis we don't have much. Also, there is no political or economic analysis here. I would maintain that poverty, more than anything else, is driving these nutrition problems and I find it to be a severe vacuum that there is no assessment of poverty anywhere in this analysis. The agricultural analysis does not refer to IFPRI's 2020 Vision. I am hoping that the whole symposium will give us a fuller picture. Suttillak's presentation hopefully will focus on behavioural change. Behaviour and care may not be covered, but behavioural change is certainly not covered and what we are talking about is far more than just diagnosing the problem as an epidemiological problem.

Gro Nylander (National Hospital and the National Coordinator of the Baby Friendly Hospital Initiative in Norway): Thank you for summing up some of the knowledge about the devastating effect of malnourished mothers and their small children. One would expect that the malnourished mothers of these small children would have a lower chance of lactating plentifully and successfully. Would you care to comment on what is the difference between children who are given a chance of a proper catch-up weight after birth compared to children who stay malnourished?

Philip James (Commission): It's quite intriguing. In an IDECG symposium 2 or 3 years ago, Prentice showed that the physical capacity of mothers to keep generating milk is truly astonishing at surprisingly low body weights. But of course what you are then doing is requiring that such a woman is able to substantially increase her food intake if she is not to suffer personally. The evidence that children can catch up from low birth weight is true, but as I look at the evidence, it is not as good as it should be. What we don't understand is whether the failure of low birth weight children to catch up is in part a reflection of the mother's problems, too. There is no doubt that the breastfeeding issue is enormously important, but as several have commented, we have quietly neglected some of the big issues surrounding the weaning processes. That is something that we ought to certainly include. But we *are* clear that it would be *much better* to avoid low birth weight if at all possible.

Ricardo Uauy (Commission): I think the answer from developing countries is very clear. Low birth weight is associated with decreased prevalence of breastfeeding and decreased successful breastfeeding. It is associated with high risk of malnutrition and there is the potentiating effect of low birth weight on malnutrition, stunting and both mental and physical development. This means that you have to consider both the mother and the infant. The literature of developing countries is very strong in indicating that one potentiates the other, both in terms of physical and mental handicap.

Fernando Viteri (University of California, Berkeley and UNU): The Commission states institutional strengthening and building as one aspect on how to act. It also agrees on the importance to empower governments and nations to take action. It is important in this regard not only to create a governmental will to act, but also to provide each country with a critical mass of well-trained people who can support, promote, and sustain action by the government. In this regard it is important for the UN agencies and other institutions to commit more funding and more opportunities for training scientists from the developing world, in nutrition and many other related disciplines, either locally through regional institutions or through international cooperation. My plea is to increase the capacity of institutions by increasing the number of scientists so that we can create a critical mass at the country level.

Julia Tagwireyi (Commission): The issue of capacity is particularly relevant to Sub-Saharan Africa. It is no secret that in terms of capacity-programme planning, research, and so on – Sub-Saharan Africa is very limited. We have received several different kinds of support over the years – it has not been a total vacuum – but some of that support has not been very empowering or sustainable. Some of our best-trained Africans are outside Africa. In looking ahead to a new vision for institutional and capacity building, we should look at a model that helps to keep our best people working on the worst problems in the globe, which are in Sub-Saharan Africa. We need your best teams to work on the problems we have, and I welcome the new initiative by UNU. I know that under the new leadership of Dr Garza we will see more investments in Africa. We don't have the capacity to sustain all these very good interventions. The numbers aren't there to even do some of this work. So this needs to be a serious focus in any strategy to make an impact on the malnutrition problems in Sub-Saharan Africa.

Ricardo Uauy (Commission): This is a very neglected area, and I think we all share the responsibility. People from developing countries share the responsibility in accepting projects that leave nothing after they are completed. It is not enough to have teams come in and then leave with the project, with a publication, but with nothing on the ground. I challenge all of us to consider what is left after our donors leave a project. I also suggest that perhaps a levy should be placed on each project to create a fund for institutional development.

Nobody wants to take charge of building capacity. Everybody wants to do his or her project. This is demanding of very limited human and institutional resources. The Advisory Group on Nutrition (AGN) has looked at the issue even of training refugee workers in Africa. At the present time they have to be trained at the London School of Hygiene and Tropical Medicine. This needs to be reassessed and I think the IUNS initiative and the donors should consider doing something about this at the earliest possible time.

Elisabet Helsing (Board of Health, Norway): I feel that the work is not quite finished and I join the concerns expressed by Julia Tagwireyi and Anna Ferro–Luzzi that the plans for action still have some way to go. I am particularly concerned that as we approach the double burden of disease we do not start talking in two different terms of solutions. We need to be clearer about the need for comprehensive food and nutrition policies.

Urban Jonsson (formerly Regional Director for UNICEF in South Asia): Both the report and the presentation have emphasised the remarkable difference in nutritional status between South Asia and Sub–Saharan Africa. Someone said that we need to have a correct diagnosis before we can have a solution. Any report about the global nutrition situation today will have to be precise about the remarkable fact that in spite of more food per capita, higher income, and many other better things such as health services, South Asia has a 50% higher prevalence of malnutrition than Sub–Saharan Africa. We also know that this is associated with a very high prevalence of low birth weight in South Asia. My position is that this is related to the different forms of exploitation of women in South Asia and Sub–Saharan Africa. Very little has been said about the extreme importance of the subordination, exploitation, and marginalisation of women in societies. This will explain not only differences between South Asia and Sub–Saharan Africa, but also the differences within these continents.

I think that this reflects the need to bring down the analysis of causes to what I call a structural, basic level that relates to the macro–economic and macro–political aspects. I know that this is controversial, but I don't think one can avoid it in a report that attempts to describe the situation in totality.

Flavio Valente (Global Forum on Sustainable Food and Nutritional Security, Brazil): I would like to see if we could move ahead with some other issues in this discussion. I like the urgency that the Commission puts into its report. The decision by the World Food Summit to reduce by half the number of malnourished by the year 2015 is understood by civil society as a very low mark. We would like to achieve this as soon as possible. UNICEF and ICN have already shown the importance of treating human beings as whole. When you do that – when you feed them, when you give them care and health care – they grow and they become healthy human beings. The problem is that this has not convinced governments. That is why civil society has placed so much importance in the new approach of the UN. First, in working together, and second, the heavy emphasis on human rights. We need to discuss bridging historical gaps and economic gaps within society. Working with nutrition for many years I have seen that even if children recover from their malnourished status when they are young, if they are then placed in a deprived situation, they cannot recover. I think the same is true for nations.

I would also like to ask the SCN to make an effort to bring into the nutrition discussions some of the international organisations that are dealing with this from the other end, such as the World Trade Organization. They really don't think too much about the impact of their policies. Perhaps if they were here, discussing these issues with you, they will start to see the impact of their policies.

Richard Orraca–Tetteh (University of Ghana): I like this holistic approach to the nutrition problems in the world and I think the suggestion made by the ICCIDD is very interesting. To give an example of what we did in Ghana, we saw the iodine problem as being important in our area. We wrote a project that the Canadian International Development Agency (CIDA) supported. Now we have salt iodisation in the country. This was based upon local people trying to get things done, and this leads to the question of capacity building. I have been in Ghana as a nutritionist since 1959. We do not have the necessary support for training. We need to look at capacity building and we need the support to train more people from various parts of Africa who will stay and work in Africa.

Asbjorn Eide (World Alliance for Nutrition and Human Rights): The descriptive part of the draft report is very useful. The insight, for instance, on the question of intra–household food allocation and the South Asian puzzle I think is very interesting. As Urban Jonsson and others said, the analysis of causes needs to be much deeper. I would like to address very briefly what you have been saying about the human rights aspects and about the use of a social contract, a global contract or a nutrition contract. It is very important to take into account the existence of a number of mechanisms – legally binding mechanisms. For instance, the Convention on the Rights of the Child has 191 ratifications today – four more than the number of United

Nations members. They are legally bound to address nutrition of the child. I am not saying that you are reinventing the wheel, but you should at least take that part of the system more fully into account in your further thinking. There is also the Convention of Elimination of Discrimination Against Women, which is also binding on a great number of states. The Working Group on Nutrition, Ethics, and Human Rights of the SCN has produced a paper that reviews the development of human rights within the UN. Let me finally remind you that after the World Food Summit in 1996, there was a mandate explicitly given to the High Commissioner for Human Rights to take the lead role in working with the various agencies. I know that FAO and others are already in close collaboration with the High Commissioner for Human Rights, and that again is something that you should follow with close attention. I think that the scientific insights that you can give will be of very great help so I look forward to future cooperation.

Cutberto Garza (UNU): In answer to Julia Tagwireyi, the United Nations University is very much committed to capacity building, especially in Africa. Discussions have already begun and we hope to sit down with those of you who have stayed in Africa, to develop a long-term plan for capacity building in that region. We also have plans to initiate a similar type of effort in the newly independent states of the former Soviet Union. We are very pleased to have your support in this, and invite the other UN agencies, NGOs, bilaterals, and multilateral to help us in this endeavour.

George Beaton: I have been associated in one way or another with the SCN for many years. I see the present effort as something relatively new for the SCN and, in that regard, I congratulate and thank you for what you did *not* do. You did not offer prescriptions for action. Instead, what you are asking the people in this room to do is something that the SCN was established to do but has actually done very seldom. You have asked us, nay, challenged us, to begin a discussion among ourselves about what we can collectively do if we agree on the problem. If this can happen, it may be the single most important contribution of this Commission as we move toward the 21st century.

Graeme Clugston (WHO): We welcome the report, which is very thought provoking. Your presentation focused on science and newly emerging issues, particularly the critical issues of low birth weight and maternal malnutrition and the forgotten role of adult malnutrition, stunting and survival. May I just add two or three comments.

Firstly, there is a global movement underway, which has been generated by events over the last decade such as the World Summit for Children, the International Conference on Nutrition and the World Food Summit. These were very carefully planned initiatives that identified emerging key issues and the strategies to address them. I think the issues that the Commission has highlighted need to be fed into this process.

Secondly, the importance of capacity building which many have mentioned, and which is at the very forefront of WHO'S action, is fundamental because sustainable and permanent reduction of malnutrition depends on it. Capacity building includes such things as infrastructure strengthening, training, human resource development, and strengthening of national nutrition policies and strategies. It is often not highly visible work, particularly on the international scene, but it is crucial. The Commission may be unaware that WHO, UNHCR and WFP do indeed run workshops in Africa for training people in emergency forecasting and management.

Thirdly, the key emerging issues should not ignore, overlook or underplay the importance of IDD, vitamin A deficiency or iron deficiency anaemia, and the models that they provide for addressing some of the other newly emerging issues. Other key issues that I think ought to be strengthened in the report include household food security and caring, food safety and quality, breastfeeding promotion, and the crucial issue of complementary feeding.

Finally, apart from nutrition as a human right, the report needs to wrap all this up with a greater emphasis on nutrition and development, ensuring that nutrition itself and its elements are included in national development policies and poverty eradication policies at the national level. Again, I think this alludes to what sort of action is needed at country level. I look forward to hearing the other presentations and appreciate the stimulus of both your presentation and the report. I suggest building these things into the ongoing framework of ICN follow-up that is already in place, to further strengthen the momentum in countries, regions, and globally.

Chapter 6: Nutrition Challenges and Gender in Asia

Suttilak Smitasiri

Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him.

Will he gain anything by it?

Will it restore him to control over his own life and destiny?

In other words, will it lead to self-reliance for the hungry and spiritually starving millions?

Then you will find your doubts and yourself melting away.

– Mahatama Gandhi –

Over the last fifty years, science has contributed a tremendous knowledge on nutrition. Most nutrition problems are known today in terms of *what* are the etiological factors, referring particularly to immediate causes, and *why* they are so important. This is indisputably a proud achievement for nutrition scientists of this century. Nonetheless, as the close of this millennium is coming near, many remain perplexed by the fact that this vast body of knowledge has not been helpful enough for poor people. Malnutrition can still be found in almost every country in the world. Furthermore, it has recently been reported that even with progress, prospects for reducing malnutrition among the world's children are grim (UNICEF, 1997). This is indeed a challenge for all nutrition workers in the next millennium.

This paper presents the view of a female nutrition practitioner – who works in an Asian developing country – on the nutrition situation in Asia and how to approach the problem more effectively in the future. A Thai experience in rapid reduction of malnutrition among young children is discussed. The issue of gender is critical to the success of empowering individuals (women and men), families and communities in taking positive actions towards nutritional improvement.

Nutrition in Asia: The Challenges

The Asian region consists of a few high-income countries such as Japan, Singapore, and South Korea, while most countries in East, Central, and South Asia have low- to middle-income economies. Estimates of trends in childhood stunting in the region show some improvement (ACC/SCN, 1997), with the most rapid rate of progress occurring in South-East Asia (at –0.9 percentage points per year), followed by South Asia (at –0.84 percentage points per year), compared with the estimated trend across all regions (at –0.54 percentage points per year). Nevertheless, the current Asian economic crisis will, to a certain extent, be an obstacle to this development.

As for childhood malnutrition (underweight), it is estimated that more than 40% of children under the age of five are malnourished in most countries in South Asia and a few countries in South-East Asia, i.e., Viet Nam, Laos, and Indonesia (ACC/SCN, 1996). Myanmar, Cambodia, Bhutan, Sri Lanka, Maldives, and the Philippines have around 30–39% malnourished children; Malaysia is reported to have 20–29%; while China, Mongolia, and Thailand reportedly have between 10–19%. No data are available for North Korea (World Bank Group, 1997), however, recent international media do indicate a severe malnutrition problem among young children in this country.

More than 80% of pregnant women in India and Bhutan are anaemic. In Nepal, Indonesia, Myanmar, Thailand, Malaysia, Bangladesh, Vietnam, and China, over 50% of pregnant women are anaemic (see Table 5). In many Asian countries where prevalence of anaemia is likely to be high, data are not available. In addition, 45% to 60% of women of childbearing age in South-East and South Asia are underweight. As a consequence, there are millions of low birth weight babies born each year (ACC/SCN, 1997). Thus, the malnutrition problem is perpetuated from one generation to the next in Asia.

Over the past decade, progressive country efforts have been recognised; for example, the distribution of iodised salt as a means to combat iodine deficiency disorders. In many Asian countries, well over a half of households consume iodised salt (UNICEF, 1997). Vitamin A interventions have also been implemented; however, it is estimated that around two million people still suffer from clinical vitamin A deficiency and as many as 34 million are currently weakened by sub-clinical vitamin A deficiency in the region (IVACG, 1998).

Table 5: Anaemia during pregnancy in Asia, most recent data available (1985–95)

Country	% pregnant women with anaemia
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India	88
Indonesia	64
Malaysia	56
China	52
Pakistan	37
Bhutan	81
Myanmar	58
Bangladesh	53
Philippines	48
Maldives	20
Nepal	65
Thailand	57
Vietnam	52
Sri Lanka	39

Source: World Bank Group (1997)

Overall, there has been a significant advance in nutritional development in Asia for the last twenty years. In the future, however, it is clear that innovative actions will be needed to save lives and improve nutrition of so many mothers and children in this area, since malnutrition contributes to over half of deaths among underfives in developing countries (UNICEF, 1997). Moreover, as the Asian population forms the greatest proportion of the world's population (see Figure 11), what would happen to global sustainable development if Asian mothers and children remain malnourished? Indeed, it is a challenge for all nutrition workers and supporters within the region and at the international level to collectively search for better ways and means to improve the situation.

What's Next?

"Everyone says nutrition is important but no one does anything about it". This paradoxical saying has often been heard over the last ten years. Is nutrition losing its own identity? Does nutrition no longer have a role in human development? As mentioned earlier, I believe one great contribution of this century is the fact that knowledge is now available to solve almost all undernutrition. Moreover, it is convincingly clear now why investing more in nutritional improvement is a sound idea (see Table 10, page 74). Nutrition in the next century should therefore have a new image; it should be an important subject that everyone should not only talk about, but should proactively address. Decisions are yet to be made. To make a difference, nutrition workers must collectively provide more evidence that such an investment would be rewarding.

Nutrition Development in Thailand: Lessons Learned

Good news for future nutrition work is the fact that through the hard work of so many people, there are several unique examples of successful nutrition interventions in almost every part of the world. Thailand is one of them. Thailand has been recognised by the nutrition community for its ability to eliminate severe and moderate malnutrition among children under five years of age, and reduce overall malnutrition from 51% to 19% in only one decade. What were the essential elements in this successful intervention?

From a macro perspective, it can be said that the contribution to Thailand's nutrition success in the last two decades is due to policies and programmes that were created to reduce both poverty and malnutrition. Important elements included targeting poor areas, focused interventions, a primary health care structure that

promoted community participation in planning, implementation and evaluation in community health development. There was also a strong emphasis on nutrition in rural income generation schemes and integrated small farming systems (Winichagoon et al., 1992).

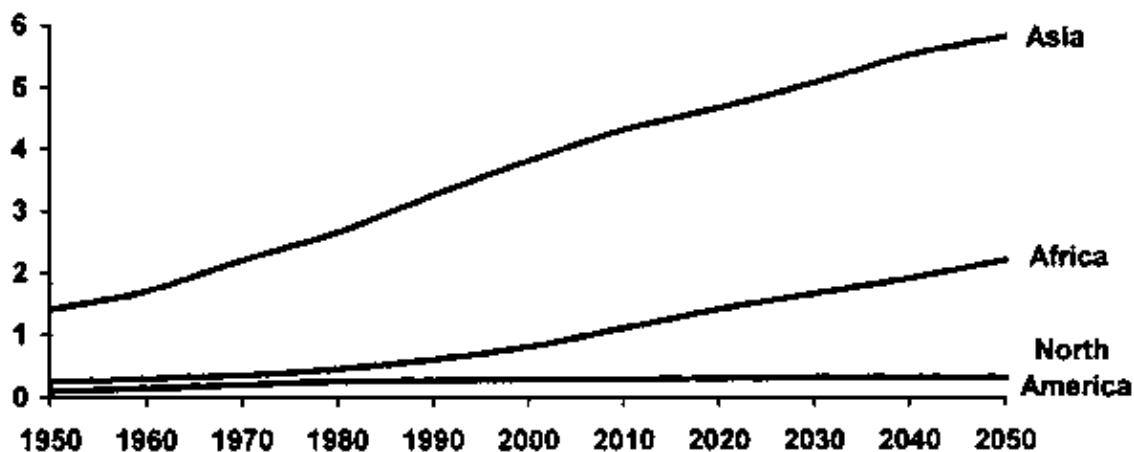


Figure 11: Total population observed from 1950 to 1990 and projected from 1990 to 2050, by continent (medium variant)

Note: Based on United Nations projections

From a practical perspective, there are at least two main elements in this change process. Firstly, it is important to understand that Thailand has a head of the state – the King and his family, who have been working continuously to promote rural sustainable development in this country for over fifty years. This has created a good environment for all development work including nutrition. Secondly, there has been a strong and committed group working for nutrition. Grounded with a primary health care philosophy, a good technical background and strong management skills, a group of academics and practitioners from multisectors formed a core group for nutritional development in Thailand more than twenty years ago. Importantly, one of the members later became the leader behind the successful primary health care movement. Some of them are still active today.

Because of the nature of this group, a strong commitment from many sectors for nutrition improvement became possible. Together, they provided strategic policies, participatory action plans for both macro and micro levels, as well as systematic monitoring processes. Most importantly, these leaders acted individually and collectively to alert the public about nutrition problems and their burden for the nation's future. These leaders, from the very beginning, realised that nutrition is not only a human disease but a societal problem that can only be improved by collaborative efforts.

Grounded with a primary health care philosophy, a good technical background and strong management skills, a group of academics and practitioners from multisectors formed a core group for nutritional development in Thailand more than twenty years ago. This body helped merge nutrition work into the national poverty alleviation plan...

Also, these change-masters were keen to involve more people from the economic, agricultural, public health, education, social development, and research sectors as well as to include training in problem identification and planning. Concrete information was used for deciding upon priority problems, identifying goals and target groups, and for selecting appropriate actions. Professional, technical, and resource support were arranged on a continuous basis with adequacy of coverage manageable by the system. Furthermore, their initiation for the national planning authority to facilitate the planning process, to coordinate and to monitor food and nutrition policies in line with development policies was crucial for success. This body helped merge nutrition work into the national poverty alleviation plan which targeted high poverty concentration areas through the national committee to communities in the 1980s. Under this plan, nutrition activities, primary health care, food for family consumption, and other basic social services were integrated in the target villages.

In my opinion, this mass-scale operation for nutritional improvement in Thailand was possible because both planning and implementation strategies were based on holistic, multisectoral concepts, and on self-reliance. Community participation through primary health care, village financing systems, and basic minimum needs or quality of life indicators were key to the design, implementation, and monitoring of community interventions.

Objectives	Growth	Development
	Preoccupation with macro	Preoccupation with micro
Planning approach	Plan	Enable
	Model	Interact
	Top-down	Bottom-up
	Centralise	Decentralise
Implementation	Blue-print	Process
	Role culture	Task culture
	Standardisation	Flexibility, innovation

Adapted from Maxwell (1996)

GENDER AND NUTRITIONAL DEVELOPMENT

A recent attempt to look into the issue of gender differences in nutrition and health revealed that more than anywhere else in the world, girls have poorer health and nutrition than boys in Asia (Kurz and Johnson-Welch, 1997). These findings seem to confirm the common saying that the male population is superior in Asian culture. Traditionally and currently, the Asian family still, in most cases, prefers a male child. However, the degree varies between countries and between different communities within a country.

Within Asia, data are indicative of the especially poor condition of maternal nutrition in South Asia. The shortage of private income, fewer opportunities for women to participate in the market economy, poor access to health services, and low female literacy, as well as the treatment of women (an aspect of its culture), are important in shaping the nutritional status of this population. More understanding about women will be helpful to improve nutrition (Osmani, 1997).

As it is defined, gender refers to the qualitative and interdependent character of women's and men's positions in society. Gender relations are constituted in terms of the relations of power and dominance that structure the life chances of women and men. Gender divisions constitute an aspect of the wider social division of labour that is rooted in the conditions of production and reproduction, and reinforced by the cultural, religious and ideological systems prevailing in a society (Ostergaard, 1992).

Gender issues are thus very important not only for nutrition but for all aspects of human relations. More understanding into these issues would definitely be valuable for human development as a whole. Nevertheless, gender, like nutrition, is a very complex and sensitive issue. But it is important not to let this complexity detract from action. Therefore, it is proposed that nutrition workers realise the importance of gender issues as related to nutrition and take a practical approach in utilising this new understanding. From a practitioner's view, taking a gender perspective to nutrition development is to better understand the *needs* and *priorities* of both women and men. This understanding can then be used to influence both genders to work together towards successful nutritional improvement (which reduces gender disparities and promotes equality) at family, community, national and international levels.

In Thailand, the Institute of Nutrition at Mahidol University has been working with both women and men at various levels to improve micronutrient nutrition in the Northeast of the country for the last ten years. Our experience shows that both genders can work together to improve nutrition, and the poor can take an active part in nutritional development. We have learned that it is necessary to start where the poor can make a difference. Knowledge is important but it should lead to solutions that are relevant to the lives of the poor. Therefore, it is important not only to understand nutrition problems but also the cultural realities of men's and women's lives, as well as their ways of thinking about the situation.

Participatory techniques, for example, the Appreciation-Influence-Control (A-I-C) Approach (Smith and Landais, 1991) and the Community-based Nutrition Monitoring (CBNM) problem-solving model (Pelletier et al., 1994), should be used to create more participation among all stakeholders in planning, implementation,

and control of the intervention. Provided with adequate information and good facilitation processes through social marketing and implementation (Smitasiri, 1994), the poor can be key players for their own nutritional development.

THAILAND AND SOUTH ASIAN COUNTRIES GENDER SITUATIONS

My understanding about the South Asian situation regarding nutrition implementation, when compared to Thailand, marks at least three important differences:

- 1) South Asia faces more difficulties in terms of food production and living standards;
- 2) South Asia has a much wider economic and social gap between those who have and those who have not;
- 3) the role of ordinary women in society in South Asia is more limited.

Two-thirds of adult women in South Asia are reportedly illiterate. Seventy-four million women are 'missing' – the unfortunate victims of social and economic neglect. Even with several female Prime Ministers in the region, the situation has only slightly improved (ul Haq, 1997). Physical and psychological suffering, as well as the lack of opportunities in education and income generation among poor women of South Asia, are well known.

Generally, both belief and religious practice in this region create a condition where 'sons are important'. Parents without a son cannot enter into heaven. A woman therefore has a responsibility to get married and produce male children. As an individual, her parents will take care of her when she is young. Once married, her husband will do so and when she becomes old, a son will take the responsibility. A woman thus cannot survive without a support from a husband and a son. This is one reason she needs to take better care of them.

Moreover, according to religious teachings, a woman should not be trusted with a decision, be it big or small (Kabilsingh, 1992). This has been a belief and practice for more than 2000 years in this area. It has changed to a certain extent in the upper classes, but not among the less advantaged population. Despite these known difficulties, lessons learned from successful food and nutrition interventions in this area indicate that active participation by women is critical (Quisumbing et al., 1996).

In my view, ordinary Thai women are not very different from other Asian women. A good Thai woman is called '*Mae Sri Reaun*' which means a 'good lady of the house'. However, equal opportunity for free basic education has made an impact on the development of the female population in Thailand. For example, the Thai Government Statistical Office reported that around 70% of Thai women were considered employers, government employees, private employees or own account workers since the 1980s. Thai women today are engaged more and more in social activities and employment. Furthermore, Buddhism, practised by most Thai people, though originating in India more than 2000 years ago, says that both men and women have an equal potential to understand the Buddha's teachings. Also, most Thai husbands are proud to leave decisions regarding household management, including family food and nutrition, to their wives. This often includes money to be used in the family. With access to appropriate information, Thai women therefore are decisive in nutritional matters. Because of this background, women are key actors for nutrition in Thailand.

GENDER-SENSITIVE NUTRITION ACTION

Gender-sensitive nutrition action is important for all Asian countries and it is especially significant for those in South Asia. Systematic and concerted efforts are needed to create a critical mass of leaders – especially women leaders – who can understand the importance of this approach at various levels. Realistic goals and interventions should be grounded with the level of support that can be mobilised nationally and internationally for change. And, the work must be manageable by the system during and after the initial interventions.

Good nutritional science should be combined with good knowledge of the intervention context. Assessments need to be done not only for nutrition and health of populations, but also for any potential for change that already exists or can be strengthened within the target communities – be they large or small – and for any windows of socio-cultural opportunities, which could be built upon for nutritional improvement. In addition, good multi-disciplinary team work will be necessary in order to cope with the complexity of the food and nutrition system.

Nutrition work needs to be integrative especially where the process of female empowerment is already in progress. More knowledge will be needed about the integration process. However, action need not be delayed. An information–action loop or experiential learning process has proven helpful in successful interventions. In other words, a nutrition intervention should start where communities have a potential for change by aiming to create more examples and to generate more changes through community and social learning.

Final Notes

Malnutrition problems in Asia require immediate and concerted efforts. Nevertheless, well–calculated action is crucial. I believe that the Thai experience, which has evolved for over two decades due to the commitment and participation of people at various levels, can be considered by other Asian countries. Holistic and process–oriented development requires a lot of effort at the start but it can produce sustainable changes in the long run.

Jawaharlal Nehru once said,

“Strong winds are blowing all over Asia.

Let us not be afraid of them, but rather welcome them for only with their help can we build the new Asia of our dreams.

Let us have faith in these great new forces and the dream which is taking shape.

Let us, above all, have faith in the human spirit which Asia has symbolised for those long ages past”.

Thus, even with the sense of urgency to reduce malnutrition in Asia, it is very important not to bring in nutrition work that dis–empowers poor people rather than empowers them.

The balance between process and outcome indicators in determining the success of nutrition implementation is important and needs further discussion. Nutrition workers in the future should aim at significant and long–lasting changes by proactively learning from the people–communicating and working with them, both women and men, to do something appropriate to improve nutrition. Action should be based on sound knowledge, and knowledge must be grounded in the reality of the people. The role of international agencies as good facilitators and catalysts for this direction in the areas of implementation, research, and training is fundamental to minimise the usual time lag between thinking and practice.

Acknowledgements

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Discussion

Urban Jonsson (UNICEF): There are hardly any similarities between Thailand and South Asia. In South Asia, millions of women are missing, infanticide is common, and the population pyramid is continuing to change. Certain districts in Thailand have an unbelievable balance between men and women. The situation for women in South Asia is quite different from that in Sub–Saharan Africa. In Sub–Saharan Africa women are primarily the mothers of their husband's children. In South Asia, a married woman is a commodity, owned by her husband and his family. In Sub–Saharan Africa, traditionally, infertility is the only legitimate reason for divorce. In South Asia, infidelity is the only legitimate reason.

Ruth Oniango (AGN): On both continents, women are marginalised and oppressed. In some local languages in Sub–Saharan Africa, a woman is not a person. The international donor community has assisted and instilled confidence in women, and has made men realise that without women, they are nothing. But communities are made up of men, women, children, livestock, and everything in it. It is better to include men, and to sensitise them, because then they support the women and they work together. It is important to include both genders in projects. In Africa, at the political level, you can find a whole commission made up of women, discussing women's issues. Of course this never goes anywhere. In contrast, a commission that discusses economic issues doesn't have a single woman on it. We need to understand the environment within which we are operating. We also need to instill confidence in women. If you go and sit in a women's group and there are one or two men present, the women will not stand up and discuss their issues. They let the men do the talking. It has been instilled into women for so many years that firstly, they have no idea what they can contribute, secondly, that they have no business standing up to talk in front of men, and thirdly, that their

business is to produce, serve men, and sit down. Instilling confidence, and at the higher level, leadership and training are very important.

Suttilak Smitasiri: In preparing for this presentation, I asked my Bangladeshi, Indian, and Pakistani colleagues at Mahidol for input. They said that even in India, there is a big difference between one state and another. In one part of India, females have even more power than men. We need to look at the problem in a way in which we can take action. There are so many NGOs and organisations that already work to empower women. When we think about nutrition we think about a problem. For example, if we are interested in vitamin A, we search for the problem and then we try different ways to solve it, but we never think about the potential for change. In South Asia, we need to start from what we have already. The difficulties for women to talk in South Asia are much greater than for women in my country. I spoke with a Bangladeshi NGO that has been very effective in working at the community level and asked 'how do you learn this? Do you know what the women think?' The man said that you don't have to know what women think to be effective, you only have to know how to get into the system to be able to provide them with something. To understand would be very difficult. I challenged him to go back and do it, but he said 'what is more important is that you have to work with the men to be able to get to the women'. So this is very critical. Even though we have to work with women to make a difference, we should not create more conflict within her family.

Lilian Marovatsanga (AGN): I am from Africa and have visited several Asian countries. One of the similarities between Africa and South Asia is the lack of economic and technological empowerment of women. Successful projects have incorporated this into their strategy.

Urban Jonsson (UNICEF): Women both in Africa and in South Asia are exploited – they are subordinated. But there are 34 million women missing in South Asia. The form of exploitation is totally different.

Mohamed Abdulla (UNESCO): I come from the South of India – Kerala State. Some years ago a group from Boston arrived and compared the status of women in Kerala with the women in Boston. The only difference they could find was in GNP – nothing else. The Kerala situation has shown that it is possible through proper education and proper training to overcome some of the health and nutritional problems. The UN has repeatedly said that we should follow the Kerallian model to make progress in developing countries.

Rita Bhatia (UNHCR): I would like to compliment my colleague from South India. One of the commitments of the Kerala project came from the community and the community leaders. It was very interesting to see your opening slide with a quote from Mahatama Gandhi and your closing slide with a quote from Jawaharlal Nehru – I was very proud to see those names – both men. That in itself shows that there is a need for political will and commitment. In Kerala, the literacy rates are very high. It comes back to what Dr Brundtland said earlier – you cannot improve nutrition without education.

The continent is so heterogeneous that you cannot generalise. To add to what Urban Jonsson said – the woman is a commodity to her husband. She is not a wife – she belongs to the family. In rural India, the head of the family is the mother-in-law. In Africa, women can choose their husband, but in Asia this still does not happen. It's a marriage of not one man and one woman, but a marriage of families. One has to keep in mind the social values and context while you are trying to bring in some changes to improve the nutritional status and health of the population.

Chapter 7: Achieving the 2020 Vision, with Special Reference to Gender Issues

Per Pinstrup-Andersen and Rajul Pandya-Lorch

Much is known about the action required to assure a food-secure world. A great deal of thought and effort have been expended to identify priority action at the individual, household, community, national, regional, and global levels. Most recently, at the World Food Summit convened by the FAO in November 1996, leaders from around the world signed the Rome Declaration on World Food Security, reaffirming 'the right of every person to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger (FAO 1996).' They pledged their political will and their common and national commitment to achieving food security for all and to an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half the present level no later than 2015. Toward this end, they made seven commitments and agreed on a comprehensive plan of action (FAO, 1996).

The International Food Policy Research Institute's (IFPRI) '2020 Vision for Food, Agriculture, and the Environment' is *a world where every person has access to sufficient food to sustain a healthy and productive life, where malnutrition is absent, and where food originates from efficient, effective, and low-cost food systems that are compatible with sustainable use of natural resources* (IFPRI, 1995). Sustained action is required in six priority areas to realise the 2020 Vision:

- Strengthen the capacity of developing-country governments to perform appropriate functions;
- Enhance the productivity, health, and nutrition of low-income people and increase their access to employment and productive assets;
- Strengthen agricultural research and extension systems in and for developing countries;
- Promote sustainable agricultural intensification and sound management of natural resources, with increased emphasis on areas with agricultural potential, fragile soils, limited rainfall, and widespread poverty;
- Develop efficient, effective, and low-cost agricultural input and output markets;
- Expand international cooperation and assistance and improve its efficiency and effectiveness.

The first priority area of action is to selectively strengthen the capacity of developing-country governments to perform appropriate functions, such as maintaining law and order, establishing and enforcing property rights, promoting and assuring private-sector competition in markets, and maintaining appropriate macroeconomic environments. Predictability, transparency, and continuity in policymaking and enforcement must be assured. The efforts of the past decade to weaken developing-country governments must be turned around. More effective local and national governments are essential for other partners, such as individuals, households, communities, NGOs, and the private sector, to contribute to food security. Governments must also be helped to relinquish those functions that are better performed by others such as NGOs. Governments should facilitate food security for all households and individuals, not by physically delivering needed foods to all citizens but by facilitating a social and economic environment that provides all citizens with the opportunity to assure their food security.

The second priority area of action is to invest more in poor people in order to enhance their productivity, health, and nutrition and to increase their access to remunerative employment and productive assets.

Governments, local communities, and NGOs should assure access to and support for a complete primary education for all children, with immediate emphasis on enhancing access by female and rural children; assure access to primary health care, including reproductive health services, for all people; improve access to clean water and sanitation services; provide training for skill development in adults; and strengthen and enforce legislation and provide incentives for empowerment of women to gain gender equality. Improved access by the rural poor, especially women, to productive resources can be facilitated through land reform and sound property rights legislation, strengthened credit and savings institutions, more effective rural labour markets, and infrastructure for small-scale enterprises. Social safety nets for the rural poor are urgently needed. Direct transfer programmes, including programmes for poverty relief, food security, and nutrition intervention, are needed in many countries at least in the short-term and must be better targeted to the poor.

Efforts must be made to lower fertility rates and slow population increases. Strategies to reduce population growth rates include providing full access to reproductive health services to meet unmet demand for contraception; eliminating risk factors that promote high fertility, such as high rates of infant mortality or lack of security for women who are dependent on their children for support because they lack access to income, credit, or assets; and providing young women with education. Female education is among the most important investments for assuring food security.

The third priority area of action is to accelerate agricultural productivity by strengthening agricultural research and extension systems in and for developing countries. Agriculture is the life-blood of the economy in most developing countries; it provides up to three-quarters of all employment and half of all incomes. There are very strong links between agricultural productivity increases and broad-based economic growth in the rest of the economy. Research from Africa and Asia shows that for each dollar generated in agriculture, a dollar to a dollar and a half are generated in other areas of the economy (Hazell and Röell, 1983; Delgado et al., 1995).

Agriculture has long been neglected in many developing countries, resulting in stagnant economies and widespread hunger and poverty. Yet, there is considerable evidence, particularly from East Asia, that rapid economic growth is facilitated by a vibrant and healthy agricultural sector (World Bank, 1993). The key role of the agriculture sector in meeting food needs and fostering broad-based economic growth and development must be recognised and exploited. To make this happen, agricultural research systems must be mobilised to develop improved agricultural technologies, and extension systems must be strengthened to disseminate improved technologies.

Efforts must be made to lower fertility rates and slow population increases.

While expanded agricultural research is urgently needed for all ecoregions, added emphasis should be placed on sustainable productivity increasers in areas with significant agricultural potential but with fragile soils, low or irregular rainfall, and widespread poverty and natural resource degradation. Interaction between public-sector agricultural research systems, farmers, private-sector companies that conduct agricultural research, private-sector enterprises in food processing and distribution, and NGOs should be strengthened to assure relevance of research and appropriate distribution of responsibilities. Investments in strategic international and regional agricultural research with large potential international benefits should be expanded to better support national efforts.

Biotechnology research in national and international research systems should be expanded to support sustainable intensification of small-scale agriculture in developing countries. Effective partnerships between developing-country research systems, international research institutions, and private- and public-sector research institutions in industrialised countries should be forged to bring biotechnology to bear on the agricultural problems of developing countries. Developing countries can address funding and personnel constraints by providing incentives to the private sector to engage in such research, by collaborating with international research programmes, and by seeking private- and public-sector partners in industrialised countries. They should be encouraged to adopt regulations that provide an effective measure of biosafety without crippling the transfer of new products to small farmers.

The fourth priority area of action is to promote sustainable agricultural intensification and assure sound management of natural resources. Public- and private-sector investments in infrastructure, market development, natural resource conservation, soil improvements, primary education and health care, and agricultural research must be expanded in areas with significant agricultural potential, fragile soils, and large concentrations of poverty to effectively address their problems of poverty, food insecurity, and natural resource degradation before they worsen or spill over into other regions. In areas of current low productivity but significant agricultural potential, public policy and public-sector investment should promote sustainable use of existing natural resources to enhance the productivity of agriculture and other rural enterprises. Incentives should be provided to farmers and local communities to invest in and protect natural resources and to restore degraded lands. Clearly specified systems of rights to use and manage natural resources, including land, water, and forests, should be established and enforced. Local control over natural resources must be strengthened, and local capacity for organisation and management improved. Farmers and communities should be encouraged to implement integrated soil fertility programmes in areas with low soil fertility through policies to assure long-term property rights to land, access to credit, improved crop varieties, and information about production systems; through effective and efficient markets for plant nutrients, and investments in infrastructure and transportation systems; and through temporary fertiliser subsidies where prices are high due to inadequate infrastructure or poorly functioning markets. Integrated pest management programmes should be promoted as the central pest management strategy to reduce use of chemical pesticides, remove pesticide subsidies, and increase farmer participation in developing effective and appropriate strategies of pest management. Water policies should be reformed to make better use of existing water supplies by providing appropriate incentives to water users, improving procedures for water allocation, and developing and disseminating improved technology for water supply and delivery.

Policies and institutions that favour large-scale, capital-intensive enterprises over small-scale, labour-intensive ones should be removed.

The fifth priority area of action is to develop effective, efficient, and low-cost agricultural input and output markets. Governments should phase out inefficient state-run firms in agricultural input and output markets and create an environment conducive to effective competition among private agents in order to provide efficient and effective services to producers and consumers. Governments should identify their role in agricultural input and output markets and strengthen their capacity to perform this role better while disengaging themselves from functions that should be undertaken by the private sector. Policies and institutions that favour large-scale, capital-intensive enterprises over small-scale, labour-intensive ones

should be removed. Market infrastructure of a public-goods nature, such as roads, electricity, and communications facilities, should be developed and maintained by direct public-sector investment or effective regulation of private-sector investment. Governments should develop and enforce standards, weights and measures, and regulatory instruments essential for effective functioning of markets. Development of small-scale credit and savings institutions should be facilitated. Technical assistance and training could be provided to create or strengthen small-scale, labour-intensive competitive rural enterprises in trade, processing, and related marketing activities.

The sixth priority area of action is to expand and realign international assistance. The current downward trend in international development assistance must be reversed, and industrialised countries allocating less than the United Nations target of 0.7% of their gross national product (GDP) should rapidly move to that target. Official development assistance, which is only a small fraction of the resources required by developing countries, must be allocated to effectively complement national and local efforts. Official government-to-government assistance should be made available primarily to countries that have demonstrated commitment to reducing poverty, hunger, and malnutrition and to protecting the environment. International development assistance must be realigned to low-income developing countries, primarily in Sub-Saharan Africa and South Asia where the potential for further deterioration of food security and degradation of natural resources is considerable. In higher-income developing countries, concessional aid such as grants should be replaced by internationally available commercial capital, freeing resources for the low-income countries. To improve effectiveness of aid, each recipient country should develop a coherent strategy for achieving its goals related to food security, poverty, and natural resources, and should identify the most appropriate uses of international assistance.

The Role of Women in Achieving the 2020 Vision

¹ This section benefits greatly from results of research by IFPRI colleagues, particularly Lawrence Haddad and Agnes Quisumbing.

Women are key economic actors throughout the world. They play essential roles in agriculture, industry, manufacturing, and services, as well as in the home. Women account for 70–80% of household food production in Sub-Saharan Africa, 65% in Asia, and 45% in Latin America and the Caribbean. They achieve this despite unequal access to land, to inputs such as improved seeds and fertilisers, and to information. Much of women's work is invisible in official statistics, because it is still to a considerable extent concentrated in subsistence production, in the informal sector, and in household production. Partly because it is invisible and partly because high-level decision-makers in development activities are mostly men, women's contributions are frequently overlooked and the human resources provided by women are poorly utilised. Overlooking the potential economic and social benefits from more effective integration of women into mainstream development is costly to developing countries and results in less development gains per dollar spent in development projects in addition to the impact on the wellbeing of the women themselves.

One of the critical lessons from 20 years of research on this topic is that the actual and potential role of women in development is so large that it cannot effectively be dealt with in isolation. Women must be fully integrated as decision-makers, resources for development, and beneficiaries. Many women are self-employed as informal sector traders and micro-entrepreneurs. As micro-entrepreneurs, they face innumerable constraints, many of which are not faced by men. They frequently lack access to credit and savings institutions, and they frequently produce goods and services for local, small markets suffering from demand constraints. Such demand constraints in rural areas are most effectively alleviated through investment in agriculture, which in turn generates incomes among farmers. Small farmers earning more income tend to spend a large share of the additional income on products and services produced locally by the informal sector. This linkage effect between incomes of small farmers and incomes of other rural poor, including women, is very strong in many developing-country settings, particularly when the agricultural sector produces both for the export market and for the domestic market.

IFPRI research in a number of Asian and African countries shows that, for each dollar generated among small farmers, about US\$ 1.50 of additional incomes are generated outside agriculture, primarily among the rural poor.

Women from low-income households in developing countries spend much more time working than men. However, the productivity of their work is frequently low. The human resource embodied in women is poorly utilised in the development process. Policies and projects that would upgrade the quality of women's labour,

enhance their productivity, and strengthen their participation in decision-making processes will generate more development per dollar spent. Such policies and projects include education of girls and women, skill development for women, generation and distribution of appropriate technology needed to increase the productivity of work done by women both in and outside homes, and empowerment of women in decision-making processes regarding production, reproduction, and distribution. In addition to the greater impact on development in general and on women's own wellbeing, these policies and programmes are also likely to further enhance efforts to alleviate human misery such as food insecurity and malnutrition, partly because of women's strong roles in care giving and partly because of their strong roles in agriculture and other parts of the food system.

Differences in the productivity between men and women disappear when women are given access to the same productive resources, technology, and information. Failure to make available resources, technology, knowledge, and access to decision-making entails a high cost to developing countries in terms of foregone economic growth and foregone improvements in the wellbeing of the disadvantaged groups of developing-country populations including women themselves.

Although women are responsible for a very large share of food and agricultural production and processing, they seldom receive extension services, technical assistance, credit, or input subsidies. They frequently do not have access to financial or capital markets, and they are in most cases barred from obtaining legal rights to land. Laws governing women's rights to land vary widely. Some religious laws prohibit female landownership. Even when civil law gives women the right to inherit land, local custom may rule otherwise. The weakness of women's land rights results in an inability to use land as collateral to obtain access to credit. Social and cultural barriers, women's lower educational level relative to men, and their lack of familiarity with loan procedures may also limit their ability to obtain credit from formal as well as informal sources. Providing women with basic education would help raise agricultural productivity and incomes, for better educated farmers are more likely to adopt new technology.

The weakness of women's land rights results in an inability to use land as collateral to obtain access to credit.

Education and skill developments aimed at agricultural production are usually focused on men, and research to generate appropriate technology is usually not guided by the needs of women, even though they are responsible for a very large share of the production for which the technologies are being developed. Legislation is needed to guarantee women's rights to inherit and own land. Women should be fully integrated into efforts to expand the productivity in food production combined with sustainable use of natural resources.

Efforts should be made to reduce the conflicts that women face in time allocation.

At a time when international trade liberalisation and policy reforms in many developing countries promote export orientation, it is critical that export-oriented agricultural policies be complimented by measures that facilitate women's access to resources. They should also be given access to savings and loan institutions, and to technical assistance and training. Export-oriented agriculture may expand jobs for women in agribusiness in rural areas. Efforts should be made to reduce the conflicts that women face in time allocation. Efforts should also be made to generate productivity-increasing technology for women in various aspects of agricultural processing and marketing.

Policies, projects, and technology focused on further integration of women into mainstream development must focus on increasing the productivity per unit of time spent by women in both household and other economic activities. Women in low-income households are faced with very severe time constraints and efforts to integrate women into mainstream development by asking them to spend more time are likely to either fail or entail heavy costs in terms of foregone benefits from current activities such as child care.

With respect to the economic access to available food, a large number of recent studies have shown that improvements in household welfare depend not only on the level of household income but also on who earns and controls that income. These studies find that women, relative to men, tend to spend their income disproportionately on food for the family. Furthermore, women's incomes are more strongly associated with improvements in children's health and nutritional status than are men's incomes. Therefore, greater gender equality in income earning and in decision-making regarding the spending of incomes in low-income households are likely to be more effective in alleviating food insecurity and malnutrition than the existing gender inequality in income earning and decision-making.

Ensuring the nutrition security of the household, through the combination of food, health care, and child care is almost exclusively the domain of women. They spend a great deal of time in these activities, and they are constantly faced with difficult choices in their time allocation. Increased time spent in generating incomes and in using health and education facilities can improve child nutrition, but the loss of direct time spent in child care is likely to have a negative effect. Increasing female employment outside the home may increase women's bargaining power with respect to the use of household incomes and resources. Technology is urgently needed to increase the productivity of women per unit of time spent in agriculture, household maintenance, income earning enterprises, and child care in order to assist women in reducing the overall time requirements for these activities without negative effects on themselves and the household. More details on the role of women in food security is presented by Quisumbing et al., 1995.

Conclusions

Food insecurity has long been perceived by some to be primarily a problem of insufficient food production rather than insufficient access to food. Yet, as enough food is being produced to meet the basic needs of every person in the world, it is evident that the persistence of food insecurity – about 840 million chronically undernourished people and 185 million malnourished children – is increasingly attributable to difficulties in accessing sufficient food, primary health care, education, and good sanitation. Food-insecure people simply do not have the means to grow and/or purchase the needed food and gain access to the services needed. Empowering every individual to have access to remunerative employment, to productive assets such as land and capital, and to productivity-enhancing resources such as appropriate technology, credit, education, and health care is essential. Besides enabling every person to acquire the means to grow and/or purchase sufficient food to lead healthy and productive lives, assuring a food-secure world calls for producing enough food to meet increasing and changing food needs and for meeting food needs from better management of natural resources.

With foresight and decisive action, we can create the conditions that permit food security for all people in coming years. Much of the action required is not new or unknown. For instance, we know that increased productivity in agricultural production helps not only to produce more food at lower unit costs and make more efficient use of resources but also to raise the incomes of farmers and others linked to agriculture and thus improve their capacity to purchase needed food. The action programme outlined earlier will require all relevant parties – individuals, households, farmers, local communities, the private sector, civil society, national governments, and the international community – to work together in new or strengthened partnerships; it will require a change in behaviour, priorities, and policies; and it will require strengthened cooperation between developing and industrialised countries and among developing countries. The world's natural resources are capable of supporting sustainable food security for all people, if current rates of degradation are reduced and replaced by appropriate technological change and sustainable use of natural resources (Pinstrup-Andersen and Pandya-Lorch, 1996).

Policies and projects must empower women in production, distribution, and in reproductive decisions.

Women are key to food security. As an integral part of development efforts, women must be given equal access to productive resources and to education, health care, and other factors that increase their wellbeing and their human capital. Education and skill development for girls, and access to land, credit, and appropriate technology for women must be accelerated. Policies and projects must empower women in production, distribution, and in reproductive decisions. Strategies must be developed to increase women's productivity per unit of time both in paid work and in domestic production so that women can increase their incomes without sacrificing additional time, their children's welfare, or their own health and nutritional status.

A fuller understanding of the gender-specific relationships in development and incorporation of such understanding in the design and implementation of policies and programmes will help achieve the 2020 Vision for the benefit of all, independent of gender.

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Discussion

Tim Frankenberger (CARE): The emphasis of the 2020 vision has focused on agriculture, but one thing we cannot lose sight of is urbanisation. By the year 2020 the majority of African people will be living in cities. How can this issue be integrated more into the 2020 vision?

Per Pinstrup-Andersen: I agree with you. We do have to pay much more attention to the urban areas because there is an excessive rural-to-urban migration. The urban areas have serious problems absorbing the inflow of people, so we are seeing a tremendous increase in urban food insecurity and urban poverty. We are doing much more at IFPRI in the area of urban food security. However, what worries me is that if we stress the urban problems, we are giving licence to urban decision-makers to continue the urban bias that has existed for so many years. I think the emphasis is still too heavy on urban problems. There are all kinds of political reasons for that. So I wish to continue to stress the rural areas with due emphasis being given to the urban areas. One of the main reasons we have excessive out-migration – excessive in the sense that the urban areas cannot absorb the people as fast as they come in – is that living conditions are so poor in the rural areas. I don't think we have a disagreement, it's a matter of what you emphasise. There is still a tremendous urban bias in most poor countries.

Christian Drevon (Institute for Nutrition Research, Oslo): I would like to point out a topic that hasn't been discussed very much, that is, the very heavily-subsidised farming production of dairy products and meat. In Norway, for example, close to US\$ 1 billion is spent per year in support of the dairy industry. Dairy products create a lot of coronary heart disease. This is also projected to happen in developing countries. Would you care to comment on that?

Per Pinstrup-Andersen: I'm not sure that I see the link between agricultural subsidies and chronic diseases because most of the agricultural subsidies result in higher prices for animal products than what you would otherwise have in the areas where the subsidies exist. But I think that the agricultural subsidies in the European Union, Japan, the United States and a few other places have done damage to developing countries. I don't think that there's any question about that. It's not only that they keep the international prices slightly lower than they would otherwise be, it's also a problem of getting rid of the surplus production that results from these subsidies. There has been a considerable amount of damage done, for example, in Africa, from dumping surplus food from the United States and from Western Europe. But I don't quite see the link with chronic diseases. We do talk about agricultural subsidies in developed countries and it does have some negative effects on developing countries. Hopefully, they will be replaced gradually as part of the WTO round, as trade liberalisation occurs. Hopefully, we will eventually get rid of agricultural subsidies because they are not helping poor people in developing countries.

Anna Ferro-Luzzi (Italy): I would like to raise the issue of biotechnology – in particular of the GMO, the genetically modified organisms. In your talk you addressed this issue from the point of view of improving agricultural yield and productivity. I do not question how much of that improvement is truly in the reach of the poor African farmer, rather, my concern relates to the issues. As member of the Scientific Committee on Food of the European Commission, I am often asked to express an opinion on the safety of food products that have

undergone genetical modification. Such a judgement obviously includes their nutritional adequacy. Currently, however, our judgement of safety and nutritional adequacy is based on what is called substantive equivalence. In brief, this equivalence requires that the composition of the genetically modified product does not differ from that of the unmodified product. From the nutritional point of view, this is habitually referred to in terms of macronutrients. The micronutrient composition, such as vitamins and trace elements, is usually not taken in consideration. And even less attention is paid to the presence, type and amount of several non-nutrients – such as the polyphenols – which are now being recognised as playing an important role in relation to human health. Don't you think that before we change the compositional profile of the food we consume, we should be concerned with trying to know more of what this food contains before it was modified? And should we not be obliged to enlarge the concept of substantial equivalence to include micronutrients and other bioactive compounds?

Per Pinstrup-Andersen: The concern that I have is that the risk levels that individual households are willing to accept differ a great deal among households. Let me explain what I mean. If the agricultural research community could develop a drought-tolerant maize variety that would triple or quadruple yields in West Africa and reduce the losses during drought periods by means of genetic engineering, let us not outlaw that possibility before we see whether it is possible. Right now, nobody is working on that. The private sector, which is responsible for most of the biological engineering for agriculture, is not working on that. Partly because there is very little profit to be had in the short-term in West Africa from this kind of thing, and partly because they are being told by governments where they operate that they can't even field test it. Therefore, what I'm suggesting is, that while we in Europe may choose to outlaw genetically modified maize, even though all scientific evidence and all common sense tells us that it is no more dangerous than the maize produced using traditional plant breeding methods, shouldn't we give the West African farmer who is trying to feed her children from one or two acres of maize the choice to say 'I'm willing to take the chance on this genetically modified maize because the alternative is a lot worse'? I don't want to be dramatic about it, but we should be careful not to impose those kinds of values that we may be able to afford in Europe on other parts of the world. I could give many other examples of this. If the research community decides that it is going to use modern science to solve poor people's problems, we will see tremendous progress during the next 10 to 15 years. But right now, there is virtually nothing invested in solving these problems – that's what worries me.

Richard Jolly: I want to thank you for mentioning the World Trade Organization. I would like to ask a question and to make a point. The question is, in your experience, what are the ways to get across politically the importance of nutrition, and particularly actions that would help undernutrition in developing countries, in discussing issues of the sort that go before the WTO? The point I want to make is that one of the greatest economists of the 20th century, John Maynard Keynes, in sketching out over 50 years ago how an international trade organisation should work, took the issue of how to stabilise agricultural policies. When discussing at what level agricultural policies should be stabilised, he said (1) at a level that is efficient, and (2) at a level sufficient to guarantee peasant producers adequate income and nutrition. This brought into the very heart of economic policy making, concern for nutrition. I think we should all be aware of that.

Per Pinstrup-Andersen: There are a number of points that I would like to make. If poor countries are to improve their food security through trade liberalisation, there are many domestic policies that would have to be dealt with in those countries. You cannot solve your domestic policy problems by liberalising international trade. We have done considerable research to prove that point. In particular, for a period of time, West African countries thought that they could live with very bad domestic policies if they could integrate regionally. It doesn't work that way. There are so many internal constraints in poor countries that make it very difficult to benefit from international trade liberalisation. But one of the things that we need to tell policy makers from poor countries, is that when you do participate in WTO negotiations, insist on industrialised nations opening up their markets for the products that you can export. Take the new initiative by the United States for expanded trade with Africa. Look at what commodities the Americans are willing to accept from Africa on concessional terms, and granted, textiles are in there – they are very important for some African countries. But guess what's not in there? Peanuts, groundnuts, tobacco, sugar, among others. Latin America over the last 10 years has opened up its markets much more than Europe and North America have opened up theirs, and let's not forget Japan. There has to be more equality in opening up markets. Good nutrition is an investment in future economic growth that can benefit everybody – it is not just a hand-out to poor people. Using that as an argument to get into international trade would be helpful as well.

George Kent (University of Hawaii): You spoke about the 2020 vision for food and agriculture, with a world where every person has access to sufficient food, and then you proceed to say that if that is indeed the vision and the motivation, then we need to take the following steps. The problem is that is not the driving vision. In most places in the world, agriculture and food production systems are not there for the purpose of alleviating malnutrition. They are there for an entirely different purpose, leading to the question 'how are you going to

bridge that gap'. We have repeatedly said here that if the political priorities and will were there, we could get these programmes up to scale and solve the problems, but that is not, in fact, the driving vision. You then also mentioned briefly the question of the right of every person to have adequate food and nutrition, but then we didn't speak about the corresponding obligations. I think we need more clarity here about the exact role of governments and their obligations in this system.

Per Pinstrup-Andersen: Yes, but I think that a number of the governments that we are interacting with, do respond to better information. Even if they don't wish to respond to better information, it is much more difficult to ignore it. The best opportunity for a bad government to continue to be bad, is ignorance. What I am arguing is, let's get the information on the table for everyone to see; that 50% of the world's poor people and x% of the poor people in a particular country are in rural areas. You, governments, are ignoring the rural areas, and here are the consequences.

George Kent (University of Hawaii): If good governments are defined primarily in terms of maximising economic growth, then the fact that the poor people are not visible is an important consideration.

Per Pinstrup-Andersen: What we have been talking about all day is that better nutrition is an investment in broad-based economic growth. I don't think that there's a conflict there – it may be that governments do not accept that.

Fernando Viteri (UNU): There has been a push in many developing countries in promoting cash crop productions by communities and by cooperatives in those communities. I am aware of a study in a cooperative in Guatemala, which was promoting cash crop products. It turned out to be unsustainable and it also did not improve the nutrition of that community. Can you explain to us why, whether this is a generalised trend, and what to do to avoid it?

Per Pinstrup-Andersen: The project you mentioned in Guatemala, I suspect, was the project that IFPRI participated in. IFPRI has done research on cash cropping projects around the world, and what we find is that most of the cash cropping projects end up improving the economic wellbeing of the small farmers participating. Not all of them improve nutrition and where they don't, it's because the economic wellbeing was not the constraint for better nutrition – it was access to primary health care, to sanitation, to clean water, or to other things. Again, we cannot sit here and design magic bullets for solving the problems because the solutions will vary from one location to another. What was consistent across all, or almost all of the studies we did, was that the small farmers gained economically, but nutrition did not improve in all cases. But nutrition did not deteriorate. There's an old story that goes back 20 years that cash cropping is bad for nutrition. We could not find any evidence of that anywhere.

Fritz Kafarstein (WHO): A very short comment to echo the concern of Per with regard to biotechnology and its importance for developing countries. The WHO has gone through a consultative process with FAO, to provide guidance with regard to the assessment of the safety of foods produced by biotechnology. It has also looked at the importance of biotechnology – the recombinant DNA technology (rDNA) – for developing countries. In 1996, we had a consultation on biotechnology and food safety, and in the consultation report there is a paragraph devoted to the application of rDNA technology in developing countries. It is five lines, if I am permitted to quote from this report. 'Recombinant DNA technology has broad applications in developing countries and has a potential for very positive impact on their economies, which are frequently agriculturally-based. In this context, a view was expressed that rDNA technology might be of greater importance for developing countries than for industrialised countries. In particular, developing countries look to rDNA technology as a means for addressing the need to produce sufficient quantities of nutritionally adequate and safe food for their growing populations. The benefits of this technology are likely to impact directly on people at the production level as this technology is extremely easy to transfer'.

Bill Clay (FAO): I would like to make a quick point. I would like to make the case for the need to continue to invest in high potential areas. There can be tremendous improvements and very quick returns from that, both in terms of expanding and diversifying food production, ensuring adequate food for cities and developing market structures, and for creating the employment and wealth that will continue to support the investment needed in health, water, and education. I wouldn't quite make the case that we always need to be under the spotlight – we need to make more light.

Per Pinstrup-Andersen: I didn't mean to say that we should stop investing in high potential areas, and I'm glad you pointed that out to give me an opportunity to comment. I'm talking about the balance. The balance is skewed too far towards the high potential areas. We need to invest much more in the low potential areas than what we have done in the past.

Chapter 8: Gender and Nutrition in the Global Burden of Disease, 1990 to 2020

Christopher Murray and Alan Lopez¹

¹ *This paper is based on the Summary of the Global Burden of Disease Study prepared by Phylidda Brown which in turn is based on the book edited by the authors entitled 'The Global Burden of Disease' and published by Harvard University Press in 1996.*

In general, statistics on the health status of populations suffer from several limitations that reduce their practical value to policy makers.

- First, they are partial and fragmented. In many countries even the most basic data – the number of deaths from particular causes each year – are not available. Even where mortality data are available, they fail to capture the impact of non-fatal outcomes of disease and injury, such as dementia or blindness, on population health.
- Second, estimates of the numbers killed or affected by particular conditions or diseases may be exaggerated beyond their demographically plausible limits by well-intentioned epidemiologists who also find themselves acting as advocates for the affected populations in competition for scarce resources. If the currently available epidemiological estimates for all conditions were right, some people in a given age group or region would have to die several times over to account for all the deaths that are claimed!
- Third, traditional health statistics do not allow policy makers to compare the relative cost-effectiveness of different interventions, such as, for example, the treatment of ischaemic heart disease versus long-term care for schizophrenia. At a time when people's expectations of health services are growing and funds are tightly constrained, such information is essential to aid the rational allocation of resources.

To address these, and other limitations of traditional health statistics, the World Bank, in collaboration with WHO, commissioned a new study of the Global Burden of Disease (GBD) in 1991 to provide a new holistic assessment of global (and regional) health conditions in 1990.

Most developing countries still have only limited information about how their populations die. One of the chief objectives of the GBD has been to develop comprehensive, internally-consistent estimates of how many people died of each major cause in 1990 worldwide. No such data set was available before the GBD began work. The methods are briefly described in the Annex. A selection of key results follows.

Estimating Mortality

Deaths were classified using a tree structure. The first level of disaggregation comprises three broad cause groups:

- Group I: Communicable, maternal, perinatal, and nutritional conditions.
- Group II: Non-communicable diseases.
- Group III: Injuries.

Each group was then subdivided into sub-categories: for example, cardiovascular diseases and malignant neoplasms (cancers) are two sub-categories of Group II. Beyond this level, there are two further disaggregation levels so that 107 individual causes for which codes have been included in the Ninth Revision of the International Classification of Diseases (ICD-9), such as tuberculosis, stomach cancer, or road traffic accidents, can be listed separately.

A demographic data set giving information on population size and the distribution of deaths for each region was developed especially for the GBD. Next, to reach estimates of the number of deaths by cause, we drew on four broad sources of data:

- *Vital registration systems.* These are complete only for the Established Market Economies and the Formerly Socialist Economies of Europe, although some vital registration information is available for all regions except China, India, and Sub-Saharan Africa (excepting South Africa).
- *Sample death registration systems.* In China, a set of 145 Disease Surveillance Points, representative of both rural and urban areas, and covering about 10 million people, provides information on deaths by cause. In India, Maharashtra State provides full medical certification for at least 80% of urban deaths, while a rural surveillance system including more than 1300 primary health care centres nationwide was used to assess rural death patterns.
- *Epidemiological assessments.* Epidemiologists have made estimates of deaths for specific causes, such as malaria, in certain regions. These estimates combine information from surveys on the incidence or prevalence of the disease with data on case-fatality rates for both treated and untreated cases.
- *Cause-of-death models.* Models are used to check the validity of existing data by putting demographic limits on epidemiological estimates. Such models estimate the distribution of deaths by cause in a population from historical studies of the relationship between the overall level of mortality in a population and deaths from broad groups of causes, such as cardiovascular diseases. The model developed for this study drew on a data set of 103 observations from 67 countries between 1950 and 1991.

Mortality Estimates for 1990

Worldwide, one death in every three is from a Group I cause (communicable, maternal, and perinatal conditions, and nutritional deficiencies). Virtually all of these deaths are in the developing regions. One death in ten is from Group III causes (injuries) and just over half of all deaths are from Group II causes (non-communicable diseases). Figure 13 shows the proportionate burden from each cause for developing and developed regions.

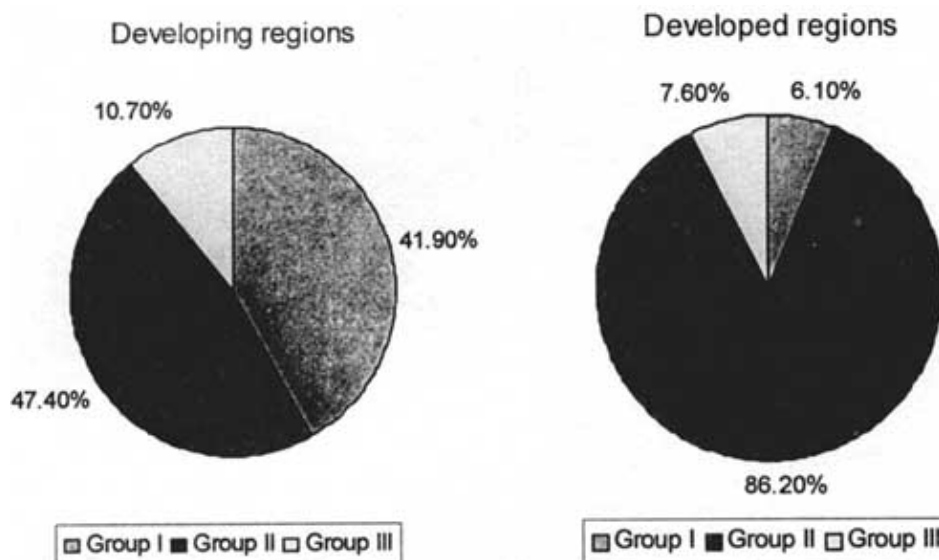


Figure 13: Deaths by broad cause group, 1990

Note: Cause-of-death models. Models are used to check the validity of existing data by putting demographic limits on epidemiological estimates. Such models estimate the distribution of deaths by cause in a population from historical studies of the relationship between deaths from 12 broad groups of causes, such as cardiovascular diseases and infectious diseases, and the total number of deaths. The models developed for this study drew on a dataset of 103 observations from 67 countries between 1950 and 1991.

More surprising, perhaps, is the finding that, for several major developing regions, more people already die of Group II causes than Group I causes. In Latin America and the Caribbean, there are almost twice as many

deaths from non-communicable diseases as from Group I causes. In China, there are four-and-a-half times as many deaths from non-communicable diseases as from Group I causes. The balance has also tipped towards Group II causes in the Middle Eastern Crescent and the region comprising Asia beyond India and China, and the Pacific Islands. Only in India and Sub-Saharan Africa do Group I causes still dominate, accounting for 51% and 65% of deaths respectively.

When the estimates are expressed in terms of the probability of dying at a given age in a given region, a striking picture emerges. For adults under the age of 70, the probability of dying from a non-communicable disease is greater in both Sub-Saharan Africa and India than in the Established Market Economies. The results show that premature mortality rates from non-communicable diseases are higher in populations with high mortality and low income than in the industrialised countries, which is perhaps somewhat surprising and requires further research.

The health of men in the Formerly Socialist Economies of Europe is surprisingly poor. Based on 1990 death rates, men face a 28% risk of death between the ages of 15 and 60, the highest risk in any region except Sub-Saharan Africa. This excess is explained by a higher rate of non-communicable diseases and also by a higher risk of death from injury than for men in the Established Market Economies.

LEADING CAUSES OF DEATH IN 1990

Just over 50 million people died worldwide in 1990, with ischaemic heart disease (IHD) causing more deaths than any other disease or injury. Only 2.7 million of the 6.3 million people who died of IHD lived in the developed world. Cerebrovascular disease (stroke) killed 4.4 million people, of whom only 1.4 million were in the developed world. Lower respiratory infections (pneumonia) killed 4.3 million people, all but 0.4 million of them in the developing world. Diarrhoeal diseases caused 2.9 million deaths, virtually all in the developing world. The ten leading causes together accounted for just over half of all deaths (Table 7).

Table 7: The ten leading causes of death, 1990

<i>Developed Regions</i>			<i>Developing Regions</i>		
	<i>Deaths ('000s)</i>	<i>Cumulative %</i>		<i>Deaths ('000s)</i>	<i>Cumulative %</i>
All Causes	10,912		All Causes	39,554	
1. Ischaemic heart disease	2,695	24.7	1. Lower respiratory infections	3,915	9.9
2. Cerebrovascular disease	1,427	37.8	2. Ischaemic heart disease	3,565	18.9
3. Trachea, bronchus and lung cancer	523	42.6	3. Cerebrovascular disease	2,954	26.4
4. Lower respiratory infections	385	46.1	4. Diarrhoeal diseases	2,940	33.8
5. Chronic obstructive pulmonary disease	324	49.1	5. Conditions arising during the perinatal period	2,361	38.7
6. Colon and rectum cancers	277	51.6	6. Tuberculosis	1,922	43.4
7. Stomach cancer	241	53.8	7. Chronic obstructive pulmonary diseases	1,887	46.1
8. Road traffic accidents	222	55.8	8. Measles	1,058	48.7
9. Self-inflicted injuries	193	57.6	9. Malaria	856	50.9

10. Diabetes mellitus	176	59.2	10. Road traffic accidents	777	52.8
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INJURIES AND THE BURDEN OF SUICIDE

Worldwide in 1990, about 5 million people died of injuries of all types, two–thirds of them men. Most of these deaths are heavily concentrated among young adults. In this age group, road traffic accidents, suicide, war, fire, and violence are all among the ten leading causes of death.

Among adults aged 15–44 years worldwide, road traffic accidents were the leading cause of death worldwide for men and the fifth most important for women. For women between the ages of 15 and 44 years, suicide was second only to tuberculosis as a cause of death. In China alone, more than 180,000 women killed themselves in 1990. In India, women face an appallingly high risk of dying in fires: in 1990 alone, more than 87,000 Indian women died this way. In Sub–Saharan Africa, by contrast, the most important cause of injury deaths for both women and men is war.

The Burden of Disability

The GBD Study suggests that disability plays a central role in determining the overall health status of a population. Yet that role has until now been almost invisible to public health. The leading causes of disability are shown to be substantially different from the leading causes of death, thus casting serious doubt on the practice of judging a population’s health from its mortality statistics alone.

MENTAL ILLNESSES

Most significantly, the study shows that the burden of psychiatric conditions has been heavily underestimated. Of the ten leading causes of disability worldwide in 1990, measured as years lived with a disability (YLDs), five were psychiatric conditions: unipolar depression, alcohol use, bipolar affective disorder (manic depression), schizophrenia, and obsessive–compulsive disorder. Unipolar depression alone was responsible for more than one in every ten years of life lived with a disability worldwide. Altogether, psychiatric and neurological conditions accounted for 28% of all YLDs, compared with 1.4% of all deaths and 1.1% of years of life lost. The predominance of these conditions is by no means restricted to the rich countries, although their burden is highest in the Established Market Economies. They were the most important contributor to YLDs in all regions except Sub–Saharan Africa, where they accounted for a relatively modest 16% of the total.

The leading causes of disability are shown to be substantially different from the leading causes of death, thus casting serious doubt on the practice of judging a population’s health from its mortality statistics alone.

Alcohol use is the leading cause of male disability – and the tenth largest in women – in the developed regions. More surprisingly, perhaps, it is also the fourth largest cause in men in developing regions. The remaining important causes of YLDs were anaemia, falls, road traffic accidents, chronic obstructive pulmonary disease, and osteoarthritis (Table 8).

Table 8: The leading causes of disability, world, 1990

	Total (millions)	% of Total
All Causes	472.7	
1. Unipolar major depression	50.8	10.7
2. Iron deficiency anaemia	22.0	4.7
3. Falls	22.0	4.6
4. Alcohol use	15.8	3.3
5. Chronic obstructive pulmonary disease	14.7	3.1

6. Bipolar disorder	14.1	3.0
7. Congenital anomalies	13.5	2.9
8. Osteoarthritis	13.3	2.8
9. Schizophrenia	12.1	2.6
10. Obsessive–compulsive disorders	10.2	2.2

REGIONAL IMBALANCES IN THE BURDEN OF DISEASE

The peoples of Sub-Saharan Africa and India together bore more than four-tenths of the total global burden of disease in 1990, although they made up only 26% of the world's population in that year. By contrast, the Established Market Economies and the Formerly Socialist Economies of Europe, with about a fifth of the world's population between them, together bore less than 12% of the total disease burden. China emerged as substantially the most 'healthy' of the developing regions, with 15% of the global disease burden and a fifth of the world's population. Put differently, about 579 years of healthy life were lost for every 1000 people in Sub-Saharan Africa, compared with just 124 for every 1000 people in the Established Market Economies, highlighting the massive inequalities of world health at the end of the 20th century.

TRADITIONAL ENEMIES REMAIN A SIGNIFICANT FORCE

Communicable, maternal and perinatal conditions, and nutritional deficiencies persist as a problem for the whole world. Even though these Group 1 conditions accounted for only 7% of the burden in the Established Market Economies and less than 9% in the Former Socialist Economies, they nevertheless made up more than four-tenths of the total global burden of disease in 1990, and almost half of the burden (49%) in developing regions. In Sub-Saharan Africa, two out of three years of healthy life lost were due to Group I conditions. Even in China, where the epidemiological transition is far advanced, a quarter of years of healthy life lost were due to this Group. Worldwide, five out of the ten leading causes of disease burden are Group I conditions: lower respiratory infections (pneumonia); diarrhoeal disease; perinatal conditions; tuberculosis; and measles. In developing countries, malaria is added to this already daunting list (Figure 14).

INJURIES ARE A LARGE, AND NEGLECTED, HEALTH PROBLEM IN ALL REGIONS

The burden of injury in 1990 was highest in the Formerly Socialist Economies of Europe, where almost 19% of all burden was attributed to this group of causes. China had the second highest injury burden, Latin America and the Caribbean the third, and Sub-Saharan Africa the fourth. Even in the Established Market Economies, however, the burden of injuries – dominated by road traffic accidents – was almost 12% of the total.

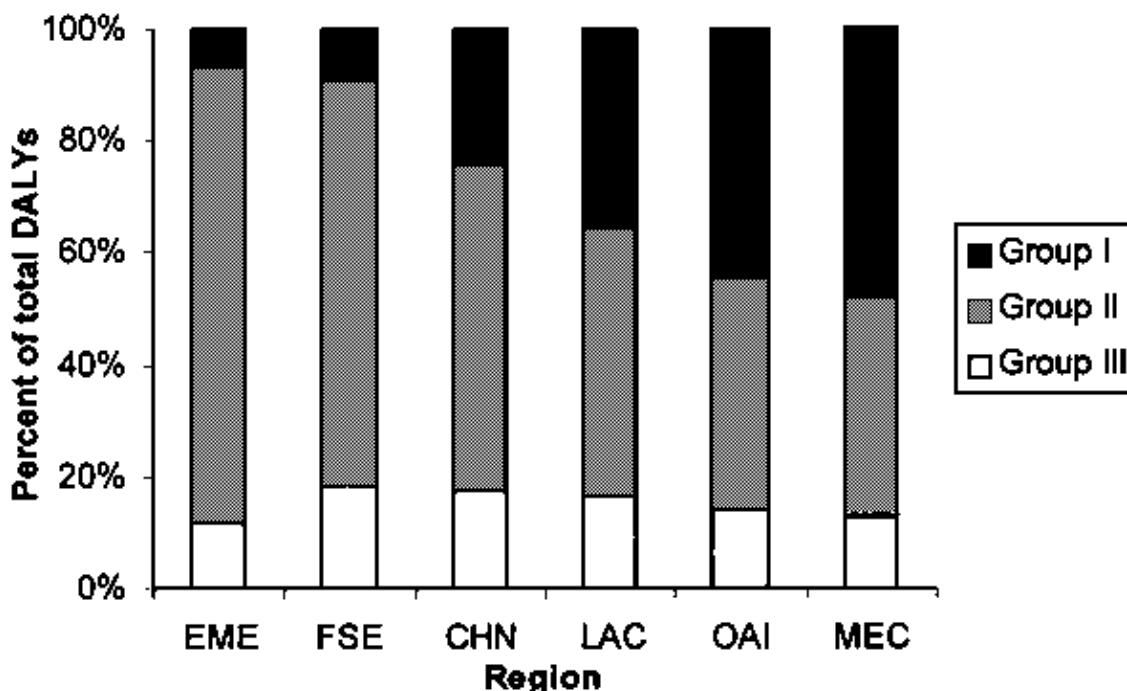


Figure 14: The burden of disease, by broad cause group, 1990

Note: EME: Established Market Economies; FSE: Formerly Socialist Economies; CHN: China; LAC: Latin America and the Caribbean; OAI: Other Asia and Islands; MEC: Middle Eastern Crescent.

In almost all regions, unintentional injuries were a much bigger source of ill–health in 1990 than intentional injuries such as interpersonal violence and war. The only exception was the Middle Eastern Crescent, where unintentional and intentional injuries took an approximately equal toll because of a particularly high burden of war in the region at the time.

LEADING CAUSES OF DISEASE BURDEN

When causes of death are compared, in rank order, with causes of disease burden, substantial differences emerge, again reinforcing the need to take non–fatal conditions into account as well as deaths when assessing a population’s health status. While a few leading conditions – such as lower respiratory infections, diarrhoeal diseases, and perinatal conditions – are at the top of both lists, there are 14 conditions in the top half of the list for disease burden that are in the bottom half of the list for deaths. Depression is the most marked of these, falling within the top ten for disease burden, but the bottom ten for deaths.

The leading causes of disease burden worldwide in 1990 were broadly similar to those for the developing regions. (Table 9).

Table 9: Ten leading causes of disease burden (DALYs), developing world, 1990

	<i>Total (millions)</i>	<i>% of Total</i>
All Causes	1,218.2	9.1
1. Lower respiratory infections	110.5	8.1
2. Diarrhoeal diseases	99.2	7.3
3. Conditions arising during the perinatal period	89.2	3.4
4. Unipolar major depression	41.0	3.1
5. Tuberculosis	37.9	3.1
6. Measles	36.5	3.0
7. Malaria	31.7	2.6
8. Ischaemic heart diseases	30.7	2.5
9. Congenital anomalies	29.4	2.4
10. Cerebrovascular diseases	29.1	2.4

SEX DIFFERENCES IN DISEASE BURDEN

Although in infancy and early childhood, girls and boys suffer from broadly similar health problems, striking sex differences emerge in adults. First, and most obviously, women suffer disproportionately from their reproductive role. Although the burden of reproductive ill–health is almost entirely confined to the developing regions, it is so great that even worldwide, maternal conditions make up three out of the ten leading causes of disease burden in women between the ages of 15 and 44 years. In developing regions, five out of the ten leading causes of DALYs are related to reproductive ill–health, including the consequences of unsafe abortion and chlamydia. Almost all of this loss of healthy life is avoidable.

However, poor reproductive health is far from being women’s sole concerns. In both developing and developed regions, depression is women’s leading cause of disease burden. In developing regions, suicide is the fourth. Thus, while programmes to reduce the unacceptably high burden of poor reproductive health must remain a high priority for years to come, women’s psychological health also deserves much more attention.

For men aged 15–44 years, road traffic accidents are the biggest cause of ill–health and premature death worldwide, and the second biggest in developing regions, surpassed only by depression. Alcohol use, violence, tuberculosis, war, bipolar affective disorder, suicide, schizophrenia and iron–deficiency anaemia

make up the remainder of the list in developing countries. The high toll of road traffic accidents in developing regions has received relatively little attention from public health specialists in the past.

Risk Factors for Death and Disability

Exposure to particular hazards, such as tobacco, alcohol, unsafe sex or poor sanitation, can significantly increase individuals' risks of developing disease. These hazards, or risk factors, are significant contributors to the total global disease burden and health policy makers need accurate information on their impact if they are to devise effective prevention strategies. Until now, however, there have been few attempts to measure the burdens of these risk factors, or to express them in a currency that can be compared directly with the burdens of individual diseases.

How the Burden of Risk Factors was Assessed

The burden of disease or injury in a population today that can be attributed to past exposure to a given risk factor is, essentially, an estimate of the burden that could have been averted in the population if that particular risk factor had been eliminated. More precisely, this is defined as the difference between the currently observed burden and the burden that would be observed if past levels of exposure had been equal to a specified, reference distribution of exposure. In general, to calculate this, it is necessary to know: (a) the relative risk at different levels of exposure for each cause of death and disability linked to the factor; (b) the distribution of different levels of exposure in the population; and (c) the burden of disease or injury due to each of the causes linked to the factor. Depending on the nature of the risk factor, the reference distribution against which relative risk is compared could be zero exposure for the whole population, a population distribution of exposure from low to high levels based on observed populations, or an arbitrary distribution. For this study, we used, wherever possible, zero exposure as the reference, except for risk factors such as hypertension, where clearly no one can be said to be exposed to 'zero' levels.

Results: The Contributions of Malnutrition to the Global Burden of Disease

Of the ten risk factors studied, the most significant were malnutrition, poor water, sanitation and hygiene, unsafe sex, alcohol, tobacco, and occupation. Together, these six hazards accounted for more than one-third of total disease burden worldwide in 1990 (see Table 10). Of the six, malnutrition and poor sanitation were the dominant hazards, responsible for almost a quarter of the global burden between them. Unsafe sex and alcohol each contributed approximately 3.5% of the total disease burden, closely followed by tobacco and occupational hazards with just under 3% each. These are comparable to the burdens caused by tuberculosis and measles.

Not surprisingly, there are major inequalities between regions and between men and women in the burdens of most risk factors. For example, the ill-health consequences of unsafe sex – which include both infections and the complications of unwanted pregnancy – are borne disproportionately by women in all regions. In young adult women in Sub-Saharan Africa, unsafe sex accounts for almost one-third of the total disease burden.

...malnutrition and poor sanitation were the dominant hazards, responsible for almost a quarter of the global burden between them.

...Not surprisingly, there are major inequalities between regions and between men and women in the burdens of most risk factors.

Tobacco and alcohol currently cause their heaviest burdens in men in the developed regions. In these regions, the two together accounted for more than one-fifth of the total burden in 1990. However, the health burdens of smoking and drinking are far from being the exclusive preserve of the industrialised world. The recent rapid increase in tobacco use in Asia and other developing regions is expected to kill many more people in the coming decades than have so far died in the developed regions.

Table 10: Global burden of disease and injury attributable to selected risk factors, 1990

Risk Factor	Deaths ('000s)	As % of total deaths	YLLs ('000s)	As % of total YLLs	YDS ('000s)	As % of total YDS	DALYs ('000s)	As % of total DALYs
Malnutrition	5,881	11.7	199,486	22.0	20,089	4.2	219,575	15.9
Poor water supply, sanitation & personal & domestic hygiene	2,668	5.3	85,520	9.4	7,872	1.7	93,392	6.8
Unsafe sex	1,095	2.2	27,602	3.0	21,200	4.5	48,702	3.5
Tobacco	3,038	6.0	26,217	2.9	9,965	2.1	36,182	2.6
Alcohol	774	1.5	19,287	2.1	28,400	6.0	47,687	3.5
Occupation	1,129	2.2	22,493	2.5	15,394	3.3	37,887	2.7
Hypertension	2,918	5.8	17,665	1.9	1,411	0.3	19,076	1.4
Physical inactivity	1,991	3.9	11,353	1.3	2,300	0.5	13,653	1.0
Illicit drugs	100	0.2	2,634	0.3	5,834	1.2	8,467	0.6
Air pollution	568	1.1	5,625	0.6	1,630	0.3	7,254	0.5

Source: Murray and Lopez (1997)

The impact of alcohol varies between regions not only because of different levels of use in each population, but also because of differences in the age structure of those populations. Alcohol has consistently been shown to provide some protection against death from ischaemic heart disease, but to increase the risk of several other diseases, such as alcoholic psychoses, pancreatitis, some cancers and cirrhosis of the liver, as well as many injuries. Because of its protective effect against ischaemic heart disease, in populations where this condition is common and injuries and violence are rare, alcohol may prevent about as many deaths as it causes. In the Established Market Economies, for instance, this is probably the case. Nevertheless, alcohol causes a severe disease burden in these rich countries, because it causes so many injuries and premature deaths and thus results in large numbers of years lived with a disability and years of life lost.

In Sub-Saharan Africa, the picture is very different. There, ischaemic heart disease is relatively uncommon, so the protective effect of alcohol is far outweighed by its harmful effects in increasing the rates of death and disability from injuries. The contribution of alcohol to injuries is also extremely high in Latin America and the Caribbean, where alcohol use accounts for almost 10% of total disease and injury burden, a figure surpassed only in the developed regions. Ultimately, alcohol is estimated to have caused about three-quarters of a million more deaths in 1990 than it averted, with more than four-fifths of the excess deaths in the developing regions.

THE GLOBAL BURDEN OF MALNUTRITION

Mason and colleagues (personal communication) have developed estimates of the burden of disease attributable to the physiological state of undernutrition. Using data from 55 studies on the relative risk of mortality as a function of the z-score weight-for-age nutritional indicator, they estimated the relative risk per z-score for each region. The proportion of the population that was more than two z-scores below the median in a population distribution of weight-for-age was used to estimate the attributable fraction of child mortality in each region. Similar calculations were undertaken for morbidity, which shows lower relative risks and attributable fractions. No attempt was made to calculate the burden attributable to mild undernutrition, i.e., the population between one and two z-scores below the median.

There are no relevant studies on the relative risk of mortality from undernutrition for adults and thus the burden of disease attributable to undernutrition for the population aged 5–44 years is calculated by assuming that the relative risks for children aged 0–4 years were applicable to this adolescent and adult population as well. Unfortunately, no convincing evidence has been collected to support this relationship. We have, therefore, only included the attributable burden estimated for children in Table 11.

Table 11: Burden of disease attributable to underweight among children, 1990

<i>Region</i>	<i>Deaths ('000s)</i>	<i>As % of total deaths</i>	<i>YLLs ('000s)</i>	<i>As % of total YLLs</i>	<i>YLDs ('000s)</i>	<i>As % of total YLDs</i>	<i>DALYs ('000s)</i>	<i>As % of total DALYs</i>
Established market economies	0.0	0.0	0	0.0	0	0.0	0	0.0
Formerly Socialist economies	0.0	0.0	0	0.0	0	0.0	0	0.0
India	1,722.0	18.4	58,086	29.0	6,450	7.4	64,536	22.4
China	278.0	3.1	9,366	7.9	1,781	2.0	11,147	5.3
Other Asia and islands	679.0	12.3	23,037	20.1	2,721	4.3	25,758	14.5
Sub-Saharan Africa	2,619.0	31.9	89,305	39.4	7,129	10.4	96,434	32.7
Latin America & the Caribbean	135.0	4.5	4,540	8.1	520	1.2	5,039	5.1
Middle Eastern Crescent	447.0	9.8	15,152	14.4	1,489	3.3	16,641	11.0
World	5,881.0	11.7	199,486	22.0	20,089	4.2	219,575	15.9
Developed Regions	0.0	0.0	0	0.0	0	0.0	0	0.0
Developing Regions	5,881.0	14.7	199,486	24.3	20,089	5.1	219,575	18.0

Source: Murray and Lopez (1996)

Even limiting the estimates of the burden of disease due to malnutrition to the effects of underweight in children, it is a major cause of disease burden in regions such as Sub-Saharan Africa where it accounts for one-third of all DALYs lost from disease and injury. In India malnutrition accounts for 22% of disease burden, and elsewhere in Asia and the Pacific Islands about 15%. Based on this analysis child malnutrition is negligible as a source of DALYs in more developed regions. This picture may be very different, however, if micronutrient malnutrition were taken into account. This work is yet to be done. Similarly, underweight in adults and overnutrition in all age groups, once taken into account, may have an important impact on these results.

Projections of Disease Burden, 1990–2020

Rather than attempt to model the effects of the many separate direct, or proximal, determinants of disease from the limited data that are available, it was decided to consider a limited number of socioeconomic variables: (1) income per capita; (2) the average number of years of schooling in adults, termed 'human capital'; and (3) time, a proxy measure for the secular improvement in health this century that results in part from accumulating knowledge and technological development. These socio-economic variables show clear historical relationships with mortality rates: for example, income growth is closely related to the improvement in life expectancy that many countries have achieved this century. Because of their relationships with death rates, these socioeconomic variables may be regarded as indirect, or distal, determinants of health. In addition, a fourth variable, tobacco use, was included, because of its overwhelming impact on health status, using information from more than four decades of research on the time lag between persistent tobacco use – measured in terms of 'smoking intensity' – and its effects on health.

Death rates for all major causes based on historical data for 47 countries since 1950–91 were related to these four variables to estimate the parametric values for each age/sex group, which was then used to generate the

projections. A separate model was used for HIV and modifications for the interaction between HIV and tuberculosis. Three projection scenarios were developed using different projections of the independent variables.

THE IMPACT OF INFECTIOUS DISEASE MAY BE REDUCED

Deaths from communicable, maternal, and perinatal conditions, and nutritional deficiencies (Group I) are expected to fall from 17.3 million in 1990 to 10.3 million in 2020. As a percentage of the total burden, Group I conditions are expected to drop by more than half, from 34% to 15%.

This projected reduction overall, despite increased burdens due to HIV and tuberculosis, runs counter to the now widely-accepted belief that infectious diseases are making a comeback worldwide. It reflects, in part, the relative contraction of the world's 'young' population: the under 15 age group is expected to grow by only 22% between 1990 and 2020, whereas the cohort of adults aged between 15 and 60 is expected to grow by more than 55%. In addition, the projection reflects the observed overall decline in Group I conditions over the past four decades, due to increased income, education, and technological progress in the development of antimicrobials and vaccines. Even under the pessimistic scenario, in which both income growth and technological progress are expected to be minimal, deaths from these conditions are still expected to fall slightly to 16.9 million.

Clearly, it should not be taken for granted that the progress of the past four decades against infectious diseases will be maintained. It is possible, for example, that antibiotic development and other control technologies will not keep pace with the emergence of drug-resistant strains of important microbes such as *Mycobacterium tuberculosis*. If such a frightening scenario were to prove correct, and if case-fatality rates were to rise because of such drug-resistant strains, the gains of the present century could be halted or even reversed. Undoubtedly, the continuing high toll of Group I causes today leaves no room for complacency.

Nonetheless, the evidence to date suggests that, as long as, and only if, current efforts are maintained, Group I causes are likely to continue to decline.

TOBACCO'S LEGACY

By 2020, the burden of disease attributable to tobacco is expected to outweigh that caused by any single disease. From its 1990 level of 2.6% of all disease burden worldwide, tobacco is expected to increase its share to just under 9% of the total burden in 2020, compared with just under 6% for ischaemic heart disease, the leading projected disease. This is a global health emergency that many governments and international health agencies have yet to confront.

LEADING CAUSES OF DISEASE BURDEN IN 2020

In 1990, the three leading causes of disease burden were, in descending order, pneumonia, diarrhoeal diseases, and perinatal conditions. The three conditions projected to take their place by 2020 are ischaemic heart disease, depression, and road traffic accidents. Pneumonia is expected to fall to sixth place, diarrhoeal diseases to ninth, and perinatal conditions to eleventh. Notably, measles, currently in eighth place, is expected to drop to twenty-fifth. However, not all infectious diseases are expected to decline, despite the projected overall decrease of Group I conditions. Tuberculosis is expected to remain at its current level of seventh place, a substantial source of disease burden for the foreseeable future. Of perhaps even greater concern is the finding that HIV, currently twenty-eighth in the ranking, could be as high as tenth by 2020.

ROAD TRAFFIC ACCIDENTS AND VIOLENCE

Because of the growth of the adult fraction of the population, the burdens of several important types of injury are also likely to increase. For example, young men are the population group most frequently involved in road traffic accidents, so if the young-adult proportion of the population increases sharply, road traffic accidents are likely to increase too. Indeed, according to the baseline projection, road traffic accidents could rise to third place from ninth worldwide. Violence, currently nineteenth, could rise as high as twelfth place, and suicide could climb from seventeenth to fourteenth place.

Non-communicable diseases were already, in 1990, the leading causes of death worldwide and the leading cause of disease burden.

Not surprisingly, these changes are not expected to be evenly dispersed worldwide. The total number of lost years of healthy life in the Established Market Economies is likely to fall slightly, while it will increase slightly in the Formerly Socialist Economies of Europe. Strikingly, however, Sub-Saharan Africa's future looks disturbingly poor despite the decline in the burden of Group I conditions that currently dominate its health needs. Overall, the region faces an increase in the number of lost years of healthy life between 1990 and 2020, due mainly to a steep projected rise in the burden of injuries from road accidents, war and violence.

Conclusions

Several surprising findings emerged from this first ever attempt to quantify global health status. Perhaps most surprising was the fact that non-communicable diseases were already, in 1990, the leading causes of death worldwide and the leading cause of disease burden. By measuring non-fatal outcomes in a comparable fashion to premature death, the massive, but hitherto unknown disease burden from neuropsychiatric conditions, especially depression, emerges as a major global public health concern. Similarly injuries, whether intentionally or unintentionally inflicted, are a significant cause of burden in all regions, typically accounting for around 10% of the entire disease and injury burden. Projections to the year 2020 carried out as part of the GBD Study suggest that the significance of non-communicable diseases will increase even further in all regions, but particularly in China, Latin America and the Caribbean, and parts of Asia. Even in Sub-Saharan Africa, chronic diseases by 2020 are projected to cause as many deaths as all infectious diseases combined. Other leading health concerns, including malnutrition and malaria, will remain so unless concerted action is taken to reduce their toll. But perhaps the greatest challenge to public health will be to reduce the impact of the two great public health pandemics of the late 20th century, tobacco and HIV.

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Discussion

Nevin Scrimshaw (UNU): In the 1960s, there was the PAHO study by Serrano and Puffer, and more recently the study by Pelletier of Cornell University, indicating that when one looked at deaths from infectious diseases in developing countries, nutrition was a major contributing factor in about half of them. The contribution of malnutrition to mortality was missed in the official vital statistics. We had similar findings on a smaller scale in an INCAP study in four villages. How can you take into account nutrition as a major contributory factor to deaths when it is not recorded?

Alan Lopez: In fact, that is Part 3 of the Study. It is a very interesting issue that applies not only to nutrition, but also, for example, to diabetes. I didn't even mention today that diabetes is an outcome and also a risk factor for several major vascular conditions. In this study we looked at malnutrition – undernutrition, to be more specific – as a risk factor for this host of conditions. We did not try to quantify how it came out individually according to disease, but rather how malnutrition contributed to the burden of disease across a host of conditions. Those are the estimates that I've tried to present. I don't know whether they're right. This is the kind of community that should be providing input back to us saying that they're either over- or underestimates. Malnutrition is considered in the same way as, for example, war, as a risk factor. I've presented results from war as an outcome, but war also could be looked at as a risk factor because it causes a host of conditions in health – not just the outcome of death or disability as a war-related event.

Aileen Robertson (WHO): I'm glad that you qualified the term "malnutrition" by saying "undernutrition" since clearly unhealthy nutrition and excessive intake of nutrients also contribute to the burden of disease. In your paper you predict that there will be a 77% increase in non-communicable diseases. You go on to say that the burden of disease of NCD is largely driven by population ageing and tobacco with no mention of nutrition. I feel that this is a lost opportunity for improving public health. On the one hand, you say that the major killers

are NCDs and on the other, you state that “malnutrition” has zero effect. Clearly this is not the case and is misleading policy makers responsible for public health strategies. In the Former Soviet Union and in Europe, unhealthy nutrition is one of the major causes of NCDs, therefore, your “burden of disease” model does not help to convince policy makers of this fact. Your approach is a major obstacle to getting nutrition on the political agenda. I don’t know what can be done to address this problem. The question is do we have to wait for the next proposed set of DALYs before this error can be corrected?

Alan Lopez: That is also a very good issue and thank you for raising it. More broadly in Europe, there is a tremendous public health problem that we are not quantifying very reliably. We don’t know, to my knowledge, reliably what is the contribution of overnutrition or poor nutrition in Central and Eastern Europe, nor indeed, do we know about alcohol. There is suspicion that a lot of this rise in mortality is due to alcohol, but we don’t know reliably. I feel that issues such as this, that are major public health problems, need to be more reliably quantified. I’m not saying that we got it all right – this was a global, macro–regional study. Within the macro–region (of the Former Socialist Economies of Europe, FSE), we’ve attributed virtually no DALYs to poor nutrition, and that clearly is not correct.

Urban Jonsson (UNICEF): Your presentation consisted of two major parts: mortality analysis, and this other meta–physical concept of DALYs. The mortality analysis I fully accept and I think that most of your sensible conclusions could have been shown with conventional mortality analysis. There is one thing that we are sure about – that we will all die one day. Many people don’t care what they die of if they live long, but we are all concerned about young people dying – in particular, children. There is no scientific method to assess the value associated with living longer. In the theory of science, we separate between science and meta–physics. Why do we do that? We do that to avoid the type of thing that we have seen here, because the DALY concept fulfils all the criteria for metaphysics. There are basically too many value judgements. The method that you have designed only says that you believe that average is right. It would be a terrible society if we believed that. Also, in the rank theory that you use, you know very well that it doesn’t matter that much where the convergence of value judgement comes – you get the same picture. I know for example, people in wheelchairs who tell me that their life is actually richer after their accident. How do you account for all these complexities? How can we predict things this way? If your model had been used in 1985 for the Soviet Union – would it have predicted the break down of the Soviet Union and predicted these diseases? Finally, from a human rights perspective, the right of people to be healthy and alive tells me that this type of analysis is fundamentally not only unscientific, but is totally unethical.

Graeme Clugston (WHO): I must say that your transparency about the uncertainties is appreciated. You mentioned about 40 countries that have used this methodology in some way for readjusting priorities, or spending, or adjusting their emphasis on public health policy. Could you say a little more about that? Have you in any way been able to look at the changes that they’ve brought about as a result of using this methodology? Concerning the huge growing problem of obesity in children and adults, the Nutrition Programme at WHO has a growing global database on body mass index for both children and adults, which we would like to share with you.

Alan Lopez: Let me deal with those questions in reverse order. I have not been that involved in the country studies. That is not something that WHO has been particularly concerned with. We were involved in the global and regional part only. Most of the country studies have been done at Harvard. There are around 40 studies that are either completed, or are being carried out, or are planned. In the studies that have been completed, for example, in Mexico, it was found that the health information system was completely inadequate. They were not quantifying or measuring disability in any way that was useful. They were not even using the cross–sectional disability data that they were collecting. They did find, however, that it was going to be helpful if they applied this longitudinal concept. They also found that a lot of their cause–of–death information for violence was being miscoded. What burden of disease methods do is make you go into your data system and be critical about how you’re capturing various conditions. In terms of public health policy in Mexico, they have now established a public health foundation that they are using to try and address some of the inequities that I very quickly showed.

Coming back to the other issue, it is important that we are very clear what DALYs are and what DALYs are not. We could debate these kinds of questions for a long time, but I will be very brief. If you do not try to quantify non–fatal outcomes, you will perpetuate the omission of issues such as the neuro–psychiatric conditions, maternal anaemia and all of those leading causes of disability that we found in our study. The idea was that we tried to present to health care providers and those responsible for health care allocation, a holistic view not only of who dies of what, but of who is disabled and from what.

By Christopher Murray and Alan Lopez

Defining a Metric to Measure Disease Burden

In order to capture the impact of both premature death and disability in a single measure, a common currency is required. Time is an appropriate currency, measured as time (in years) lost through premature death, and time (in years) lived with a disability. A range of such time-based measures has been developed in different countries, many of them variants of the so-called Quality-Adjusted Life Year or QALY. For the GBD, an internationally standardised form of the QALY has been developed, called the Disability-Adjusted Life Year (DALY). The DALY expresses years of life lost to premature death and years lived with a disability of specified severity and duration. One DALY is thus one lost year of healthy life. Here, a 'premature' death is defined as one that occurs before the age to which the dying person could have expected to survive if they were a member of a model population with a life expectancy at birth equal to that of the world's longest-surviving populations, namely Japan.

To calculate total DALYs for a given condition in a population, years of life lost (YLLs) and years lived with disability of known severity and duration (YLDs) for that condition must each be estimated, and then the total summed. For example, to calculate DALYs incurred through road traffic accidents in India in 1990, the total years of life lost in fatal road accidents are added to the total years of life lived with disabilities by survivors of such accidents.

It might appear that quantifying disease burden is a neutral exercise, entirely free of value choices. However, this is far from the case. Disease burden is, in effect, the gap between a population's actual health status and some 'ideal', or reference status. In order to measure burden, a society has to decide what the ideal or reference status should be. This involves making five value choices:

- How long 'should' people live? If one is to estimate how many years of life are lost through death at any given age, we must decide on the number of years for which a person at that age should expect to survive in the ideal, or reference, population. That could be, for example, 60, 80, or 90 years from birth.
- Are years of healthy life worth more in young adulthood than in early or late life?
- Is a year of healthy life now worth more to society than a year of healthy life in 30 years' time?
- Are all people equal? For example, should one socioeconomic group's years of healthy life count for more than another's?
- How do you compare years of life lost due to premature death and years of life lived with disabilities of differing severity?

HOW LONG SHOULD PEOPLE LIVE?

In accordance with the GBD's egalitarian principles, the study assumes a standard life table for all populations, with life expectancies at birth fixed at 82.5 years for women and 80 years for men. A standard life expectancy allows deaths in all communities at the same age to contribute equally to the burden of disease. Alternatives, such as using different life expectancies for different populations that more closely match their actual life expectancies, are inconsistent with the egalitarian principle. For example, if a 25-year-old woman dies in childbirth in an African country where she might have expected to live another 30 years, her years of life lost would be deemed unfairly to be fewer than those for a 35-year-old woman who dies in childbirth in Japan, when she might otherwise have expected to live another 48 years.

Life expectancy is not equal for men and women. Accordingly, the GBD has given men a lower reference life expectancy (80 years) than that of women (82.5 years).

ARE YEARS OF HEALTHY LIFE WORTH MORE IN YOUNG ADULTHOOD THAN IN EARLY OR LATE LIFE?

If individuals are forced to choose between saving a year of life for a 2-year-old and saving it for a 22-year-old, most prefer to save the 22-year-old. A range of studies confirms this broad social preference to 'weight' the value of a year lived by a young adult more heavily than one lived by a very young child or an older adult. Adults are widely perceived to play a critical role in the family, community, and society. We therefore incorporated age-weighting into the DALY by assuming that the relative value of a year of life rises rapidly from zero at birth to a peak in the early twenties, after which it steadily declines.

IS A YEAR OF HEALTHY LIFE NOW WORTH MORE TO SOCIETY THAN A YEAR OF HEALTHY LIFE IN 30 YEARS' TIME?

If a person is offered \$100 today or \$100 in a year's time, that person is likely to prefer \$100 today. Future dollars are thus discounted – valued lower – against current dollars. Whether a year of healthy life, like a dollar, is also deemed to be preferable now rather than later, is a matter of intense debate among economists, medical ethicists, and public health planners, because discounting future health affects both measurements of disease burden and estimates of the cost effectiveness of an intervention.

There are arguments for and against discounting. We decided, however, to discount future life years by 3% per year. This means that a year of healthy life bought for 10 years hence is worth around 24% less than one bought for now, as discounting is represented as an exponential decay function.

Discounting future health reduces the relative impact of a child death compared with an adult death. For example, with age-weighting also incorporated, a 1-year-old girl's death causes a loss of 34 years of life while a 25-year-old woman's death results in a loss of 33 years of life. Discounting also reduces the value of interventions that pay off largely in the future—such as vaccinating against hepatitis B, which may prevent thousands of cases of liver cancer, but only some decades later.

HOW DO YOU COMPARE TIME LOST DUE TO PREMATURE DEATH WITH TIME LIVED WITH DISABILITY?

While death is not difficult to define, disability is. All non-fatal health outcomes of disease are different from each other in their causes, nature, and their impact on the individual, and the impact on the individual is in turn mediated by the way the surrounding community responds. Yet, in order to quantify time lived with a non-fatal health outcome and assess disabilities in a way that will help to inform health policy, disability must be defined, measured, and valued in a clear framework that inevitably involves simplifying reality.

There is surprisingly wide agreement between cultures on what constitutes a severe or a mild disability. For example, a year lived with blindness appears to most people to be a more severe disability than a year lived with watery diarrhoea, while quadriplegia is regarded as more severe than blindness. These judgements must be made formal and explicit if they are to be incorporated into measurements of disease burden.

Two methods are commonly used to formalise social preferences for different states of health. Both involve asking people to make judgements about the trade-off between quantity and quality of life. This can be expressed as a trade-off in time (how many years lived with a given disability would you trade for a fixed period of perfect health?) or a trade-off between persons (would you prefer to save one life-year for 1000 perfectly healthy individuals as opposed to saving one life-year for 2000 individuals in a worse health state?). While such trade-offs may affront our perceptions about what is morally acceptable, they are practised implicitly throughout the world's health care system. The philosophy of the GBD is that the more explicitly these preferences are set out, the more meaningfully they may be debated.

The GBD therefore developed a protocol based on the person trade-off method. In a formal exercise involving health workers from all regions of the world, the severity of a set of 22 indicator disabling conditions – such as blindness, depression, and conditions that cause pain – was weighted between 0 (perfect health) and 1 (equivalent to death). These weights were then grouped into seven classes where class I has a weight between 0.00 and 0.02 and Class VII a weight between 0.7 and 1 (see Table 12).

In essence, the weight is set by the number of people with a given condition whose claim on a fixed health care budget is equal, in the judgement of a participant, to that of 1000 entirely healthy people. For example, if the participant judges that 1000 entirely healthy people were judged to have an equal claim on the resources as 2000 people with a particular, less severe, disability, the weight assigned would be equal to 1 minus 1000 divided by 2000, or 0.5.

Table 12: Gauging the severity of disability: disability classes and weights set by the GBD protocol for 22 indicator conditions

Disability Class	Severity weights	Indicator conditions
1	0.00–0.2	Vitiligo on face, weight–for–height less than 2 standard deviations
2	0.02–0.12	Watery diarrhoea, severe sore throat, severe anaemia
3	0.12–0.24	Radius fracture in a stiff cast, infertility, erectile dysfunction, rheumatoid arthritis, angina
4	0.24–0.36	Below–the–knee amputation, deafness
5	0.36–0.50	Recto vaginal fistula, mild mental retardation, Down’s syndrome
6	0.50–0.70	Unipolar major depression, blindness, paraplegia
7	0.70–1.00	Active psychosis, dementia, severe migraine, quadriplegia

Note: These weights were established using the person trade–off method with an international group of health workers who met at WHO in Geneva in August 1995, Each condition is actually a detailed case. For example, angina in this exercise is defined as reproducible chest pain, when walking 50 metres or more, that the individual would rate as a 5 on a subjective pain scale from 0 to 10.

Chapter 9: The Second Abraham Horwitz Lecture, 1998. Breastfeeding: From Biology to Policy

Isatou Jallow Semega–Janneh

Introductory paragraphs by Richard Jolly, SCN Chairman

The Abraham Horwitz Lecture was first introduced last year in honour of Dr Abraham Horwitz, who was Assistant Director of the National Health Service in Chile from 1953–59, Director of the Pan American Health Organization (PAHO) from 1959–1975, and Chairman of the SCN from 1986–1995. Dr Horwitz is currently Director Emeritus of PAHO.

The Lecture was established in recognition of Dr Horwitz’ outstanding contribution to nutrition and his exemplary leadership as our Chairman. The intention of the Lecture is to promote Dr Horwitz’ heartfelt, highly valued and extremely generous tradition of mentoring young talent from developing countries. Each year a guest lecturer, who possesses the knowledge and commitment to prepare a bold and imaginative paper, is invited to make a presentation at the SCN Session. Our lecturer today is Isatou Jallow Semega–Janneh. We reviewed eight possible candidates for this Lecture in order to find someone who has shown true leadership at an early stage of their career. Isatou Jallow Semega–Janneh is currently the head of the Nutrition Unit of the Department of State for Health, Social Welfare and Women’s Affairs in Banjul, The Gambia. She also chairs the Board of Directors for The Gambia Food and Nutrition Association and is national breastfeeding coordinator in The Gambia. She has an MSc (1986) in Nutrition from the University of Oslo in Norway. But the main reason we selected her was that she was by all accounts an up–and–coming dynamic leader with much involvement in community work. We are very pleased therefore that Isatou Jallow Semega–Janneh, you have been able to accept our invitation.

Introduction

I feel privileged and honoured to be here today to talk on such an important topic as breastfeeding. I am here not as an expert but as a woman, mother, and a health worker in a non–industrialised country. Some may well question why breastfeeding should merit this attention when it is the simple and natural way of feeding our young. However, it is this very simplistic view of breastfeeding that may cause some to take it for granted and

to consider breastfeeding promotion a waste of resources '*since women breastfeed anyway*'. Yet, statistics indicate that most mothers do not practice optimal breastfeeding¹ and exclusive breastfeeding – defined by WHO as giving no other food or liquids including water to the infant for up to 6 months of age – is a rare practice. It is estimated that almost 1.5 million infant lives could be saved per year if exclusive breastfeeding was practised for the first 6 months (UNICEF, 1997a).

¹*This is defined as exclusive breastfeeding from birth to about 6 months of age. Thereafter, children should continue to be breastfed while receiving appropriate and adequate complementary foods for up to 2 years of age or beyond.*

INTERNATIONAL COMMITMENT TO THE PROTECTION, PROMOTION AND SUPPORT OF BREASTFEEDING

Breastfeeding promotion has come a long way over the decades, and this is mostly due to the high profile it has been given through international level commitment². In reference to the dangers of artificial feeding, Dr Cecily Williams spoke of 'Milk and Murder' as far back as 1939. La Leche League formed the first organised breastfeeding group in 1957, which has since grown to over 40,000 members. During the 1970s, attention was focused on breastfeeding through campaigns, including lawsuits to stop the aggressive promotion of infant formula to the detriment of breastfeeding.

²*See AHRTAG Resource List: Breastfeeding Information Resources; published by Appropriate Health Resources and Technologies Action Group (AHRTAG), London UK.*

The International Baby Food Action Network (IBFAN) was founded in 1979 – the same year that WHO and UNICEF hosted an international meeting on infant and young child feeding. The meeting called for the development of an International Code of Marketing of Breastmilk Substitutes, which was later adopted at the World Health Assembly in 1981. There have been various World Health Assembly resolutions thereafter on infant and young child feeding.

The Convention on the Rights of the Child was adopted in 1989 and came into legal force in 1990. It referred to 'all segments of society, in particular parents and children being informed, having access to education and being supported in the use of basic knowledge of child health and nutrition, and the advantages of breastfeeding....'

The Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding was developed and adopted in 1990. It set specific goals for all governments to be achieved by the year 1995, as well as soliciting the support of international organisations. The Declaration called for the integration of breastfeeding policies into the overall health and development plans of governments. It also emphasised the need to increase women's confidence in their ability to breastfeed, which should involve the removal of barriers to optimal breastfeeding. This Declaration was adopted by 32 governments and 10 UN agencies.

The World Summit for Children was held in 1990 and one of its goals was the 'empowerment of all women to breastfeed their children exclusively for 4–6 months and to continue breastfeeding with complementary food, well into the second year'.

Individuals and organisations dedicated to the protection, promotion, and support of breastfeeding formed an umbrella network—World Alliance for Breastfeeding Action (WABA) in 1991. During this same year, UNICEF/WHO launched the global Baby Friendly Hospital Initiative aimed at creating breastfeeding friendly environments at health facilities. The International Conference on Nutrition (ICN) in 1992 showed tremendous commitment to breastfeeding by incorporating it in most of its themes as well as in the World Declaration and Plan of Action for Nutrition.

The Biology of Breastfeeding

It has been a popular belief that breastfeeding benefits mostly non-industrialised countries because breastmilk is a clean, 'cheap' food in light of inadequate resources and poor sanitary conditions. Today we know differently as research continues to show its benefits for both industrialised and non-industrialised countries. This literature is reviewed by Dermer (1998) for women's health issues and Villapando and Hamosh (1998) for the infant.

In discussing the health benefits of breastfeeding, the emphasis is usually on the infant. Breastfeeding, however, is not a private matter between the breasts and the infant as can be misconstrued from pictures of infants feeding from 'faceless' breasts. Breastfeeding is a process that involves two individuals: the mother or the 'breastfeeder' as the producer, and the infant as the consumer. The process benefits both the producer and the consumer and this is very important to highlight in breastfeeding promotion programmes. It is also crucial for the breastfeeding mother to know this.

Future research might yet discover further benefits of breastfeeding for both a mother and her infant. It is time for women to recognise the importance, the uniqueness, and value of their breasts. Maybe it is also time for women to start insuring these extremely valuable assets – their breasts!

Box 5: Breastfeeding: benefits for the mother

- Breastfeeding helps the uterus to return more quickly to its original size and thus minimises postpartum bleeding. This reduces the risk of anaemia for the breastfeeding mother and may contribute to a reduction in maternal mortality.
- Breastfeeding reduces the risk of premenopausal breast cancer and ovarian cancer.
- Breastfeeding is associated with improved bone remineralisation.
- Breastfeeding causes mothers to return more quickly to their pre-pregnancy weight.
- Breastfeeding has child spacing benefits and prevents more births in Africa and many parts of Asia than contraception. The Bellagio Consensus Conference in Italy in 1988 agreed that the Lactational Amenorrhoea Method (LAM) gives about 98% protection from pregnancy during the first 6 months after delivery if the mother is fully or nearly fully breastfeeding, and remains amenorrhoeic during that period (Consensus Statement, Lancet, 1988). The efficacy of LAM was demonstrated in a clinical case control intervention study. The contribution to child spacing of the traditional practice of sexual abstinence during the breastfeeding period still practised today, should not be underestimated.
- Breastfeeding has emotional and psychological benefits, which are very important elements of maternal and child health. Examples of these are the satisfaction and the confidence of the mother in her capability to nurture her infant in the best possible way. This also includes the emotional bonding between the breastfeeding mother and her infant.

The full benefits of breastfeeding may, however, not be realised if optimal breastfeeding, including exclusive breastfeeding, is not practised.

Box 6: Breastfeeding: benefits for the infant

- Breastfeeding reduces the severity and incidence of diarrhoea during the first year, which is one of the major causes of mortality among infants and young children in developing countries.
- Breastfeeding reduces the risk of lower respiratory infections, otitis media, atopic disease and necrotising enterocolitis.
- Breastfeeding may protect against insulin-dependent diabetes mellitus and urinary tract infections.
- Breastfeeding may protect infants from the sudden infant death syndrome as well as from chronic digestive diseases, Crohns disease and ulcerative colitis and lymphoma.
- Breastfeeding improves the infant's neurological development.
- Breastfeeding may reduce the risk of bacterial meningitis and bacteremia. Breastfeeding stimulates the infant's immune system.
- Breastfeeding may reduce the risk of heart disease in later life.
- Breastfed infants show a better response to vaccines while being protected against hay fever and asthma for up to 17 years.

Global Patterns

Despite documented evidence of its benefits, global estimates indicate that 85% of mothers do not conform to optimal breastfeeding practices (see Obermeyer and Castle, 1997). Exclusive breastfeeding is still rare in a number of countries (Labbok et al., 1997). Estimates from the WHO Global Data Bank (1996), indicate that only 35% of infants have been exclusively breastfed for some duration during the first four months of life (see Table 13). These alarmingly low figures on exclusive breastfeeding are, however, usually hidden under high initiation rates and long duration of breastfeeding as in the example from the African region where the median breastfeeding duration is 21 months.

Table 13: Exclusive breastfeeding and median duration of breastfeeding: a global and regional overview, 1996

<i>WHO Region</i>	<i>Total number of infants (millions)</i>	<i>Total number of countries</i>	<i>Number of countries in the Region included (%)^a</i>	<i>Percentage of Infants in the Region included^b</i>	<i>Exclusive breastfeeding rate <4 months of age (%)^c</i>	<i>Median duration of breastfeeding (months)</i>
Africa	23.3	46	25 (54)	71	19	21
The Americas	16.0	35	14 (40)	38	34	10
South-East Asia	42.2	10	5 (50)	93	49	25
Europe	11.5	50	4 (8)	19	16	11
Eastern Mediterranean	15.5	22	11 (50)	84	36	19
Western Pacific	28.7	27	2 (7)	7	33	14
World total	137.2	190	61 (32)	58	35	18

^a Countries for which nationally representative data are available.

^b Percentage of children less than one year of age by region for which nationally representative data are available.

^c Percentage of infants under four months of age whose sole source of nourishment is breastmilk the day before the interview.

Source: WHO Global Data Bank on Breastfeeding

Barriers to Optimal Breastfeeding

The fact that exclusive breastfeeding is practised by a minority of women may be attributed to a number of factors. Among these are cultural, social, economic, and political factors.

Cultural factors may be crucial when promoting exclusive breastfeeding everywhere, but are particularly crucial in traditional rural communities. Local perceptions of what constitutes optimal infant feeding practices may differ greatly from international recommendations. Globally, prelacteal feeding is a common practice that includes giving the infant various liquids, as well as water, prior to initiation of breastfeeding (Morse et al., 1990) and continuing throughout the duration of the breastfeeding period.

Davies–Adetugbo (1997), in a recent study on socio–cultural factors and the promotion of exclusive breastfeeding in rural communities, concluded that exclusive breastfeeding totally lacked credibility among the locals, with even health workers not believing that it was possible or feasible. Therefore promotion of optimal breastfeeding practices, including exclusive breastfeeding, cannot be successful if the cultural barrier is not adequately addressed.

Exclusive breastfeeding for up to 6 months requires the mother and her infant to be in close proximity for this period and to use expressed breastmilk for separation of short duration. However, practising exclusive breastfeeding may be perceived as being non–compatible with working outside of the home, thus creating an economical barrier. This includes mothers working both in the formal and informal sector.

This notion may be viewed from two angles. Firstly, from that of the employer, including governments, who may wrongly perceive that the provision of adequate maternity leave, breastfeeding breaks, and crèches at the work place would result in losses rather than profits. Secondly, from that of the mother, who may believe that practising exclusive breastfeeding would limit the time she has for other activities – especially income–generating activities.

A sick infant results in a worried mother, which in turn may result in a less productive mother. Absenteeism from work due to a sick infant may have more economical consequences than adequate maternity protection measures for optimal breastfeeding.

The lack of social support systems at the household and community levels are also a barrier to optimal breastfeeding. Mothers require an enabling environment if they are to practice optimal breastfeeding and this can only be possible with full support at both the household and the community levels. The issues to be addressed include the workload of the pregnant and lactating woman, among others.

National policies on breastfeeding are important for the promotion and support of breastfeeding at all levels. The lack of political commitment to breastfeeding promotion and support may be due to ignorance of its many benefits for the individual (mother and infant), household, community, and the nation. Governments have still to understand the health, social, and economic benefits of breastfeeding.

In light of all the barriers outlined above, how can we successfully get mothers to practice optimal breastfeeding, including exclusive breastfeeding?

Breaking the Barriers with the Baby Friendly Community Initiative – The Gambia

I will now give an example of attempts we have made in The Gambia to break some of these barriers through a Baby Friendly Community Initiative (BFCl) project. Breastfeeding is a universal practice in The Gambia but exclusive breastfeeding is rare and weaning foods are introduced by the age of 3 months. In 1993, the Nutrition Unit of the Department of State for Health initiated a pilot project – the Baby Friendly Community Initiative. The concept of a community initiative was derived from the global UNICEF/WHO Baby Friendly Hospital Initiative (BFHI) of 1991. This involved 12 rural communities in the Lower River Division of The Gambia.

The rationale behind the community initiative was that most deliveries in The Gambia occurred at home, and those women who delivered at health facilities only stayed there for a day or less with a normal delivery. The way mothers fed their infants therefore was influenced to a greater extent by the traditional beliefs and practices in their home environment.

The aim of the BFCl was to improve infant feeding practices in rural Gambia. Among the objectives were:

- to get 25% of mothers to practice exclusive breastfeeding for at least 4 months;
- to get 90% of mothers with normal delivery to initiate breastfeeding within an hour of delivery.

A baseline study was carried out using quantitative and qualitative methods. The aim was to identify current infant feeding practices, including the traditional beliefs and practices influencing them. All mothers with infants 0–12 months were included in the study (n = 324). Results from this baseline study indicated sub–optimal feeding practices.

A methodology using an integrated approach was developed for the intervention. This included '10 steps to successful infant feeding', based on the Baby Friendly Hospital Initiative '10 steps' (WHO, 1989). However, the community initiative went beyond breastfeeding to include maternal nutrition (using locally available foods), weaning, environmental sanitation, and personal hygiene. This integrated approach was important so as to emphasise the linkages between maternal and infant nutrition, and a clean environment. It was expected that this approach would also create the opportunity for maximum community participation in the project.

The 10th step of the Baby Friendly Hospital Initiative was used as a basis for the creation of 'village support groups'. In this instance, mother-to-mother support groups (Kyenkya-Isabirye and Magalhaes, 1990) took on a new meaning with the inclusion of men in the groups. A village support group consisted of five women and two men – identified by their communities – to be trained to implement and monitor the initiative. Among them was the traditional birth attendant whose role in the project was crucial because she delivered babies in her community. Support group members were aware from the outset that they were voluntary and did not expect any remuneration.

TRAINING

A guide was developed for training the village support groups. It was divided into sessions ranging from maternal and infant nutrition, to environmental sanitation and personal hygiene, using material from WHO, UNICEF, and Wellstart International. In the training, the participants were viewed from a dual perspective; first as a target for attitudinal change, and second as educators for their communities. In this regard, therefore, the training had a dual objective: to influence the attitude of the participants, and to equip them with relevant and adequate information for their role as educators.

How does one attempt to influence the attitude of a target person within a limited period? First of all, it is by acknowledging that the targets have their own local knowledge, which probably differs from our knowledge. To disregard this local knowledge could be detrimental to the achievement of the project objectives.

This meant that participants were given the opportunity to discuss a topic, e.g. colostrum, based first on their local traditional knowledge. The topic was then presented by the trainer using modern scientific knowledge. Finally participants were again given the opportunity to question, argue, and gradually understand the topic from their own perspective. This gave us the following equation:

Modern/Scientific Knowledge + Local/Traditional Knowledge = Credible Knowledge

One example of how this equation worked is the understanding of the concept of exclusive breastfeeding by the participants. Giving prelacteal feeds as well as water and other liquids throughout the breastfeeding duration was considered the norm. Therefore, exclusive breastfeeding was a modern concept that participants could not accept. However, through discussions, participants recalled that their new-born animals (livestock)³ breastfed only without drinking any water for an unspecified period, yet they did not die. Based on this reasoning, the practice of exclusive breastfeeding seemed credible for human babies.

³*The Gambia is predominantly an agricultural society*

Apart from theoretical information, the training emphasised practical solutions to simple problems that breastfeeding mothers may encounter. These included cracked or sore nipples and engorged breasts for which avoidable causes and simple solutions were identified. It was expected that such practical information would make the support groups more persuasive and credible in their communities.

The support groups were also taught about breastmilk expression for mothers who had to be away from their infants for short periods. There was some initial reluctance to this based on their belief that breastmilk can turn sour if not utilised for several hours. Even mothers who are away from their babies for a few hours, according to local tradition, were expected to express and throw away the first milk before breastfeeding.

Men are important actors in infant feeding decisions but are not usually targeted by breastfeeding intervention programmes. Their involvement in this initiative, as both information providers and information recipients, was a formal acknowledgement of the important role they play. It was also one step further to achieving the objectives of the BFCI. Mothers alone may find it difficult to take a decision on exclusive breastfeeding without the support of their husbands. With men as members of the support group, it was also assumed that it would be easier to convince their fellow men as well as to support their wives.

Almost all the participants were non-literate but a graduation ceremony after the training with certificates issued to all the participants proved to be highly motivating. The ceremony, involving senior officials from the Health Ministry and other government institutions and NGOs, was a sign of government support and acknowledgement of their participation in the project.

There was regular monitoring and retraining of the support groups by the Nutrition Unit. According to the group members, these activities not only strengthened the groups, they also served to motivate them.

INFORMATION DISSEMINATION

Target groups were specified by the project as pregnant and lactating women and their spouses. How information was disseminated in the communities was left entirely to the village support groups. The support groups were very innovative. They used house-to-house visits, village gatherings, ceremonies, songs, dances, and role-plays to disseminate information. The '10 steps' were made into songs and were sung at every opportunity thereby enabling even small children to learn about breastfeeding and its importance. Some communities expanded their target groups to include schools, where they gave talks and choreographed plays by the pupils.

IMPACT – 'SUSUNDIRI TIMARINGO'

The practice of exclusive breastfeeding became universal as a result of the project. This was somewhat unexpected, given the scepticism voiced by some individuals in the communities. Breastfeeding was initiated within one hour of delivery by 87% of mothers after the intervention. A full 99.8% initiated within 24 hours of delivery. This can be compared to 40% initiation *later than 24 hours following delivery* before the intervention. The duration of exclusive breastfeeding also increased considerably. After the intervention 99.5% of mothers (n = 413) fed only breastmilk at four months of age as opposed to only 1.3% before the intervention (n = 324).

Attitudinal change was evident from the way in which colostrum was referred to. Before the intervention, colostrum was referred to as *bad milk*, *dark milk* or *hot milk*. After the intervention, colostrum was referred to as *the protective milk*. Furthermore, exclusive breastfeeding did not have a local name before the intervention and was regarded as a foreign concept. During the intervention, a new term in Mandinka was coined – *susundiri timaringo* – which translates literally as the 'complete breastfeeding', and this became a password in the communities.

The unifying effect of the project on community members was another unexpected outcome of the BFCI. Optimal breastfeeding became the concern of both mother and father, while adequate maternal nutrition became the concern of wife and husband. Environmental sanitation involved the whole community resulting in regular village clean-up.

Awareness of the importance of an enabling environment for breastfeeding mothers was raised through this initiative. This is defined as any activity that enhances the mother's capacity to practice optimal breastfeeding, specifically exclusive breastfeeding. Rural women farmers, however, may face similar constraints as their counterparts in the formal sector (Saadeh et al., 1993) with regards to inadequate day care facilities at the workplace. During discussions with the communities, it was learnt that the mothers in this project were no exception. Traditional shelters at the fields, which had been used to protect infants from various weather conditions no longer existed in most of these communities. Consequently, the concept of a 'Baby Friendly Rest House' at the field, was born as a by-product of the traditional shelters and the modern crèches. Eight communities opted for them and mobilised both men and women to construct them.

A 'community maternity leave' concept was also derived from the example of a 12-week government maternity leave and the traditional 40 days rest for new mothers. This involved community assistance for the breastfeeding mother at her farm and while she stayed home with her infant, for a period of up to six months or more. It was adopted unilaterally by one community while the remaining communities chose to have it as an option for individual households.

Expressing and storing breastmilk for the infant – previously considered an undesirable practice – was now done by mothers who had been convinced by support group members. This practice was widely adopted by mothers who had to be away from their infants. The expressed milk was often stored at the foot of their clay water jars, which was believed to be the coolest place in the house. All the above contributed to an enabling environment for rural mothers to practice exclusive breastfeeding for up to six months.

Policy Issues

The success of the BFCI pilot project resulted in it being recommended for expansion nationally within the next five years (The Gambia Health Action Plan 1999–2003). The cost implications of the expansion are limited mostly to the training, retraining and evaluation of the village support groups. There are no external resources required for the dissemination of information by the support groups. They decide how and when to disseminate information. The cost to them is their time, which they are willing to give by accepting the nomination from their communities. A motivating factor, however, is the status attached to being pioneers of a community initiative, adapted from a global initiative.

MATERNITY PROTECTION

The Gambian example shows the importance of maternity protection measures for all working mothers whether in the formal or informal sector. These measures include adequate maternity leave, nursing breaks and crèches at workplaces. In some countries, paternity leave is an option for fathers, giving them the opportunity to provide support for the mother and her infant from the beginning.

The ILO's *Convention No. 3* from 1919, recommended at least 12 weeks maternity leave for women in commerce and industry. The updated version from 1952, *Convention No. 103*, was expanded to include coverage for non-industrial and agricultural workers, including women wage earners working at home.⁴ However, this did not really change anything, since Article 7 in the same Convention (103) gave countries the option not to include these categories of workers. Moreover, the Convention was ratified by only 33 countries.

⁴See *Women's Rights to Maternity Protection, Information for Action by The American Public Health Association (APHA), Clearinghouse on Infant Feeding and Maternal Nutrition; 1996*

The Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) from 1979 also called for maternity protection and was ratified by 146 countries as of October 1994. Yet, maternity protection is still an issue that needs to be addressed since in most countries it is either inadequate or women do not utilise it fully through lack of information. There are still some countries that do not satisfy even the minimum requirement of 12 weeks paid maternity leave. Other countries, e.g. Norway, far exceed this requirement, with up to 52 weeks maternity leave (80% benefits) which includes optional paternity leave (UNICEF, 1997b).

Therefore, the call for governments through the Innocenti Declaration (1990) to 'enact imaginative legislation, protecting the breastfeeding rights of working women and establish means of its enforcement', is still relevant to most governments. It is, however, encouraging to note that the ILO is now engaged in a global review of maternity leave and will hopefully do everything possible to encourage governments, including the private sector, to pay heed to the above call.

Most women around the world work outside of the home but not in the formal sector. Many of these women are engaged in farming activities. While maternity protection should encompass all women regardless of the type of work they are doing, in reality, these women are excluded. Yet they are advised to practice exclusive breastfeeding for 6 months! Local communities should be encouraged and assisted to find solutions that are compatible with their traditional beliefs and practices. These should be supported by national and local policies.

ADEQUATE AND APPROPRIATE INFORMATION AT ALL LEVELS; BREASTFEEDING IS THE BUSINESS OF EVERY INDIVIDUAL

If the universal practice of optimal breastfeeding is to be achieved, adequate and appropriate information must be given at all levels of a society. Information, however, is usually targeted only at mothers and community health workers. Each given situation must be assessed to identify the barriers to optimal breastfeeding and, in so doing, identify **who** needs **what** information and **why**.

It is important to include all levels of health workers as they can, in some cases, create the biggest hindrance to optimal breastfeeding due to conflicting information they give mothers. Men need to also learn about breastfeeding to enable them to provide the necessary support and encouragement for the mother and her infant.

Strategies to promote breastfeeding must not, however, be limited to only technical information. The self-perceptions and social relations of the target person to be influenced must be taken into consideration (Obermeyer and Castle, 1997).

CARE AND ADEQUATE NUTRITION DURING PREGNANCY AND LACTATION

Breastfeeding ensures adequate food and care for the infant. The mother also needs special care, and should be ensured the same. Care during pregnancy and lactation should include ensuring an adequate diet for the woman, reducing her workload, and counselling her on family planning options for adequate child spacing. This would not only enhance the mother's health but also her wellbeing. The mother needs to feel that she is as important as her infant!

GUIDELINES ON BREASTFEEDING AND HIV/AIDS–INFANT FEEDING OPTIONS FOR THE HIV POSITIVE MOTHER

Breastfeeding and breastmilk may seemingly be under threat at the moment, with estimations indicating a 14% additional risk of the HIV virus being transmitted to the infant through breastmilk (Dunn et al., 1992). This can be interpreted in two ways depending on who is doing the interpretation. Firstly, for advocates of breastfeeding the risk may seem small, and options to further minimise this risk may be sought. On the contrary, for those who would benefit from the decrease in breastfeeding, this risk could be exaggerated and instead used to justify why women should not breastfeed.

All HIV–infected mothers should have the chance to make an informed choice in the feeding of their infants. Therefore, infant feeding recommendations for HIV–infected mothers should consist of options. These must be clear, specific, and concise. Examples are: heat treatment of mother's expressed breastmilk, the traditional practice of wet nursing or expressed breastmilk from a wet nurse, with the option of feeding with artificial milk only where it is affordable and safe. However, more urgent efforts and resources need to be put into finding solutions, which would not jeopardise the breastfeeding of infants anywhere.

A Challenge to SCN Member Agencies

The rates of optimal breastfeeding from around the world imply that national governments, even though they make pledges and set targets in international gatherings, make no real commitment to breastfeeding in the form of practical national policies and programmes. The question therefore is: how can governments and local communities be stimulated to accept breastfeeding and breastmilk as being crucial for the infant, mother, household, community and nation?

Relatively simple and practical programmatic interventions at the international level are invariably reflected in national programmes. An example of this is the UNICEF/WHO globally–adopted Baby Friendly Hospital Initiative (UNICEF, 1997b). The challenge to SCN member agencies, therefore, is to be more aggressive through their specialised areas, to literally bring home the importance and benefits of breastfeeding to governments and their policy makers.

Some suggestions are:

COLOSTRUM ON THE IMMUNISATION SCHEDULE–EXPANDED PROGRAMME ON IMMUNIZATION (EPI)

Due to its immunological properties, colostrum is often referred to as 'the first immunisation'. The Expanded Programme on Immunization therefore seems to be the obvious place to start. According to the universal immunisation schedule, BCG vaccine for the prevention of tuberculosis and polio should be given at birth. There is every reason for colostrum to be placed on the same schedule to be given to the infant immediately after delivery, and specifically, within the first hour of delivery.

High immunisation coverage rates are often a matter of pride for most governments in outlining their achievements in the health sector. The immunisation schedule is well known to health workers and parents for most parts of the world. In The Gambia for example, immunisation has been found to be a motivating factor for regular attendance at infant welfare and antenatal clinics.

This simple intervention would have a tremendous impact from the level of the policy maker to the level of the mother and father. Imagine a situation where health workers would no longer refer to colostrum loosely as the first immunisation, but would actually be able to show evidence of it on the schedule for the understanding of the common person. The inclusion of colostrum on the immunisation schedule would require very little resources. Training of health workers on the immunisation schedule should include a session on the

immunological and anti-infective properties of colostrum and the rationale for placing it in the schedule.

BREASTMILK ON THE ESSENTIAL DRUG LIST

Oral rehydration solution (ORS) is a simple solution that saves lives by preventing dehydration due to diarrhoea. ORS is therefore on the WHO list of essential drugs. Breastmilk is a more complex liquid than ORS containing nutrients as well as antibodies. Breastmilk saves millions of lives of infants and young children. Given the protective and life-saving properties of breast-milk, it becomes justifiable to include it on the essential drug list alongside ORS. This would serve to highlight and emphasise the status of breastmilk.

BREASTMILK ON GLOBAL AND NATIONAL FOOD BALANCE SHEETS

Breastmilk is a major source of food for nearly 3% of the world's population i.e., over 140 million infants born each year (Wellstart International, 1992). Therefore, breastmilk makes a substantial contribution to global and national food security. Yet despite attempts from as far back as the 1970s, there still seems to be a reluctance to include breastmilk on global and national food balance sheets!

Human milk production in Sub-Saharan Africa has been estimated to equal 50% of the total cow's milk produced in the region between 1991-1994 (Hatloy and Oshaug, 1997). What more information or research findings are needed to reconfirm breastmilk's importance to food security?

If breastmilk's contribution to global food security were to be boldly acknowledged by the responsible international agencies, then governments could be requested and motivated to do the same at the national level. Huge investments are made by governments to increase and improve food production as an answer to food insecurity. What is the investment in breastmilk, perhaps the world's most basic and important food?

BREASTMILK ON THE GROSS NATIONAL PRODUCT (GNP) – GROSS DOMESTIC PRODUCT (GDP) ESTIMATES

Breastmilk is a natural resource which, unlike most other resources, is in global abundance regardless of geographical location. But just like most natural resources, governments have to invest for their countries to benefit fully from it. However, breastmilk is a marginalised resource and is not explicitly ever considered by governments as contributing to the national economy.

What is the economic value of breastmilk and how can one put a value on a combination of nutrition, care, protection, and life-saving qualities? Any economic value of breastmilk can only be an underestimation. However, attempts made to estimate the economical value (Levine and Huffman, 1990) indicate substantial national savings with breastfeeding. One study even shows that this may increase a country's GNP by more than 5% (as estimated for Mali: Hatloy and Oshaug, 1997).

Healthier and happier mothers and infants represent less private and public expenditure on health care. Since most countries do not manufacture infant formula but have to import it, governments save foreign exchange by encouraging the use of a natural resource, which is also far superior to artificial milk.

It is time for international agencies supporting economic-based interventions to include the protection, promotion, and support of breastfeeding. They should not only request but also assist countries to establish the impact of breastfeeding on national economies.

BREASTFEEDING AS FOUNDATION OF SUSTAINABLE HUMAN DEVELOPMENT

In a time of dwindling resources, it makes perfect sense for the world to make the optimal use of one of its most sustainable natural resources – breastmilk. Breastfeeding is the strongest possible foundation for nutrition and care (Armstrong, 1995). Breastfeeding is sustainable, because breastmilk is naturally renewable as well as vital to human development. Therefore, plans of action for sustainable human development should incorporate breastfeeding.

BREASTMILK – AN ENVIRONMENT FRIENDLY PRODUCT

Tin plate, plastic, paper, glass, rubber, and silicon are needed for the packaging of infant milk formulae and the production of bottles and teats. This requires resources, it also poses the problem of waste disposal for some of these items. It is estimated that if every baby in the USA were bottle-fed, this would require 86,000 tons of tin plate to be used for manufacturing the required 550 million baby milk tins (Radford, 1991).

Breastfeeding is environment friendly; yet how many national environmental programmes have included the promotion of breastfeeding in their plan of action? If the global plan of action for the preservation of the environment were to incorporate breastfeeding promotion as one of its strategies, this could be reflected in national environmental action plans.

BREASTFEEDING – A FAMILY PLANNING OPTION

There is no dispute on the contribution of breastfeeding to child spacing, which has been known to mothers long before being confirmed through scientific research (Short, 1992). Yet the lactational amenorrhoea method (LAM) as an early form of family planning is not an option in national family planning programmes except for a committed few.

Who benefits, though, from breastfeeding being downplayed as a family planning option? Definitely, not the mother or her infant and, to take it even further, not the nation – especially one with limited resources, high fertility and low literacy rates.

It is now long overdue for international agencies concerned with population growth not only to make a firm commitment in recognising breastfeeding's contribution to global population growth but to include breastfeeding as a family planning option in their programmes. This commitment could trickle down to national population and family planning programmes.

COORDINATION

Breastfeeding and breastmilk cut across all boundaries. Regardless of race, colour, socio-economic background, shape or size, the process is the same and the product is basically the same. Virtually all the major religions of the world support and encourage breastfeeding (UNICEF, 1994). Breastfeeding benefits the mother and her infant in both industrialised and non-industrialised countries.

In a recent editorial in the *Lancet*, it is rightly stated that: 'Policy makers need to understand that provision of a warm chain for breastfeeding is as valuable as provision of a cold chain for vaccines and likewise requires adequate resources. Governments and funding agencies need to be convinced that the investment is worthwhile' (Editorial, 1994).

While individual UN agencies have been successful in focusing global attention on the protection, promotion, and support of breastfeeding, a central coordinating mechanism within the UN system seems to be missing. Such a mechanism, if put in place and given the mandate, would no doubt maintain breastfeeding high on the global and national agenda. Most importantly, a central coordinating mechanism would link breastfeeding with the relevant programmes within the UN system.

Is there a role for the SCN in this?

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Closing Comments

Richard Jolly: Thank you for that wonderful demonstration and that wonderful example with the pictures of your community leadership and creativity. Thank you for so many good ideas that I hope the SCN, as well as the individual agencies, will find to act on. It was a wonderful lecture and I thank you for it. I would like to give the final word to George Beaton to remind us about Abraham Horwitz.

George Beaton: Thank you Mr Chairman. I want to take this opportunity to say two things. One is to again thank our speaker. When you started speaking you said that you had received a fax inviting you to speak and you were surprised, then you were proud, then you began to wonder why. Today you presented a lecture that said that you should never have been surprised, you should be proud, yes, but you should never ask why. What you have done today, besides the content – which was beautiful – is remind us why we are in this room.

It is to help people like you on the front line – people who are really doing things – that is why we exist. And I thank you very much for your lecture and for reminding us.

Richard, I will now, if I may, turn to the lecture itself and what it commemorates. I have had the pleasure of knowing Dr Horwitz for quite a while. What we must recognise is that what we collectively know of him is his third career. He really built his acclaim in Chile. He was a fundamental builder of the health system in Chile, which stood up very well. Through all that happened in Chile, it survived. He was then very important in building PAHO. He shaped the structure and made it a force for the betterment of health in Latin America. And that was his second career. I recall when he left the paid staff of PAHO, he was then looking for a third career. In PAHO, he had become very interested in nutrition. At one time, he even tried to recruit me into the nutrition section. I didn't accept, but he did have a role in my life, because it was Dr Horwitz who sent me on a short leave to Guatemala, which got me interested in international nutrition.

We must recognise the contribution that he made to all of us collectively. Dr Horwitz served for 11 consecutive years and sessions as chairman of the SCN, but he also served for four years before that as chairman of the AGN. So we're talking about a 15-year span when Dr Horwitz was very influential in this organisation. When I was writing the SCN history, I contacted a number of you for your recollections – favourable or unfavourable – of the SCN, and what it was. I was amazed at the number of comments I got back about Dr Horwitz, all favourable. I will read you only two of them because I think they are very germane.

The first comment came from John Evans, who was chairman of the SCN when Dr Horwitz was Chairman of the AGN. John drew attention to Dr Horwitz as a man, noting the 'incredible example of the intellect, integrity, diplomacy, and charm, represented by the ageless Dr Horwitz'. And that was the theme of many remarks.

I think of another thing that characterises his role in the SCN. I think it was Leslie Burgess who remarked that with the incoming of Dr Horwitz, the SCN had a chairman who had the time and the interest to really put into practice what the SCN had said it wanted.

I think that Dr Horwitz as an individual, Dr Horwitz as a leader in nutrition and Dr Horwitz as a believer in the SCN are all commemorated in this lecture and I hope you will join me in celebrating Dr Horwitz and his life in nutrition.

Comment from the Reviewer

Coming from someone who says she is not an expert, Isatou Jallow Semega–Janneh's article has an unusually clear vision, unusually innovative contributions to make, and is a welcome addition to the breastfeeding literature. She rightly emphasises the fact that exclusive breastfeeding without even additional water is necessary if the benefits of breastfeeding are to be fully realised. As the ACC/SCN has earlier emphasised – it is not being stunted but the act of becoming stunted that is harmful, and yet it starts throughout the developing world almost from birth. Little relevant research has been done yet, but one could hypothesise that if too much water and other fluids are given, breast milk will be displaced to the point where protein and/or mineral levels in the infant diet will be inadequate to achieve ideal increases in stature, even in the absence of frank illness and malnutrition.

She is equally correct to point out that exclusive breastfeeding for about six months cannot be achieved unless the newborn baby and mother receive more support than we have recognised in the past was necessary and important. She mentions economic arguments for longer maternity leave but one could also view it from a human rights perspective. If we now agree that the life of school-age children should be protected from harm done by child labour, is it any more acceptable for a baby's life to be harmed through unreasonable work demands placed on the mother in the early months of life? We have an historic opportunity now to rethink this issue, as the ILO will reconsider Convention 103 on Maternity Protection at its next annual meeting in June, 1999.

Given how rare it is that one comes across really new and creative ways of approaching breastfeeding promotion, it was a pleasure to read the amazing number of fresh ideas Isatou Jallow Semega–Janneh proposed for both international and national levels.

Even more refreshing was how The Gambian Baby Friendly Community Initiative ignored all the usual limitations that keep breastfeeding promotion limited to the health care system, and moved out to the villages. The inclusion of men in the village groups was also a crucial innovation. Only if everyone realises the

importance of maternal–infant proximity will it be possible to mobilise the necessary support. The idea of setting up baby–friendly rest houses in the fields where the mothers worked was also truly ingenious. Though less widely adopted in the trial, the “community maternity leave” concept sounds like the kind of long–term solution we would already have everywhere in the world if we had built up social systems that had taken into account the importance of exclusive breastfeeding.

It was also a pleasure to see that some kind of evaluation research was linked to the initiative from the beginning. The results, as the author herself says, were of an unexpected magnitude. While there was no control group, one can be fairly certain that such a large secular change in breastfeeding practices do not occur.

Is this approach reproducible elsewhere? Like all innovative projects, there is a risk that a dynamic person or small group was responsible for much of the impact. But one hopes that The Gambia will move ahead with its plans for national implementation and lead the way for the rest of the world!

One wonders what kinds of innovative efforts would be tried now if [the author] had been running a global effort to cope with the problem of HIV transmission through breast milk. Presumably she would soon have determined how and where heatment of expressed milk, use of wet nurses, and milk banking might be used as first priority approaches for reducing the risk of mother–to–child transmission of HIV without risking so many infant lives and damaging public confidence in this most irreplaceable of human functions.

Chapter 10: General Discussion

Fernando Antezana (WHO): The history of humankind provides powerful messages for us about the central importance of food in sufficient quality and quantity for the development of civilisation. Since populations began aggregating in towns and cities, their livelihood has depended directly upon access to a safe and adequate supply of food. When supplies have been restricted due to climatic factors, war, or civil unrest, the overall quality of life and sense of collective security have diminished. Now, at the dawn of the new millennium, we face the real opportunity of ending malnutrition within the relatively short period of two decades. This would ensure that the world’s most vulnerable populations are not deprived of one of the most fundamental rights of human beings, namely the right to adequate nutrition.

We are pleased with the draft report of the Commission and, in particular, commend the authors for embedding in their report many of the core components of WHO’S new global health policy ‘Health–for–All in the 21st Century’. Through the global consultative process, based strongly on the views of Member States, NGOs, and a wide range of other national and international bodies, it is not surprising that of the ten global targets defined in the new policy, the first target emphasises both equity and nutrition.

The Commission report gives emphasis to equity and to the close links between many recent international instruments dealing with human rights. It also implicitly recognises that there is an ethical imperative to provide food for all. While not explicitly mentioned, the report also implies the need for a gender perspective in dealing with many aspects of food policy. WHO urges that a more explicit gender approach be incorporated into the development of food and nutrition policy.

The Commission report gives particular emphasis to integrating and amplifying the United Nations’ efforts in respect of nutrition policy. It highlights the need for intersectoral action in order to achieve food security. Similarly, the new global health policy calls for health to be placed at the centre of concerns for sustainable human development. From a nutritional point of view, this implies looking for particular synergies in the goals and actions of the agricultural, energy, transport, educational, and health sectors. The emphasis on agriculture is appropriate. In addition, we would recommend that the Commission consider closer interaction between energy use and production, bio–diversity loss, and production of food. At a household level, many countries still use biomass as their major fuel for cooking. This is associated with increased risks of acute respiratory infections, burns, and poisoning. Safer means of energy use and indeed, safer kitchens, should also be a component of improving food security.

WHO supports the strategies recommended for enlarging the crop mix in food systems. WHO also supports potential gains for health through the use of new biotechnologies. Clearly, a careful evaluation of their long–term health impact will be required. As with all forms of new technologies, a major challenge will be to ensure that the benefits are made rapidly available to the poorest sectors of society and to the poorest countries. Already the agricultural sector has played a vital role in improving the productivity and quality of

food worldwide.

Data are emerging from several developing countries to indicate that the rate of nutritional transition is occurring rapidly. This implies that children who are malnourished will, in their forties and fifties, suffer from obesity, diabetes, and a range of cardiovascular diseases and cancers.

Our collective response needs to ensure that the ischaemic heart disease epidemics of the developed world are not repeated throughout the developing world. Rather, greater emphasis needs to be given to preventative and promotive measures that include appropriate regulatory and fiscal strategies aimed at promoting healthy diets. The goal should be to introduce those policies that make healthy eating an easy choice.

This includes for example, using the successes of Finland and Norway in developing a combination of pricing and regulatory policies that favour fruit and vegetables over meat and dairy products. The experience of Poland is also important in this respect. By the latter part of the 1980s, the rate of ischaemic heart disease continued to rise significantly. Subsidies on meat and dairy products were dramatically reduced to increase government revenue. The result has been that fruit, vegetables, and fish products have become relatively more affordable with a concomitant rapid and sustained decline in ischaemic heart disease death rates. In contrast, many countries continue to subsidise high fat products and fail to support marketing approaches that would make a wider range of healthier foods available to the poorest sectors of the community.

In addition to nutrition policy, the control of non-communicable diseases will require stronger linkages between those involved in tobacco control and nutrition. Tobacco use, a high-fat diet, stress, physical inactivity, and hypertension work together to increase the risks of ischaemic heart disease. Tackling one factor in isolation may not reduce the overall impact of these conditions.

With respect to food safety, the Commission report briefly indicates how we face a range of new threats and problems. Never before has so much food been produced so far from the place where it is consumed. The globalisation of the food trade has profound implications for how we ensure food safety and security across borders. At the global level, the *Codex Alimentarius* provides an outstanding example of international cooperation between FAO and WHO in developing and ensuring food standards for the protection of all. Moreover, the provisions in the Agreement on the Application of Sanitary and Phytosanitary Measures, which entered into force with the establishment of the World Trade Organization on 1 January 1995, acknowledge the work of the *Codex Alimentarius* Commission as the reference for national food safety requirements. Countries that are members of the World Trade Organization may no longer reject foods that meet *Codex* standards, guidelines, and recommendations without providing justification. Despite this, it is likely that food safety issues will become even more important in trade disputes over the next few years as the pace and volume of food trade increase.

Issues of food safety have already emerged as being of the highest political concerns across a wide range of countries. Within Europe, I do not need to emphasise this further than mentioning BSE. In the Americas, contaminated raspberries and strawberries have resulted in important trade disputes between the USA and countries of Latin America. In Japan, concerns about food safety have similarly resulted in major efforts to strengthen the national capability. African countries have experienced the negative effect of how food safety standards can be abused. While several European Union countries initially rejected fish from cholera infected countries in Africa, the public health basis for this did not exist and the *Codex Alimentarius* was able to provide a balanced view of the true nature of the threat. Also, measures exceeding those outlined in the International Health Regulations resulted in the loss of approximately US\$ 770 million for Peru when its trading partners boycotted its products during the 1991 South American cholera epidemic, which began in Peru.

WHO and a range of other agencies are working to strengthen food safety in an exciting project entitled 'healthy markets'. The intent is to bring together our knowledge and skills about improving basic hygiene and work with those in the market places of all countries, starting in the developing countries, to show that simple cost-effective measures can be taken to improve the quality of food consumed.

Within health systems, nutrition is highlighted as a priority for action. The focus on life span approaches to health is echoed in the Commission report and strongly emphasised in the new global health policy. The lifespan approach to health starts from conception of a child *in utero*. Increasing evidence suggests that the quality and quantity of food provided from birth and, in fact, the mother's level of nutrition during pregnancy, have a profound impact on a child's subsequent health. Getting the balance right in the first few years of life will be a major challenge. Furthermore, with the realisation that breastmilk may transmit HIV from mother to child, WHO is examining the scientific evidence to ensure that it provides the most appropriate and the safest

policy recommendations to countries.

It is not only the quality and quantity of food that are important. The social context and quality of caring that occurs in the family also has implications for subsequent health and development of children, young adults, and adults. Thus, we urge that the important interaction between social determinants and adequate nutrition be given closer attention in future research and policies. The overall quality of caring that occurs in the household influences the intellectual, physical, and emotional development of children.

In addition to care, WHO'S new global health policy calls for a stronger commitment to essential public health functions. These are as essential for nutrition services as they are for all other aspects of care. To highlight only two public functions here: information systems and human resources. Health information and surveillance systems provide the means of alerting countries to impending crises and evaluating the success of interventions. The sensitivity of nutritional indicators to macroeconomic climatic factors and diseases demands that they be at the core of surveillance systems and be based upon globally-derived and scientifically-based standards. In this context, the new WHO growth references will, for the first time, be based on data collected from a cohort of children who were breastfed and born to nonsmoking mothers.

Services are built with competent people in strong institutions. The policy highlights the need for a stronger, reinvigorated approach to human and institutional capacity for health. Improved morale, better training, and continuing education apply to all those involved in nutrition services. Importantly, the policy emphasises that basic skills in key public health disciplines such as epidemiology, health economics, and public health law will benefit all content areas, including nutrition.

In conclusion, I would like to commend the Commission on its draft report, and particularly the emerging issues and concepts it highlights. I would like to end by reiterating the importance of issues such as food security at household level, food safety, the *Codex Alimentarius*, the globalisation of food trade and the WTO, and essential public health functions.

Ernest Loevinsohn (CIDA): Being reminded of the nutrition goals for the years 2010, 2015, and 2020 made me consider the chain of broken promises that have already been made to the hungry children and malnourished mothers of the world. This is an unhappy tradition that goes back at least to the early 1970s with the World Food Conference and perhaps even earlier. At the World Food Conference they said that "today we proclaim a bold objective, that within a decade no child will go to bed hungry."

I think we want to do more than proclaim bold objectives; we want to perform bold actions. Certainly the malnourished people whom we are trying to serve would prefer that. One of the most important areas for bold action is in advocacy with decision-makers.

There are two stages in advocacy: the first is clarifying what we want to advocate for, and the second is the actual persuasion. In terms of the first stage, we need to determine what our priority messages are. How do we prioritise? I would suggest that we focus on the empirical evidence of which nutrition interventions are first, efficacious, second, cost-effective, and third, doable.

In terms of the persuasion stage: the regional meetings that the Commission report proposes will have an important role, but to be effective persuaders, we have to think in terms of each decision-maker. Whom do they have to listen to, and whom do they want to listen to? In short, how can we reach them? We need from the Commission a concrete programme for lobbying, that is realistic in terms of available resources.

There is one particular area that I would like to highlight where we might get some early successes from lobbying. That is the food aid business. This includes donors shipping food from their countries to developing countries, donors who spend money to buy food in developing countries, and most importantly those countries who have food distribution or subsidy programmes for their own populations.

You can spend a long time with people in the food aid field without hearing much about nutrition. This is a little odd, since this multi-billion dollar effort is being paid for by taxpayers under the heading of doing something about hunger. There is a lot of potential to get "more gain for the grain" from food aid. In the UN system we could start with the World Food Program. There are some very encouraging signs, as the Executive Director of WFP has said that she wants a focus on malnutrition with a view to "ending the inheritance of hunger". She wants to concentrate on women first. But there is still some way to go in terms of implementing her vision on the ground, and some lobbying there might be a good way to proceed. For our part in Canada, we are trying to stay true to our pledge to make nutrition central to what we do in food aid, and to measure results using nutritional indicators – anthropometric and other.

Of course food aid is just one example of the opportunity for nutrition lobbying. To summarise, if we are going to have an effective programme of advocacy on nutrition, firstly, we have to prioritise our messages based on the empirical evidence. Secondly, we need a practical advocacy plan from the Commission,

Some of you may be familiar with Benjamin's Law: When all is said and done, a lot more is said than done. What I would like from the Commission is a focus on action – on specific effective action – so that when their work is done, we can say that this was a shining exception to Benjamin's Law.

Bill Clay (FAO): FAO endorses the concept of a gender perspective. A gender perspective in nutrition is needed. The theme of the World Food Day in 1998 was 'women feed the world'. We strongly emphasise the need to recognise that nutrition wellbeing is important – not only in its own right, but also in making a contribution to the future generation and to society at large. All too often, women have been seen simply as vehicles for producing, caring for, and feeding children. Without sufficient attention given to the other human development considerations, there is a clear need to recognise the context and causes of childhood malnutrition. How these can best be addressed starts with the recognition of the importance of women in nutrition. It is only through good nutrition and health of women during pregnancy and of children during early childhood that the next generation will achieve its fullest physical and mental potential.

It is not acceptable that hundreds of millions of children are already condemned at the moment of birth to physical handicaps, higher propensity to disease and to impaired intellectual abilities. Low birth weight begins the cycle of hunger. This cycle must be broken. Reducing malnutrition is of major economic significance and better nutrition is a fundamental investment for economic development.

FAO considers that a gender perspective on nutrition must recognise the crucial role that women play in securing, preparing, and serving food for themselves and others. The International Conference on Nutrition Plan of Action stated that 'women need to constantly balance the reproductive, nurturing, educational, and economic roles, which are so important to the health and nutritional wellbeing of the household and of the entire community'. Women are the main providers of meals, care, and nutrition information in the household, and they have a fundamental role in ensuring improved nutritional status for all. The importance that gender has on individual, family, and community nutrition and wellbeing was further emphasised during the World Food Summit (WFS). A specific objective of Commitment One of the WFS Plan of Action is 'to ensure gender equality and empowerment of women'. This has been instituted as a guiding principal underlying FAO's programmes. It has also strengthened the overall FAO efforts to promote community-based household food security and nutrition programmes.

Women need to be able to participate fully in the decisions that affect their nutritional wellbeing and welfare. This begins by ensuring that girls receive a fair share of their parent's time, attention, affection and resources, including food and nurturing. Girls must not be denied access to quality education, health care, and social opportunities as they mature and become productive members of society. Their contribution to family and community must be valued appropriately. FAO fully endorses these propositions and commits itself to working with its member countries and other development partners to promote the nutritional wellbeing of women and to strengthen their capacity to promote the nutrition and welfare of the next generation.

We appreciate the emphasis that the Commission places on poverty and social discrimination as being at the core of the most serious nutrition problems throughout the world. We also recognise that we cannot wait for poverty and food insecurity to be eliminated before taking action to improve nutrition. We endorse the need to provide specific actions to meet the nutritional needs of special groups. Even so, this does not diminish the importance of agriculture and economic development in eliminating hunger and malnutrition. Nor does it minimise the fundamental importance of addressing food and income issues. The major resources available in many poor countries are their agricultural potential and their human population. Investment in both is necessarily mutually reinforcing.

Expanding agricultural development, including fisheries, forestry, and livestock leads to increased community and national wealth as well as improved individual incomes. It is this wealth creation that can improve the conditions for more sustainable access to food and to support the schools, the clinics, the social services and the physical infrastructure necessary to sustain lasting improvements in nutrition. Without such development, the poor and undernourished will simply be consigned to receiving handouts. Dignity, hope, and self-reliance will be lost.

It is important to recognise the extensive problems of iron deficiency anaemia and other micronutrient deficiencies. Small-scale farming systems are important to income generation. Regarding the concept of dietary diversity, we should not be overly focused on crop diversification and minor crops at the homestead or

local level. While home gardening can be an important aspect of diet diversity, a balance needs to be maintained in advocating other agricultural systems that generate income, and with well-functioning and efficient markets to enable consumers to diversify their diets through trade at the local level. These aspects become even more important in urban and peri-urban areas and among the landless rural dwellers. Dietary diversity can be achieved through additional purchases as needed. In brief, consuming a diversified diet is not dependent on each household producing a diverse bundle of commodities.

The issue of global trade liberalisation, especially in agricultural commodities, is also a very important and complex issue. For example, higher world market prices for food imports, which may result in a reduction in production subsidies in developed countries, should benefit developing country food producers, but may not necessarily have immediate benefits for consumers in those countries. FAO is working in this area with regard to the Uruguay Round follow-up. This includes providing technical assistance to developing countries to enable them to be equal and well-informed partners in the process.

Rolf Aspestrand (UNDP): Poverty reduction is the highest priority of the United Nations Development Programme (UNDP), and, as has been stated several times here, nutrition has an important role in the process of poverty alleviation. This also links to UNDP's work on building national capacity in the area of nutrition at country level. UNDP has governance programmes, where the links with the national governments can be strengthened, and we have to work on that. In the area of good governance, the UNDP has recently published a policy document '*Human rights: integrating human rights with sustainable human development*'. This new document looks at the links between human rights and development, and includes food security and nutrition.

It has been pointed out by Dr Brundtland, Professor James, and the Minister of Development in Norway, Dr Hilde Frafjord Johnson, that we need to coordinate our efforts and act together as one body. We should not have the situation where one country receives 3000 development projects and has to try to please 30 different agencies. That is not constructive. In this respect, UNDP is happy to support the coordination of agencies through the resident coordinators. UNDP also supports the country-level monitoring of human development progress. You may be familiar with the *Human Development Report* and its human development index.

I also would like to mention the follow-up to the 2020 Conference that was held in Oslo in 1995. The 2020 concept was introduced in the *Human Development Report* in 1995 and is something that the Norwegian government strongly supports. The first follow-up conference was in Hanoi, Viet Nam, in October 1998. The concept – trying to set aside 20% of the national budgets for basic social services, and having the donor agencies allocate 20% of their budgets on basic social services, is also something that UNDP supports.

Barbara Underwood (IUNS): The IUNS is taking a 21st century look at its function and trying to define ways in which the nutritional science community might enter more actively into these processes of carrying out an agenda appropriate to the global concerns in nutrition in the next millennium. Philip James, Julia Tagwireyi, and Ricardo Uauy are all on this IUNS Council, and Ruth Oniango is a member of a special committee considering how IUNS can be repositioned to more effectively meet the challenges of the next century. I simply want to say that the nutritional science community, through the IUNS – which represents some 69 different countries – stands ready to assist in carrying out what I think is a visionary agenda for the 21st century.

Nevin Scrimshaw (UNU): There have been many UN and SCN documents on the world food and nutrition problem over the years – some of them have been very useful – others have been so loaded down with caveats and details that they are of little value. I think it is clear that we do now need a balanced, updated, contemporary, constructive statement for planning of nutrition activities into the next century. The UNU feels that the Commission has produced this kind of a document in draft. If the report became loaded down with the details that every agency wanted, we would have an 'over-decorated Christmas tree'. It would then lose its value.

Inge Nordang (Norway): In light of the interesting speech made by the Norwegian Minister, Dr Hilde Frafjord Johnson, there is really not much more to add. One of the most outstanding issues in this symposium is the poverty issue. This has been an underlying problem in the agendas of all the major UN conferences and summits through the 1990s. It is necessary to go into the poverty processes and look at what is behind the poverty mechanisms. We should not always try to attack the symptoms only. I find it interesting to look at marginalisation as a major poverty mechanism at different levels. When trying to find remedies, the key word is 'empowerment'. This has been very elegantly shown in several of the presentations. We have seen what is happening in Africa as a result of social marginalisation leading into poverty.

There is also the issue of women, which is at the centre of this Symposium. In most societies, women are marginalised. We have also been discussing geographical marginalisation, for example, Per Pinstrup–Andersen pointed to the importance of geographical marginalisation. If you want to do something about poverty, then you have to attack that.

Richard Osborn (UNFPA): The United Nations Population Fund is a small operation, which focuses largely on supporting reproductive health services for women. As a fund, we respond to what national governments bring to us by way of requests for programmes. In my capacity as the senior technical officer at UNFPA, I don't recall a single programme coming to us with a component on nutrition as having an impact on maternal health. So when we look at our programming, which begins with adolescence, carries on through the reproductive years and the major period of child bearing, we find no evidence of concern for nutrition being brought to us. We are simply not presented with demands for inclusion of these variables within our programme.

Why has this occurred? On what basis would we advocate to governments that they should be concerned about nutrition? What data are available? Before coming to this meeting, I looked at the Cochrane database that is now available on disk from the *WHO reproductive health library*. In one review of the impact of social support, the conclusion is that pregnant women should be informed that programmes offering additional support during pregnancy are unlikely to prevent the pregnancy from resulting in low birth weight or pre-term infants, and are unlikely to improve other important outcomes. In a review of protein energy supplementation and pregnancy, the conclusion is that balanced energy protein supplementation modestly improves foetal growth, but is unlikely to be of long-term benefit to pregnant women or to their infants. There seems to be a stronger base when we look at some of the areas such as iodine supplementation where there has been a positive impact. But in short, looking at the available scientific database, I do not have information on which I can advocate to governments. I cannot rely on observational data alone. There is clearly a need for appropriate scale, well-defined clinical trials to provide the evidence on which we can base policy and programmes. I cannot advocate without an appropriate database of clinical trials.

Within my own organisation, although we talk a great deal about gender, we are still really referring to women's programmes, i.e., it is not role-related specific behaviours that are being programmed. We should not merely focus on the early stages of the life, but we should also consider that the elderly are an increasingly important group.

In closing, I would like to remind you that 1999 is the fifth anniversary of the Cairo Population Meeting. One question that I would like to ask to you, is when I am putting together the agenda and laying out the outline for what will be the Secretary–General's report to the special session of the General Assembly, should there be mention of nutrition in the area of population – in particular, in reproductive health? If the answer is yes, then I really need better information and a better set of arguments than I can find available in my current literature.

Richard Jolly (SCN Chairman): I think you have issued us with many challenges and your very first reference to there not being a single project asking for support for maternal nutrition is a very thought-provoking comment.

Roger Shrimpton (UNICEF): I would like to give some reflections on the Symposium. UNICEF, as a humanitarian and developmental agency, is guided by the Convention on the Rights of the Child, and I would like to talk about rights-based approaches to programming as an overall theme and give some examples of how programmes can be implemented from a practical perspective in the field. There are five issues that I would like to talk about: breastfeeding, local government implementation of nutrition goals, governments and rights, prioritisation, and follow-up.

The eloquent presentation by Isatou Jallow Semega–Janneh was a wonderful reminder for all of us of how important breastfeeding is. We should all remember, of course, that breastfeeding is a right for all children as stated in the Convention of the Rights of the Child, which has been signed by all governments. It is an important obligation of all governments to protect, promote, and secure breastfeeding.

I wanted to talk also about local government as a way of achieving goals. The presentation by Suttalak Smitasiri described the ways by which nutrition goals were achieved in Thailand. The 'what' needs to be achieved and decided at the national level, but 'how' that is achieved was worked out at the local level. Suttalak described the importance of looking for the 'windows of cultural opportunity' that are there, but these differ according to the setting. So 'how' you achieve goals is something that needs working out at the local level. Often intersectoral responses are needed not just health sector responses. Recently I read in an editorial of the British Medical Journal, that the British government is taking a new approach to health. It

recognises that achieving health goals cannot be done only through the health sector, and that the basic causes must be addressed. The British policy proposes something very similar to the approach used in Thailand, which is that at the local government level, local government, health care providers, and civil society should work out the process indicators. So there are commonalities across various societies about how you can achieve these goals – that are not just sectoral goals but that are society-based.

Thirdly, I would like to talk about governments and human rights. I would like to explain how a rights-based approach was developed in Indonesia for achieving maternal mortality reduction. By getting the Indonesian government to agree on the implementation of the Convention on the Rights of the Child, and the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), as a priority in its work with UNICEF, we developed a two-pronged strategy. One arm of this was a mother-friendly hospital movement, and the other was a mother-friendly sub-district movement. This reminded me very much of the breastfeeding community initiative presented by Isatou. Now, throughout Indonesia, there are movements at the district and sub-district level. By putting CEDAW into that sort of context and by getting local governments to understand what CEDAW is and to appreciate their obligations to achieve what is in CEDAW, are ways of addressing the gender perspective through the life cycle. As organisations, if we can increasingly refer to the conventions on human rights and especially the Convention on the Rights of the Child, and the Convention on the Elimination of all Forms of Discrimination Against Women, and perhaps less to our global seminars and our global goals, which are important sectorally, this will help us come together also at the country level. UNICEF strongly supports efforts to increase coordination of agencies at the country level through UNDAF (United Nations Development Assistance Framework) process. We believe that the combination of a rights-based approach and the UNDAF process will help agencies work together better in the pursuit of common nutrition goals.

I also wanted to say something about prioritisation. I have worked as a nutritionist in the field for 25 years. I continually hear the reference by some people to bullet approaches as being not sustainable, and to food-based approaches, as if these were things were an either/or. This is not helpful if you work in programmes. If one takes a rights-based approach to nutrition and there is an immediate need, then there is a need to go in with an immediate response, which would be appropriately a supplement. A rights-based approach would endorse that. Food is also part of a rights-based approach, but those responses perhaps take longer. So recognising immediate, underlying and basic causes, and the need to have all of those responses ready, is important. It should not be an either/or in relation to supplements, food fortification, or food-based approaches.

Finally, UNICEF is considering developing approaches to reduce low birth weight. We have begun some discussions with the World Food Programme to see how we might work together on that. This is an important area and we are prepared to begin developing programmes in Southern Asia, especially in Bangladesh. The UNICEF country programme in Bangladesh has low birth weight reduction as a priority because Bangladesh has 50% low birth weight, and as such, is the leading country for low birth weight in the world.

Tom Marchione (USAID): I am impressed by, and would recommend the work of Roger Shrimpton in community participation and involving the local community in nutrition programmes. After a decade or so of state disempowerment, especially in developing countries, it certainly is appropriate, as Per Pinstrup-Andersen said, that the State needs to be re-empowered to fulfil its functions and provide the infrastructure necessary to have a viable programming environment. On the other hand, let's not place too much emphasis on the Central State and not enough emphasis on the means of enabling and nurturing local programming, such as those we have heard about in Thailand and The Gambia, which are so impressive. The assumption that decision-makers are people at the heads of organisations seems to me to be myopic. It is important to get to decision-makers within communities, and we should think more in terms of a plan that enables this process. It might not have been so realistic to try to do this in 1955 or 1975, but I think that now, with the spread of democratisation and the freeing of civil society, we really have to think more in terms of how to facilitate and build on what is already happening.

George Kent (World Alliance for Nutrition and Human Rights): I appreciate very much UNICEF's strong orientation towards the rights-based approach and have a few comments about what Roger Shrimpton said. One of my first concerns is that Roger began with a rather unconditional statement about breastfeeding being a right for all children. Those of us working on the issue find that problematic because it conflicts with the right of the mother to choose. We are trying to work out some language to resolve that conflict. Second, I am slightly concerned about the notion of interpreting participation in terms of having goals set centrally and then implemented locally. I think it is important to insist on participation from the localities in the formulation of the goals as well.

In the formulation of rights, my position is that the human right to food and nutrition implies a particular entitlement to some kinds of goods or services. Accompanying that are legal remedies such that if one does not get what one is entitled to, then there will be some mechanism in place for correcting the situation. Without that I think we are not talking about human rights and I think that needs to be spelled out more clearly.

Philip James (Commission): A recurring theme is the centrality of the issue of human rights. We have already discussed the way by which we approach this – what we need to do is move into the practical dimension of what this actually means. We need to spin that into effective mechanisms whereby those rights are displayed and acted on. There are fundamental issues of human rights, but how do we put that into a coherent framework that has logic in terms of action?

I was fascinated by what UNFPA said regarding the lack of a scientific basis. I believe that the scientific analysis is incomplete as displayed by the Cochrane reviews. This brings up a fundamental question. If observational data are no longer the basis for action, then are we demanding double-blind placebo-controlled trials before we get action? What level of evidence do we need before we actually specify a particular route of action?

Concerning the poverty dimension, quite often progress had been made without economic transformation. If we just go down the poverty agenda, we would be missing a huge opportunity given the evidence that material progress can be made, for example, in childhood malnutrition, without having an enormous increase in GDP. Certainly the Asian experience suggests that there is not a powerful concordance between economic gain and nutritional improvements.

Julia Tagwireyi (Commission): I come from a programme planning perspective. In looking at what the 21st century holds, I have to personalise that experience. It is a challenge facing us at the country level. More of the same will not do because the context is changing so rapidly – especially in Sub-Saharan Africa. Those very communities that we have depended on for their activity and action at the community level – their coping strategies are diminishing so rapidly. The disease burden – particularly with AIDS – is going to affect all those things we are doing in the communities – it is in fact already doing so. It is reducing the little capacity we have in terms of technical people. That is a challenge for us in the 21st century because we are dealing with communities that are getting fragmented because of the heavy disease burden – in particular, AIDS. Communities in many instances in Sub-Saharan Africa, are no longer able to cope – their coping strategies are diminishing daily. Governments and other stakeholders in countries may need to wake up to see how they can help their communities bolster their coping strategies so that they can continue to help themselves. I don't think I am exaggerating – this is the reality that we are living with. We have to challenge ourselves and ask how we cope with this. We want improvement – we are all frustrated by the decline or stagnation in nutrition improvement. At the same time the situation has changed and the context is more difficult in terms of operating. Are we up to that challenge?

George Kent (WANHR): There seems to be a common sense of fragmentation to this effort. If we think about it in terms of a rights approach that implies a goals approach, and the goal is to end malnutrition, then the task is to have a strategic plan with an acknowledgement of the kinds of resources we have available. The problem with the resources that we have available is that they tend to go in different directions. There is not a single strategic plan. Imagine for a moment if we were to contract out this task – ending global malnutrition. Imagine what we might get if we put out a request for proposals for how to end global malnutrition. Imagine also that we would pay the contractor on a contingency basis. We will check on the contractor's performance every three years and give an incremental payment as the work moves ahead. And there will be sub-contractors. We have the sub-contractors represented here, but there isn't a master contract. Perhaps if we could think of the task as preparing the master contract. We don't need the technical details of how the cement pourer has to formulate his/her cement – the cement pourer has that expertise and we can leave that to him/her. What we are talking about is performance contracting – you deliver a certain performance and we will hire you. I think we should hire bridge builders to figure out how to shape the task with the intermediate steps, with the sub-contracting and so on.

Richard Jolly (SCN Chairman): I'm not quite sure where governments and the community come into the analogy of the sub-contractors. I can see how the UN agencies are there, but there are a lot of gaps between the UN agencies, the countries, the people.

Urban Jonsson (UNICEF): There is something incredibly important that has happened over the last 12 months, and that is the UN reform. The need to work together and harmonise policies and strategies is the biggest challenge for the UN just now. And we have the mechanism to do this.

For years in the SCN Working Group on Nutrition, Ethics and Human Rights, we allowed ourselves to ask ‘do we really accept a human rights approach?’ Forget about the discussion—it’s over. It is not optional any more. It is very clear from the Secretary–General in the reform process, that the UN is an organisation based on human rights. There is no option any more. It is up to us to interpret that and operationalise it within the framework of the United Nations Development Assistance Framework. So in that sense, I think we really have an opportunity to do something extremely important within the UN. If we do it well, not only will we show the way for others, but it will bring nutrition higher on the UN agenda. We have somehow been training for this for the last 20 years, so we ought to be able to do our homework well.

There is an enormous amount of material on the care initiative. We have discussed poverty and nutrition. Let us not reinvent the wheel every time – sometimes we should do it, but not every time. There is a wealth of material and agreement on what the relationship is. Finally, I am very sad when I hear people saying that nothing happens and that there is no success. I think many of us would disagree with that. So many good things have happened, with so many interesting successes around the world. The SCN has been at the forefront in the nutrition world to document it over the last 12 years. Community–based programmes, country–level programmes – it’s a wealth of information, that almost makes us say ‘let’s declare victory’. We start to know what works. But then Julia says “more of the same is not enough”. What is “more of the same”? The same is not what we have identified in SCN as success because most governments do not adopt the right strategies. Let us not develop new strategies, but let us make governments adopt the right strategies. I don’t think we need much more time to think about what is right and what is wrong. We have done this over the last 10 years and we have a certain consensus. The problem is that the governments do not accept it. So there is another level in getting these strategies accepted.

Judy McGuire (World Bank): We have one example in the world of a very successful effort to get the UN agencies moving – that was the Rio conference, which was about the environment. The reason why they got action going had nothing to do with anything signed by UN organisations. It was because the NGO community got together and made a lot of fuss and put a lot of pressure on UN organisations, and made them accountable and made them do their jobs.

Lilian Marovatsanga (AGN): I come from a developing country where the problems are getting worse, and I am not convinced that when I leave this room I will be able to say what we have achieved so far. We have the solutions to most of the problems, but our own limitation is that when it comes to practical implementation, it seems to be crisis management all the time. There is no strategic planning in nutrition. We need to be business–minded and approach the problems in an organised manner. In Zimbabwe, between November and now, so much has happened because of the crash – a 70% devaluation of the dollar – creating a food crisis. There are now riots. We have seen this happen also in Indonesia. We should draw on lessons learned so that we can manage nutrition problems. We have to build the business aspect into the way in which we plan our programmes and this requires a strategic plan.

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