

SCN News, Number 14 – Meeting the Nutrition Challenge

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SCN News, Number 14 – Meeting the Nutrition Challenge

UNITED NATIONS



ADMINISTRATIVE COMMITTEE ON COORDINATION

SUB-COMMITTEE ON NUTRITION

A PERIODIC REVIEW OF DEVELOPMENTS IN INTERNATIONAL NUTRITION COMPILED FROM
INFORMATION AVAILABLE TO THE ACC/SCN

July 1997

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 (AX), 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. State-of-the-Art 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.

**SCN NEWS #14 was edited by Ms Viki Elliot and Dr Cathy Needham.
We are most grateful for contributions as shown in Sources after articles.
Illustrations by Lindsay Barrett**

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Your contributions to future issues would be most welcome. **SCN NEWS** aims to help the sharing of experience in nutrition.

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We gratefully acknowledge funding assistance from the Government of the Netherlands for the preparation and printing of this issue of SCN News

Dedication to Tim Stone

**This issue of *SCN NEWS*
is dedicated to the memory of
TIM STONE**



TIM STONE

Tim was killed on the Ethiopian Airlines crash of November 23, 1996, aged 42. At the time Tim was on a mission to Ethiopia and Tanzania to work on Vitamin A projects in the region.

Tim was a respected expert in international nutrition and health. We knew Tim for his practical, applied approach especially seen in his field work. Tim was a highly committed professional and an esteemed colleague.

The SCN joins Tim's many friends and colleagues in the nutrition field worldwide in expressing condolences to Jean Lash, Tim's widow, and their two small children Claire and David.

The Tim Stone Memorial Award has been established by the Micronutrient Initiative (Ottawa) with a grant from CIDA. This will support the implementation of innovative vitamin A interventions in 12 countries.

Chairman's Round-Up: Message from the Chairman

First, a warm and hearty welcome to Dr Sonya Rabeneck, SCN's new Technical Secretary. Sonya took up her post full-time in February, though she had been helping part-time before that, along with stalwart support from Jane Hedley who kept the SCN functioning during the months between the departure of John Mason in July 1996 and the arrival of Sonya. Many thanks Jane!

Sonya brings many strengths to the SCN – a doctorate in nutrition from Cornell, ten years as Senior Nutrition Advisor at the Canadian International Development Agency (CIDA), a period in Rome with the World Food Programme (WFP), and numerous consultancies for UN agencies. Sonya has a strong reputation for commitment and successful advocacy for nutrition, well demonstrated by the creative support and initiatives for nutrition displayed by Canada during the years in which Sonya was responsible for these activities. Sonya has taken a two-year leave from CIDA. Sonya, we welcome you for the talents you bring, together with your clear commitment to work to achieve effective partnership for nutrition among all the SCN members.

Let me formally bid farewell and offer many thanks to John Mason, who from 1988 to 1996 served as Technical Secretary to the SCN. Over this period, John established the various activities on which the reputation of the SCN rests – the major reports and updates on the World Nutrition Situation, the state-of-the-art publications on many specialist topics as well as regular features such as the refugee nutrition reports. With Dr Abraham Horwitz as Chairman, the SCN became a shining example of professional leadership in international nutrition. John we wish you every success in the next phase of your career.

Since the last SCN News, we have witnessed a highlight in the world of international nutrition. I refer of course to the World Food Summit of last November, organized by FAO in Rome, and which, for a few days, made nutrition a matter of front page news. Almost all the UN agencies were present in Rome, the Summit's documentation and commitments gave us all material on which to build in the years ahead.

The next global event will be technical rather than political –the forthcoming International Congress of the International Union of Nutritional Sciences (IUNS) in Montreal, 28 July – 1 August. The SCN will be present in force, with Urban Jonsson and Jean-Pierre Habicht holding a three-day workshop on Public Nutrition just before the IUNS opens, 24–26 July. Also, the SCN will hold a meeting of the Advisory Group on Nutrition as well as a first meeting of the newly formed Commission on Nutrition for the 21st Century, described in more detail on pages 3–5 of this newsletter. During the IUNS Congress, the SCN will be making two presentations and many SCN members will contribute individually in various sessions.

I must also comment on the annual Session of the SCN, held in Kathmandu, Nepal in March this year. By common consent this was a most useful and productive session, starting with a week-end review of progress and conclusions of six working groups, and moving through a full week of discussion and decisions, reports of which have already been sent to all SCN members. The full report of the Symposium on "Nutrition and Poverty" is well in hand and its publication in the SCN's Nutrition Policy Discussion Paper series, as number 16, is expected later this year. The report will include the extremely stimulating Abraham Horwitz Lecture on Nutrition and Poverty in South Asia presented by Dr Siddiq R. Osmani of the University of Ulster at Jordanstown, UK.

The most important decision taken by the SCN in Kathmandu was to set up a Commission on Nutrition in the 21st Century. The stimulus to do this was the realization that general progress in reducing malnutrition has slowed considerably in the 1990s in most regions of the developing world in spite of accelerating progress in some areas of action such as iodization of salt to counteract iodine deficiency. A first meeting of the Commission will be held in Montreal, and all members of the SCN present in Montreal are invited to participate in the meeting.

As your Chairman, I hope very much that all members of the SCN will contribute to the work of the Commission by providing documentation and ideas as well as any special support the Commission may request. As decided in Kathmandu, a draft report of the Commission will be circulated in advance of next year's annual SCN Session – the topic will be discussed in Oslo at the Session. The work of the Commission will, I hope, be one of the significant contributions of the SCN to placing nutrition and action to improve malnutrition on the world map as a key goal of the 21st century.

The Nutrition Challenge in the Twenty-First Century: What Role for the United Nations?

The United Nations Administrative Committee on Coordination, Sub-Committee on Nutrition (ACC/SCN), at its recent annual meeting in Nepal decided to set up a small but high level International Commission on Nutrition. The proposal was stimulated by three new pieces of evidence on the world nutrition situation:

- recent evidence of slowdown in rates of nutrition progress, such that a halving of serious and moderate malnutrition in South Asia now seems likely at present rates to take 200 years;
- the absolute deterioration of nutrition in Sub-Saharan Africa;
- at the same time, progress to combat micronutrient deficiencies has accelerated dramatically over the last five years, especially for iodine and vitamin A deficiencies.

The SCN proposed that the high level Commission should review this situation and make recommendations on goals and objectives for accelerating nutritional progress during the next decade or two, especially in the area of protein energy malnutrition. It was hoped that the Commission could undertake this work during 1997, in order to have a report ready for review at the next SCN meeting, which will be held in Oslo in April 1998.

The Commission should include three or four distinguished international experts, including a senior economist. It was hoped that the commission could be chaired by someone of high political standing, to give visibility and leadership to the work of the Commission and to its report. The SCN expressed the hope that Mrs. Go Harlem Brundtland might be willing to take on this role. Those who have so far agreed to accept a role on this Commission are Professor Philip James, CBE, Director, Rowett Research Institute, Aberdeen, Scotland; Dr Mahbub ul Haq, President, Human Development Centre, Islamabad, Pakistan; and Dr Ricardo Uauy, Director, Institute of Nutrition and Food Technology, Santiago, Chile.

Rates of preschool underweight are declining in many countries in all regions of the world. In some regions severe malnutrition is essentially eliminated. Progress towards reducing mild and moderate underweight is very uneven, however, and there is now evidence of a slowdown compared with the late 80s. In Sub-Saharan Africa trends are static, while numbers of malnourished continue to increase due to population growth. At the same time we have seen, in recent years, successful advances against micronutrient malnutrition. Again progress is uneven and there are concerns about long-term sustainability. Political commitment combined with effective programme strategies are the main ingredients for accelerated and consistent progress. Agencies of the United Nations can play a critical role in drawing attention to the problem of malnutrition (its costs and consequences) and fostering policy shifts that support effective programmes.

Present efforts to eliminate micronutrient deficiencies have focused on iodine, vitamin A and iron. Newer aspects of the impact of these deficiencies on reproductive health require attention. For example, the impact of vitamin A and iron deficiency on maternal mortality as a consequence of altered immune function and other host defense mechanisms may be particularly relevant.

Other micronutrients with potential public health significance, such as zinc and folate, need to be assessed and implications for future programme development identified. Zinc has been shown to influence duration of gestation and fetal growth. Poor zinc intake may contribute to stunting in areas where complementary foods are low in flesh foods. Fortification of complementary foods and dietary diversification strategies have been proposed to improve zinc nutrition during pregnancy, infancy and in the elderly.

Folate is now recognized as a key nutrient for normal organogenesis. Supplementation of women before conception will reduce the incidence of neural tube defects. In addition, folate deficiency appears to lower homocysteine levels, an independent risk factor for coronary heart disease. The beneficial effects of folate are obtained at levels well above usual intake.

The timeliness for a review of nutrition objectives of the UN system is evident. From a wider UN perspective, there is a strong case for a strategic review of the role of the UN in mobilising international action in response to the nutrition challenges of the twenty-first century. This would have several benefits. It would serve to highlight the evolving nutrition problems in both North and South, map and champion the current role of the UN in meeting those challenges, identify the strengths and weaknesses of the UN in dealing with nutrition, and set out a vision of the future role of the UN in addressing global nutrition challenges.

The SCN is itself at a cross-roads, with a new Chair, a new Technical Secretary, and substantially a new AGN. Furthermore, a large work programme has been completed, producing the Reports of the World Nutrition Situation, the reviews of large country programmes, and evidence on resource flows to nutrition. Another of the SCN's work activities, the Refugee Nutrition Information System, has a strong base of support from bilateral agencies and involves a large number of NGOs. In addition, the SCN itself has been subject to review and now has a new mandate explicitly supporting the work of individual agencies. The World Food Summit has helped to focus new energy and resources on nutrition issues.

GOAL

The major goal of this work would be to provide a catalyst for renewed commitment to nutrition among the United Nations family of agencies. A new commitment among the UN agencies would be a step towards mobilising greater nutritional awareness and action in countries and regions.

OBJECTIVES

The objectives of this work would be:

- a) to take stock of the achievements and the failures regarding world nutrition to date and to describe how the UN system has contributed to these achievements and failures;
- b) to review the challenges facing member states in the 21st century and opportunities to overcome them;
- c) to define the collaboration, services, and activities the member states should *expect* and would *need* from the UN system to meet these challenges; identify priority support needs;
- d) to identify ways to coordinate between and among UN agencies and between UN agencies and member states, for the purpose of responding optimally to the challenges
- e) discuss ways to enhance commitment and interest in nutrition by governments, UN agencies, donor agencies and development banks;
- f) to describe the role of the SCN in this process.

PRODUCT

The main report should not be too long, not more than 60 pages, covering:

Introduction

- purpose of the report
- terms of reference, any departures
- methods and procedures followed

Part I

1. Where nutrition stands at the end of the 20th century

- overview of nutrition problems worldwide
- causes, costs and consequences of malnutrition
- nutrition as an outcome of the development process
- emerging issues

2. Success stories of the last two decades

- models for successful interventions.
- main lessons
- impact of income growth on nutrition
- the role of behaviour (of the poor, of policy makers)
- specific health and nutrition interventions
- key issues concerning costs and benefits, targeting and design
- new research questions

Part II

3. A vision for the future

- realizing human rights for food and nutrition universally
- goals for 2020: ending malnutrition throughout the lifecycle
- undernutrition, stunting, low birthweight
- micronutrients (iodine, vitamin A, iron, zinc, folate, EFAs)
- obesity
- ensuring household food security for all:
 - in famine
 - in normal situations
- goals for 2020 and beyond

- prevention of premature death and disability throughout the life cycle
- maternal and perinatal mortality (reproductive health)
- diet-related non-communicable chronic disease
- nutritional needs of the elderly
- healthier and longer life for all

4. An agenda for action

- country action
- regional and international

5. Where does the UN stand in relation to future nutrition challenges and what is the role of the SCN?

Conclusion

- summary of main findings and conclusions for action; next steps.

Meeting the Nutrition Challenge: A Call to Arms

Statement made by the Sub-Committee on Nutrition at its 24th Session, 25 March 1997 at the UNICEF Regional Office for South Asia, Kathmandu, Nepal

The latest evidence suggests a slow-down in the rate of nutritional advance in many regions of the world and a downturn in some countries, especially Sub-Saharan Africa. This is a most worrying trend, totally contrary to the commitments of the International Conference on Nutrition and the World Food Summit. Not only is it contrary to commitments, it is unnecessary. Even over the last five years dramatic advances have been demonstrated in some areas of nutrition, most specifically in reducing by 1.5 billion the number of people at risk from iodine deficiency disorders. Clearly the world can make progress in nutrition through forthright action by the international community combined with commitment by countries.

In 1992, on the occasion of the International Conference on Nutrition (ICN), and with the participation of UN organizations and other concerned agencies, the governments of 159 states adopted the World Declaration and Plan of Action for Nutrition, thereby declaring their determination to eliminate hunger and reduce all forms of malnutrition. They reiterated also their commitment to the nutrition goals of other UN conferences, including in particular the 1990 World Summit for Children (WSC). At the World Food Summit in 1996, governments

and UN Agencies declared that it was intolerable that more than 800 million people do not have sufficient food to meet their needs, and reaffirmed the right of all to adequate nutrition and food security.

By adopting the World Declaration and Plan of Action for Nutrition at the ICN, governments agreed to develop national plans of action, with technical expertise from UN agencies. Moreover, all concerned agencies of the UN system were urged to define ways and means of giving appropriate priority to their nutrition-related programmes so as to ensure vigorous and coordinated implementation of activities recommended in the ICN Declaration and Plan of Action. The ACC/SCN accepted a special responsibility for facilitating coordination of the follow up to the ICN.

The SCN brings to your attention the Joint FAO/WHO Progress Report on the Implementation of the ICN World Declaration and Plan of Action for Nutrition and UNICEF's WSC Follow-up: Mid-Decade Review, prepared in 1996 as part of the reporting process to monitor progress in achieving the goals of the ICN and the WSC. We note with satisfaction that 106 countries have prepared national plans of action for nutrition. Most countries where the national plan has been endorsed by the government are now actively pursuing its implementation. However, several countries, particularly the poorest, still lack the human and financial resources necessary for implementation, and this is a matter of concern to the SCN. A major achievement of the ICN and the WSC has been the raising of awareness of nutrition problems and their links to physical and mental development, and thus to productivity and economic progress.

Despite real efforts, the latest evidence shows a slow-down in nutritional progress and in some regions a downturn. Nearly five years after the ICN and nearly seven years after the WSC, and despite very real progress by countries in developing and strengthening their food and nutrition policies and programmes, global impact on nearly all forms of malnutrition falls far short of that required to meet the goals for the year 2000. The SCN expresses deep concern that still nearly 200 million children under five years of age, well over a third of all children in developing countries, continue to be malnourished. Furthermore, recent analyses indicate that 56% of young child deaths in developing countries are associated with malnutrition.

In some regions such as Sub-Saharan Africa and South Asia, stagnation of nutritional improvement combined with a rapid rise in population has resulted in an actual increase in the total number of malnourished children. If current trends continue, no region except Latin America and the Caribbean will reach the ICN and WSC goals for the reduction of child malnutrition by the year 2000. The SCN also draws attention to the lack of progress in tackling iron deficiency anaemia which affects the health and development of tens of millions of children and women in spite of the availability of practical low-cost interventions.

Over the past five years, the international community through WFP and UNHCR has been able to meet each year the minimum food requirements of 25 million victims of manmade or natural disasters. There have been undoubted improvements in the emergency response to crisis, as well as in ration planning, distribution and monitoring. Starvation and major outbreaks of micronutrient deficiency diseases have been averted in recent crises. However, although the minimum quantity of food has been made available, there remains considerable room for improvement in the quality of the ration, particularly the micronutrient content.

The socio-political situation in many countries of Africa has led to massive population displacement, making an estimated population of over 2 million people inaccessible to humanitarian assistance. Mortality rates among refugees and displaced persons in some makeshift camps in Zaire have been ten times the normal rate due to security and political events leading to severe disruption of aid deliveries. While the SCN is encouraged by the improvement in the levels of malnutrition among refugee populations as indicated by estimates of trends, it is deeply concerned that most internally displaced and inaccessible populations remain at high nutritional risk.

Estimated food needs world-wide for grain, to maintain consumption and meet emergency needs, will nearly double over the next decade. At the same time, global food aid deliveries have been continuously reduced since 1993. This has resulted in the priority allocation of food aid to emergency situations, at the expense of development projects. The SCN wishes to bring to the attention of governments and UN agencies the impact that this shift will have on enabling poor rural people to improve their household food security and meet their nutritional requirements.

While further action to combat undernutrition is needed, attention must also be directed towards problems of diet-related diseases such as chronic degenerative diseases and obesity. These conditions are assuming an alarming significance not only in industrialized nations but also in developing countries where they coexist with undernutrition, reflecting shifts in life-style and dietary habits. The changing demographic profile of the world population, with a progressive increase in the proportion of elderly people, demands that attention and actions

be specifically directed to address the food and other needs of this vulnerable group. In the face of increasing rural to urban migration and AIDS-related deaths of young adults, as well as decreasing family size, we can no longer assume that the elderly are cared for adequately within extended families.

...malnutrition is not simply the result of inadequate food availability or inadequate access to health services and a clean environment. The quality of care and feeding offered to children, which is critically dependent on women's education, social status and workload, is now seen as a significant contributing factor.

On the positive side, the SCN wishes to highlight the dramatic progress that has been made in combatting iodine deficiency disorders. In 1990 about 30% of the world's population was at risk of iodine deficiency and an estimated 43 million people were affected by some degree of mental impairment as a result of inadequate iodine intake before or during infancy and early childhood. As a result of efforts catalysed by both the WSC and the ICN, it is estimated that 1.5 billion people have started consuming iodized salt for the first time, resulting in the protection of 12 million infants every year from mental retardation. The SCN is pleased to report that if progress is maintained, the goal of virtual elimination of iodine deficiency disorders will be attained by the year 2000. Key factors responsible for this success include the determination and commitment of governments, the significant role played by the SCN in promoting a consensus among the UN agencies on the nature of the problem and appropriate solutions, the willingness of the donor community to support well-developed and targeted national programmes, and the recognition of the need for partnerships with the private sector.

There is need to adopt a holistic approach to the prevention of malnutrition. There is now general recognition that malnutrition is not simply the result of inadequate food availability or inadequate access to health services and a clean environment. The quality of care and feeding offered to children, which is critically dependent on women's education, social status and workload, is now seen as a significant contributing factor. Special efforts should include the improvement of the situation of women, with particular attention to their health and nutrition throughout the life cycle, and the promotion, protection and support of breastfeeding and appropriate complementary feeding and better care of young children. All strategies to combat malnutrition should be firmly based on the principles of community participation and should include appropriate monitoring systems. Further action is also needed to improve the response to food emergencies, and to design appropriate safety nets for the most vulnerable in such emergencies, and to find political solutions to allow humanitarian access to those in need.

The SCN through its coordinating efforts has identified the tools needed for successful action. At our annual meetings, through presentations and discussion at SCN Symposia, and by examining case studies of successful nutrition interventions, we have refined these tools and stand ready to meet the challenge of reducing malnutrition. We view with concern, however, the lack of priority accorded to nutrition in some member organizations of the SCN. Member governments must also construct policies that facilitate and support nutrition action. Strengthening national institutions is a key element in meeting the human resource requirements for the implementation of nutrition programmes.

The SCN strongly urges governments, UN organizations and the donor community to redouble their efforts towards tackling the problem of malnutrition. The continuing scandal of widespread malnutrition is a clear violation of human rights, and in particular the rights of the child. Economic growth is an essential but not sufficient prerequisite for progress in efforts to reduce the prevalence of malnutrition. The adoption of deliberate strategies to tackle the poverty-malnutrition nexus, with full community participation, is urgently needed. The SCN calls upon the governments and the international community to respond to this urgent plea for action.

Update on the Nutrition Situation, 1996

Summary of Results for the Third Report on the World Nutrition Situation

New estimates of trends in malnutrition show some improvement worldwide, but at a substantially slower rate in the last few years than in the 1980s. This slowdown is cause for concern. It means that while the end of hunger and malnutrition had been coming into sight in the distant future, this prospect is now receding again. For example, at the 1990s' rate malnutrition would not be overcome in South Asia for the next 200 years. Goals from the World Summit for Children of 1990, and the International Conference on Nutrition of 1992, of halving the prevalence of malnutrition between 1990 and 2000, are becoming even less likely to be met as the

decade goes on. *More than ever, further action is needed.*

Some of the reasons for this slowdown can be quite readily understood, while others are less clear and need to be elucidated. Poor economic performance in recent years has led to failure to further reduce poverty in many countries, in contrast to the 1980s, having a direct effect on nutrition. Drought in parts of Africa and Asia has also contributed.

At the same time, some important interventions for child health, notably immunization, reached nearly maximum population coverage. The beneficial effects of these programmes on nutrition having been achieved, further progress becomes more difficult.

The proportion of children underweight provides the commonest indicator of malnutrition. Being underweight – even mildly – increases risk of death and inhibits cognitive development in children, leading to less fit and productive adults; moreover it perpetuates the problem from one generation to the next, through malnourished women having low birth weight babies.

As can be seen in the Figure, the underweight prevalence in South Asia (of which India is over 70% of the population) is around 50%. This is half again higher than the next region, South East Asia, where around one third (32% in 1995) of the children are underweight. Sub-Saharan Africa, in contrast, has a lower prevalence of nearly 30%. The global prevalence (for developing countries) is estimated to be 29% in 1995. Translating these prevalences into numbers of children (see Table), we can see that over half of the world's underweight children are in South Asia: 85 million out of a global total estimated at about 160 million.

Trends in underweight prevalences are the key consideration, telling us about progress in nutrition itself, and more generally in human development. The global goal of halving the prevalence from 1990 to 2000 means bringing the 30% prevalence down to 15% in the decade, an overall rate of –1.5 percentage points per year. The global 1985–90 rate was about half this on average (although some countries could have reached the goal), but the 1990–95 rate has slipped, globally and in most regions, to less than one fifth of that necessary.

The most common pattern seen is an improving trend in the 1980s, becoming relatively slower in the early 1990s, with some evidence for speeding up again in the last year or two. In Sub-Saharan Africa the situation has been nearly static, on average, for the last decade. Different patterns are seen in different countries: some like Zimbabwe and Kenya showing the more usual pattern ('90s trend worse than '80s); others such as Madagascar and Zambia the opposite way round. But most of Sub-Saharan Africa is now worse off nutritionally than 10 years ago.

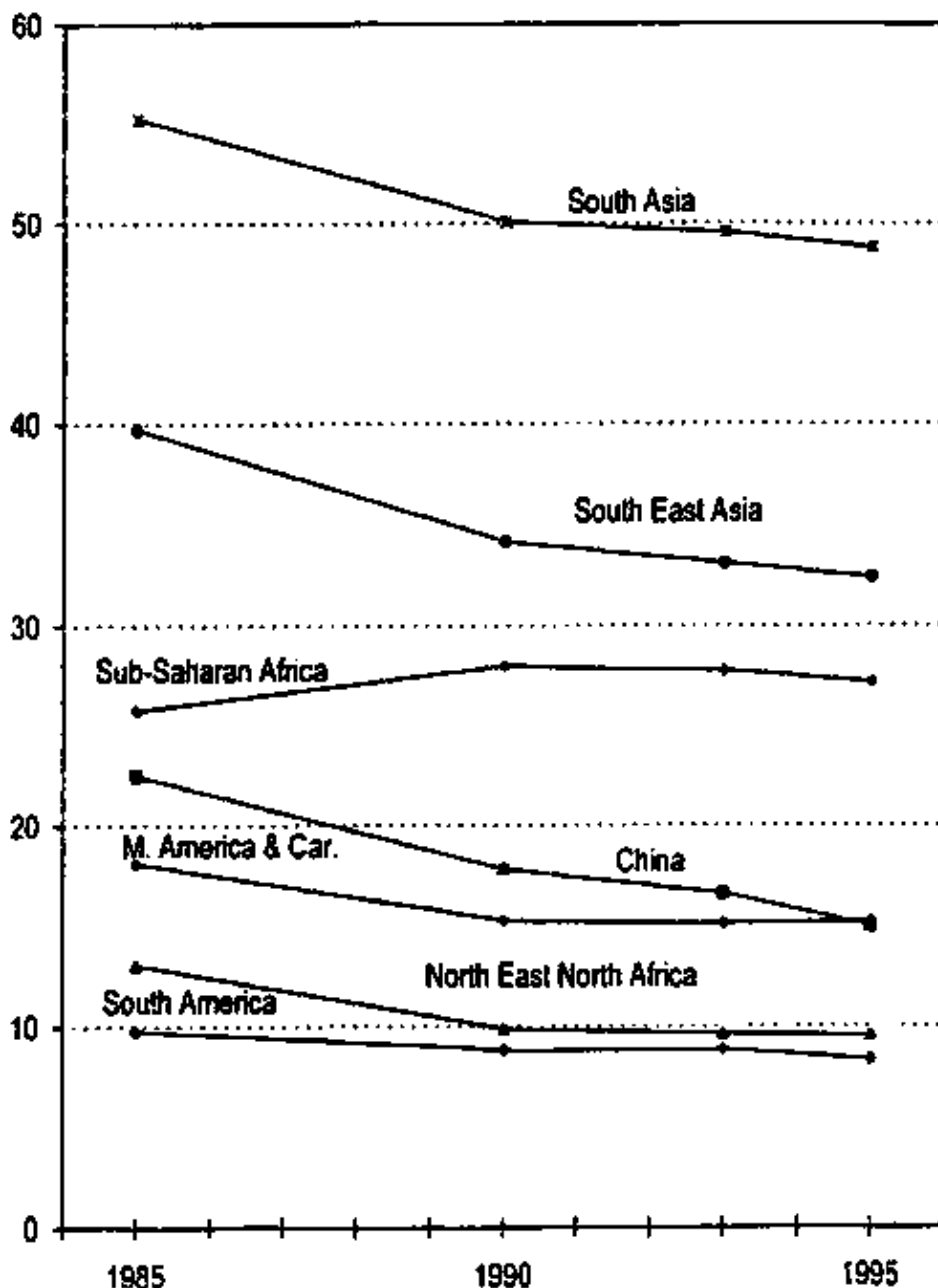


Figure: Trends in Prevalence of Underweight Children, 1985-1995

Being underweight – even mildly – increases risk of death and inhibits cognitive development in children, leading to less fit and productive adults; moreover it perpetuates the problem from one generation to the next, through malnourished women having low birth weight babies.

South Asian trends on average depend substantially on the situation in India, which is revising the process of monitoring child malnutrition so that numbers are particularly uncertain at the moment. The present prevalence levels take account of a recent national survey, which lowered the estimates compared to previous results (from around 61% to 53%), but this represents a revised figure, not itself an improvement. Trends for South Asia shown in the Figure are in line with results from previous time series data in five states in India; these again showed improvement in the '80s followed by reversal in the early '90s. The overall prevalence change in the last decade was just adequate to bring down numbers of children underweight in South Asia, despite population growth.

Table: Underweight Children by Region (0-60 months), 1985-1995

Region	Percent Underweight				Numbers Underweight (Millions)				Trend (pp/yr)	
	1985	1990	1993	1995	1985	1990	1993	1995	1985-90	1990-95

Sub-Saharan Africa	25.8	28.0	27.8	27.2	20.9	26.0	28.3	27.8	0.44	-0.16
Near East North Africa	13.0	9.9	9.6	9.6	4.1	3.4	3.4	3.4	-0.62	-0.06
South Asia	55.3	50.1	49.6	48.8	87.2	84.5	86.5	85.2	-1.04	-0.26
South East Asia	39.8	34.2	33.1	32.4	22.3	19.8	19.5	19.1	-1.12	-0.36
China	22.7	17.8	16.6	15.0	23.0	21.1	18.4	16.6	-0.98	-0.56
Middle America & Caribbean	18.1	15.3	15.1	15.2	3.3	2.9	3.0	3.0	-0.56	-0.02
South America	9.8	8.9	8.9	8.4	3.0	2.8	2.9	2.7	-0.18	-0.1
Total	34.3	30.7	30.4	29.3	163.8	160.5	161.9	157.6	-0.72	-0.28
Total 0-4 Population					476.6	523.3	533.5	537.4		

In South East Asia, the overall trend has been of rapid improvement in the '80s, and slowdown again in the '90s. While part of the slowdown is related to some faltering in economic growth, at various times in different places, this does not seem to give the full story, and careful examination of other factors is needed.

In China, while in 1990-93 rates of improvement were reduced, the average rate (to be treated with caution among one billion people) then picked up. Differential patterns of malnutrition are being reported between urban and rural areas.

Countries in Middle America and the Caribbean, South America, and Near East and North Africa have relatively low prevalences of underweight children, and less far to go to eliminate malnutrition. Yet here too accelerated progress is essential; indeed there is cause for concern to ensure that the trend does not reverse and deteriorate, for example in Middle America and the Caribbean.

Possible future scenarios for prevalences can be examined by looking at the implications of continuing the best and worst rates of change of the last ten years. Calculations illustrate that by the year 2010, if the best rates were re-established, the prevalences on average in most regions would be half or less of those in 1995. But the most affected regions - South Asia and Sub-Saharan Africa - even in the optimistic scenario, would be far from this goal. Poverty reduction coupled with support for agricultural and rural development, for health and education, and with extensive and sustained community based programmes aimed at improving nutrition, have brought about rapid improvement in a number of countries. These have been particularly effective where they have supported and improved the status of women. Such policies could change the scenarios for much of Africa and Asian

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Poor Nutrition and Chronic Disease

Presented here is the concluding section of a two-part report on the proceedings of a Symposium, held at the SCN's 22nd Session in Washington, D.C. in June 1995, entitled 'Nutrition in the Epidemiology and Prevention of Cardiovascular Disease, Diabetes Mellitus, and Obesity in Developing Countries' - a theme some might find surprising given the overwhelming levels of hunger and malnutrition facing many developing countries, and given that these are traditionally thought to be diseases of affluence. Nevertheless, as Dr J Jervell, President of the International Diabetes Federation pointed out in his introductory presentation at the Symposium reproduced in Part I (SCN News No. 13, late 1995) 'Non-communicable diseases are emerging, not only with the same strength as they have done in the industrial world, but perhaps even more strongly in the developing countries - especially those which are developing fast.' Consider, also, the evidence presented here which appears to suggest that malnutrition actually plays some part in causing chronic disease, and the implications for developing countries come into clear focus.

Two presentations are reproduced and discussed. The first, by Dr J J Hoet of Louvain University, Belgium is entitled 'The Role of Fetal and Infant Growth and Nutrition in the Causality of Diabetes and Cardiovascular Disease in Later Life'. The second, and concluding presentation is by Dr G H Beaton and is entitled 'Prevention and the Role of Nutrition'.

THE ROLE OF FETAL AND INFANT GROWTH AND NUTRITION IN THE CAUSALITY OF DIABETES AND CARDIOVASCULAR DISEASE IN LATER LIFE

Dr Joseph J. Hoet, Professor Emeritus of Medicine, Co-Director WHO Collaborating Center for the Development of the Biology of the Endocrine Pancreas, Faculty of Science, Louvain University, B. 1348 Louvain-la-Neuve, Belgium

Clinical and experimental evidence indicates that there may be a causal link between fetal and infant growth and diabetes [see box] (specifically type II, or non-insulin dependent diabetes (NIDDM)), cardiovascular disease, and possibly obesity in later life. One study has indicated that of infants who weighed less than 2.5 kg at birth, and less than 8 kg at age one, 26% had impaired glucose tolerance [see box] and 17% were afflicted with diabetes when they reached the age of 64 years, and that they were almost twice as likely to die of heart disease before the age of 65 compared with those who weighed more than 4.0 kg at birth. Other data have indicated that young children, born in underprivileged areas where there is a high incidence of low birth weight, already have high cholesterol and blood sugar levels, abnormal insulin levels, and elevated blood pressure. Collectively, these findings and others suggest that metabolic and vascular abnormalities that lead to chronic illnesses (diabetes, hypertension, and cardiovascular disease) in later life may have their origins *in utero* and during infancy.

Maternal nutrition plays a major role in fetal development and in determining birthweight, which in turn may have long term health consequences for the infant leading to chronic illness in later life. Understanding the mechanisms by which programming of the foetus and infant occurs may therefore lead to a new understanding of the origin of chronic disease and have implications to the approach to primary prevention.

The results of our studies using rats have provided some insight as to how the suggested link between increased susceptibility to NIDDM and IGT in later life, and fetal and infant nutrition and growth might work. Several years ago it was indicated that during fetal life, the pancreatic beta cells [see box] needed certain amino acids in order to be able to multiply properly. Based on this finding, a simple experiment was carried out to explore the long-term consequences of fetal protein malnutrition on the biology of the pancreas and the outcome in terms of glucose tolerance in the offspring.

Pregnant rats were divided into two groups; an experimental group which were fed a low protein diet, and a control group (C) which were fed a normal protein diet. Both groups had equal energy intake. The offspring of these two groups were then raised until the adult age of 84 days. The experimental group was further divided into two groups; the first continued with a low protein diet throughout life (Low protein or LP group), and the second, or recovery (R), group were fed a diet adequate in protein from birth. The control (C) group continued with a normal diet throughout life [see Figure].

Diabetes is a disorder of metabolism and occurs when the body is not able to make use of glucose in the blood for growth and energy. For glucose to enter the cells and be utilized, the hormone insulin is required. Insulin is produced in the pancreas; specifically, in the beta cells of the Islets of Langerhans. Diabetes occurs either because the pancreas is not able to make enough insulin, or because the insulin that is available is not effective. There are three main types of diabetes: insulin dependent, or type I diabetes; non-insulin dependent, or type II diabetes; and gestational diabetes. Insulin dependent diabetes is an autoimmune disease in which the insulin producing beta cells in the pancreas are destroyed resulting in little or no insulin production. Non-insulin dependent diabetes usually develops in adults and is the most common form of diabetes, where insulin is produced, but the body cannot use the insulin effectively. Gestational diabetes develops during pregnancy and usually disappears after pregnancy.

Impaired glucose tolerance (IGT) is a condition, less than diabetes, where blood glucose levels are higher than normal. People with IGT may not develop diabetes.

At birth, pups from the experimental group weighed less and had reduced levels i.e. of the amino acid taurine, compared with the control group. Furthermore, the structure and function of the pancreas in the experimental group was abnormal. For example, beta cell proliferation and Islet size [see box] were reduced, and certain insulin secretory mechanisms were at fault. On examination of the pancreas of the adult (84 day old) offspring, secretory differences *in vitro* between the LP, R, and C groups were found which indicated that

alterations observed at birth do remain when a low-protein diet is given until adulthood, and that a normal diet given immediately after birth only *partially* restores the normal pattern insulin secretion *in vivo*.

Glucose tolerance in each of the three groups of adult rats showed a gender difference. In the LP group, an abnormal low insulin secretion was observed in males and females. However, in the R group, normal glucose tolerance, with a satisfactory insulin response, was observed in males, whereas lower than normal insulin levels were found in females. It appeared, therefore, that for insulin secretion and glucose tolerance, the male animals were able to recuperate with a normal diet after birth, whereas the female animals were not able to normalize their insulin secretion.

In the final part of the experiment, female rats in each of the first generation groups were submitted to pregnancy. During pregnancy the diets of the rats continued as they had during maturation. Results showed that the second generation offspring of the LP and R groups exhibited again structural and functional pancreatic abnormalities consistent with the presence of gestational metabolic alterations in their mothers. This meant that even in the recovery (R) group, where adequate protein was being provided through the mother dam but not to the grandmother, the fetal pancreas was developing in specific ways without achieving normal development.

In addition, we observed major deficits in blood vessel densities in the endocrine pancreas and the brain in the low protein (LP) group. With a normal diet postnatally (group R) they were normalized in the endocrine pancreas but not in the brain which kept a deficit of 30%. Therefore blood vessels such as of the brain were altered without rehabilitation capacity. Duodenal and renal vascularization was normal.

Moreover an isocaloric low protein diet during gestation and a normal diet postnatally induces pathological changes in the liver, leading to a high glucose output at adulthood, as indicated by Professor C.N. Hales from Cambridge. Glomeruli maturation in the kidney is also delayed without recuperation at adulthood even with a normal diet postnatally as shown by several investigators. Thus the lack of adequate protein availability during gestation induces developmental disabilities with consequences in adulthood in organs responsible for diabetes and causal for vascular disease and hypertension.

Diabetes is widespread throughout the world, affecting all kinds of people, young and old, male and female. Epidemiological surveys report an increasing incidence of IGT and diabetes especially in younger people and more so in women than in men. Furthermore, the disease is not evenly spread amongst populations and the susceptibility to diabetes seems to be high in less privileged populations. Our studies using rats have demonstrated a link between maternal protein deficiency, fetal and infant pancreatic structure and function, and subsequent glucose tolerance of the adult offspring, which can in turn pass on its effects to a second generation.

Given that the protein and nutritional intakes of expectant mothers in developing countries, as well as developed countries at times of food shortage, are often far below normal requirements, the possibility that maternal nutrient deficiency may affect susceptibility of offspring to chronic degenerative diseases such as diabetes and vascular complications in later life may have important implications for the future design of preventative programmes.

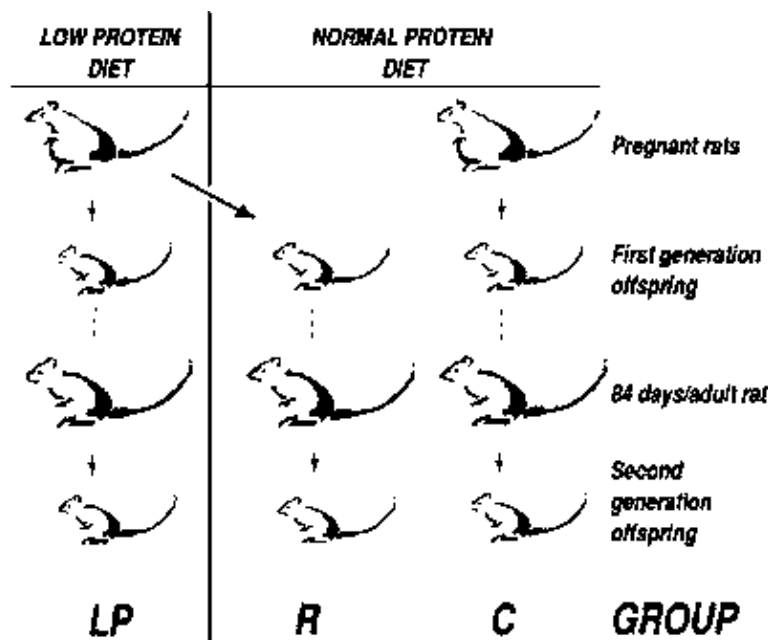


Figure: Study Design – Rat Groups

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Discussion

Mr David Alwick, Senior Advisor, Nutrition Section, UNICEF, New York

The presentation by Professor Hoet raises many important issues. This paper and other papers draw our attention to issues surrounding chronic and degenerative diseases in developing countries that perhaps some of us have overlooked. It is often assumed that if a child reaches the age of five, he or she will probably go on to live a relatively healthy life – we have been reminded today that this may rarely be true and perhaps the prospects for later life are, in fact, deteriorating.

The costs to society of caring for people with diseases such as diabetes and coronary vascular disease in developing countries are high, and the costs of preventing these diseases by adequate nutrition *in utero* or during pregnancy would be considerably less. A very strong cost–benefit argument could be made which would be in favour of improving nutrition in early life.

The important question is how to mobilize politicians who seem today to have a time horizon of three to five years, and so are looking for relatively short–term benefits. How do you convince the politician who has to stand for re–election in three or five years time that the benefits of a particular intervention are going to accrue to a population a generation hence – in 20 or 30 years' time?

One area where we have been successful in doing this is in the control of iodine deficiency disorders. The benefits from controlling IDD are not necessarily immediate. Some of these benefits – improved intellectual performance, and so on –accrue far later in life. Perhaps there are lessons from that particular area which could be applied to this.

Professor Hoet's reference to the important role of protein intake in pregnancy is indeed very interesting. The pendulum on the importance of protein swung one way, towards protein malnutrition and emphasis on protein supply, and then swung in the opposite direction towards the opinion that perhaps there were no significant

human populations that were deficient in protein intake. There were considerable arguments about how protein requirements were defined. So certainly we need to take a careful look at the practical implications of Professor Hoet's findings. How does an 8% protein diet in rats compare with human requirements? The recent consensus in human nutrition circles has been that a net dietary protein intake of around 7–8% of total calories for human populations would be adequate to prevent protein deficiency. On the other hand, Professor Hoet's inference about the importance of protein and perhaps animal foods, reflects the feeling in other fields – vitamin A, iron, and the emerging enthusiasm for the importance of zinc. In each of these fields there seems to be a growing consensus that people whose diets are extremely restricted in animal food may have a great deal of difficulty in receiving sufficient quantities of some micronutrients for adequate growth and development. Given that populations of some of the largest countries in the world are largely vegetarian, and that these populations also have a very high prevalence of low birth weight, anaemia, and poor child growth, the importance of these observations is considerable.

The hypothesis is put forward that nutritional insults may be passed from one generation to another in a way which seems to be largely independent of genetic or social factors by programming that no amount of short-term social change will alter. A similar conclusion was reached by some speakers at an important IDECG meeting on the causes of linear growth retardation in developing countries*.

** The Proceedings of this IDECG Workshop, held in London from January 15–18, 1993 have been published as a supplement to the European Journal of Clinical Nutrition (Volume 48, Supplement 1, February 1994)*

They suggested that we would not be able to reduce the prevalence of child stunting dramatically within one generation, because there was a generation to generation carry over. If this finding is correct, it clearly has very important implications for programme design in organizations which, like UNICEF, promote short-term goals for nutritional change.

The present consensus internationally is that all children brought up in adequate environments nutritionally grow more or less equally, at least for the first five or six years. The data supporting this conclusion are believed to be adequate, but there are inconsistencies, and discussions are taking place on collaborative ways to strengthen this data. It is certainly possible that many of the groups of so-called "elite" children in Africa and Asia, who have been found to be growing adequately, closely following NCHS reference curves, may themselves be the prodigy of elite parents. Perhaps we have been looking at the second generation rather than the first generation, and this again has important implications for what we can expect in terms of short-term nutritional improvements.

What are the practical implications of Professor Hoet's findings? They provide one more reason for donors and agencies to pay particular attention to improving nutrition in pregnancy. We need to reach a consensus on the long-term benefits of such programmes – in addition to reduction in low birthweight, improvements in young child growth, and improved maternal survival rates, we now have another powerful argument, *that much later in life serious disease is reduced*. We do not yet have sufficient consensus on exactly what benefits we can expect from nutritional improvements in pregnancy. Once we have that, we should advocate and inform the politicians.

PREVENTION AND THE ROLE OF NUTRITION

Dr George Beaton, Professor Emeritus, Department of Nutritional Sciences, Faculty of Medicine, University of Toronto, Canada

In opening today's symposium Dr Jervell portrayed the issues very well (see *SCN News No. 13*). As populations in the developing countries enhance their economic demand, they tend to seek out many of the lifestyle traits of Western society that we now accept as causally linked factors in non-communicable diseases.

He suggested that if nothing changes, deaths and disability from non-communicable diseases will surpass those from communicable diseases in the near future. This has major implications for health care resource demands. Even more important, it is likely to have a very undesirable effect on the distribution of these resources. The politically empowered middle and upper classes will be more affected and will be more effective in their demand for health services. This could result in diversion of resources away from the lower income groups, further denying them access to benefits of development.

If that was the total message of this symposium it would be important. Most of our time and attention is directed toward problems of deprivation and inadequacy. We need to be reminded that we must also face problems of excess – and problems associated with the very development we encourage. Is it really a good sign to see North American fast food chains appearing in developing countries? Should we attempt to promote certain types of free enterprise development and discourage other types of entrepreneurial activity? When one asks about possible preventive actions, that is what you are really asking. Have we learned *anything* that would allow us to encourage patterned development – do we have the ethical right to tell others no you shouldn't have access to all these tantalizing life–style features that we have – they're bad for you?!

I am not going to pursue those aspects of the topic. I merely state them openly so that all in this room will be compelled to recognize that in the end, that is what we are really talking about no matter how much we may care to hide it. It matters not whether you phrase this in terms of agriculture policy and animal food production or economic lending policy and the well–tested experience of Western economic development that carried with it health problems as well as benefits.

Yes, we could stop with the papers by Drs Jervell and Byers and spend the whole week debating their implications for development policy. However, when we also take into account the hypothesis put forward by Dr Hoet and hinted at by Dr Byers, we have an even more complex issue to address. Dr Hoet proposed that not only is the transition in lifestyle the major issue, but also that there may be “nutritional” factors that change risk factor sensitivity. Specifically, he proposed that factors operating during pregnancy or early postnatal development may predispose individuals toward diabetes and heart disease.

We do not yet know if this hypothesis is valid or, if it is, what nutritional factors are involved. Here I extract a quote from a paper from an amazing issue of the *American Journal of Public Health* (1995: 85:618–9) by A. D. Stein: “Nutritional epidemiologists have successfully identified many specific causal relationships between individual nutrients and specific pathology.... [cites folate and neural tube defects]... In many areas of nutritional epidemiology, uncertainty remains... Intriguing but by no means compelling, reports by Barker and his colleagues suggest that prenatal and early postnatal nutrition modifies risk of adult disease... the areas of uncertainty are often characterized by lack of specificity in putative risk factors, outcomes and biological mechanisms... the standard armamentarium of epidemiologic designs falls short.”

Some of you may have had the opportunity to read a paper by Phil James published in the *Bulletin of the National Institute of Nutrition of India*. He was commenting upon an increasing incidence and perhaps increased individual risk of heart disease in India. Dr James did not try to diagnose the situation or offer specific recommendations. Instead, in this article he set forth a large number of possible hypotheses, often interlinked, that might explain this phenomenon as a consequence of changes in lifestyle in an environment that carries many known risk factors. These hypotheses included some that might operate *in utero* and others that could operate regardless of the intrauterine environment.

The environmental variables that Phil James seemed to see as most important were dietary fat (and to a lesser extent protein), physical activity, and heavy smoking. I think that most others would look at dietary fat, physical activity and smoking as the three variables that warrant the greatest attention in assessing targets for possible preventive measures.

I do not want to dismiss the suggestion that susceptibility to these three variables might be conditioned by early developmental insults. Anthropometric deviation is the indicator identified in the studies described in this symposium. If we accept that in its simplest form then we can add it to the argument of Pelletier and colleagues who presented a revised approach to estimation of impact of malnutrition. Pelletier argues that this “suggests a much higher attribution of morbidity and mortality to malnutrition (marked by anthropometric indices)” *J. Nutrition, Spring 1995*.

It would appear that we have greatly underestimated the implications of early “malnutrition” on human health and wellbeing.

A first lesson of this symposium, then, is that we could be making a serious error if we attempt to treat problems of excess and problems of inadequacy as distinct entities. When we address population policies, we must recognize that both are often present together – and if we accept Dr Hoet's hypothesis they may coexist, at different times, in the same individuals.

A recent FAO/WHO report on fats and oils in human nutrition pointed out the obvious: noting that fat intakes in developing countries were often too low for child health while adult fat intakes should be kept low or perhaps be lowered, the committee commented: “Malnutrition is a crucial problem and increasing the amount of energy

available should be a priority. Fats and oils play a crucial role in bringing about this increase. Nevertheless in developing countries policies designed to promote this increase can be a risk factor for urban populations who consume excess fat.”

The committee might equally well have stated the opposite: policies intended to reduce the dietary risk in urban populations might exacerbate the general problem.

Again in that remarkable issue of the *American Journal of Public Health* (1995, 85:690–4), we find a paper by Barry Popkin and Chinese colleagues Paernatakul, Ge and Fengying. These authors compared anthropometry recorded in 1989 and 1991 in 3,981 adults 20 – 45 years of age. Overall, the proportion classified as overweight and severely overweight increased from 9.3 to 11.2%, the proportion classed underweight fell from 8.5 to 8. For urban vs rural there were generally similar changes. In the high–income group overweight increased and underweight decreased. In the low–income group underweight and overweight increased.

China now has in place active policies intended to minimize the development of dietary and other risk factors – dietary policies and policies to encourage if not coerce physical activity. What these authors are pointing out is that while the policies may be operating as intended in some sectors of society they may be having differential effects in other sectors.

Some of you will recall that a few years ago, Dr Goplan proposed distinctly different dietary guidelines for rich and poor Indians. His approach was praised as taking into account the realities of the social setting of nutritional problems. It was also condemned as reflecting serious insensitivity to the wants, ambitions and rights of people – it seemingly perpetuated a situation of advantaged and disadvantaged. That is a real problem as we struggle with development policy and preventive action.

I want to illustrate another problem. Above I took a quote from a recent FAO/WHO report concerning achievement of goals for food intake. Now let us look at these goals a little more closely.

<i>Toward dietary goals – dietary fat 1990</i>
Lower limit of fat intake:
adults:
– group mean intake should have at least 15% of energy as fat
– maximum of 10% energy as saturated fatty acids
Upper limit of fat intake:
adults: 30% of energy – group mean intake (If evidence accumulates, may fall to 25–30% energy)
Who, 1990

<i>Toward dietary goals – dietary fat 1994</i>
Lower limit of fat intake:
adults:
– for most adults, dietary fat should supply at least 15% of energy
– for women of reproductive age at least 20% energy as fat

Concerted effort should be made to ensure adequate consumption of dietary fat among populations where less than 15% dietary energy is from fat.

Children:

– from start of weaning through at least 2 years, 30–40% energy from fat.

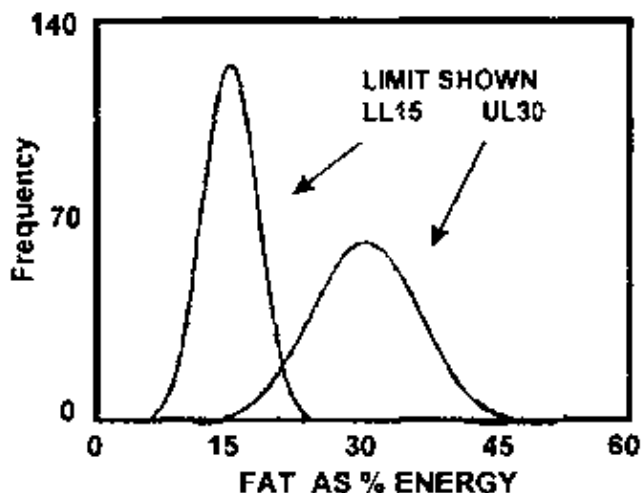
Upper limit of fat intake:

- active individuals up to 35% energy from fat (sfa under 10%)
- sedentary individuals up to 30%

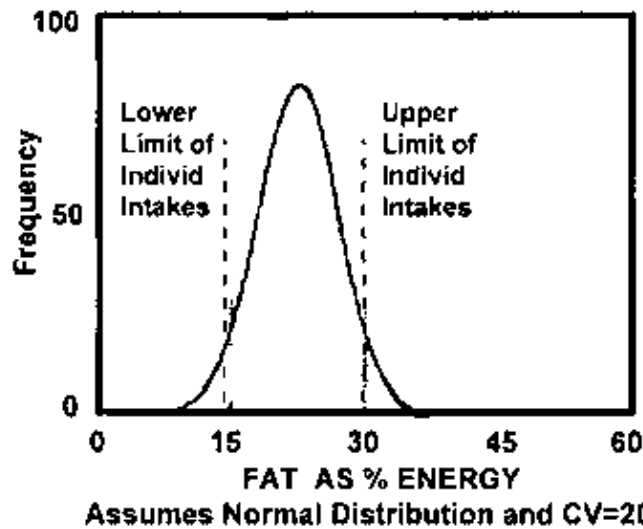
Who, 1990

Consider differences in targets between child, adult, and pregnant woman – then recognize that these individuals live in the same household and share the same mix of foods. This is what the FAO/WHO committee recognized when it commented on conflicting policy.

It gets worse. There is confusion about the actual goals. I will illustrate this by comparing the two reports and suggest these seem to represent a truly *major change in recommended goals* – if the agencies accept the advice of the two committees. To illustrate this change I have to present distributions of the fat densities of the usual diets of individuals. For these illustrations, I assume normal distributions and 20% CV. These assumptions are reasonable based on examination of data from Canada, the US, and the Netherlands, the CVs are a bit high for rural Mexico, rural Kenya, and rural Egypt. The distribution assumptions may not apply everywhere but that is not important for this illustration.



Assumes Normal Distribution and CV=20%
DISTRIBUTIONS OF FAT DENSITY IMPLIED BY RECENT GOAL DEFINITIONS, WHO 1990



DISTRIBUTIONS OF FAT DENSITY IMPLIED BY RECENT GOAL DEFINITIONS, FAO/WHO 1994

For the FAO/WHO goal – move the lower cut off up for pregnancy, and move it still higher for children under two years of age.

The way the new FAO/WHO report is worded, it refers to intakes of individuals, not group means. It really says that there can only be a very narrow range of target intake distributions for all populations – those distributions will have mean intakes of about 22–25% of energy. This likely represents a substantial increase in fat for many of the developing countries and a very substantial reduction in fat for most of the industrialized countries. It would be interesting to do a calculation and see whether it implies a desirable net increase or decrease in fat intake for the world –and whatever that means in terms of development policies, agricultural policies, the various trade negotiations.

In this meeting at this time I do not intend to debate the relative merits of two reports from member agencies of the SCN – I do point out that there has been major shift in apparent targets and I point out that if we take the latest report as written, we have a critically important issue on our hands. It is an issue that certainly warrants a statement to the ACC.

Even if you discount the illustrations I gave or the specific recommendations of the FAO/WHO report and say “Beaton is making a mountain out of a mole hill” there remains a critical issue for us in thinking about prevention. In the last year or two we have focussed more and more heavily on the micronutrients. We have said repeatedly that we see a food-based approach as the sustainable path to solution. I think most of us recognize, but do not wish to admit, that the food-based approach for which we have the best evidence would be one that increased the intake of animal-source foods for most of the population of the world. We know also that if we succeed in improving effective demand through economic development, and allow it to happen, animal food intakes will rise.

How then do we marry that with our currently estimated goals for fat intake?

I want to come back to where we are. In keeping with the earlier papers I cited, Rey Martorell has published a review in *Child Growth and Nutrition in Developing Countries* which points to the importance of early childhood development. Martorell speculates on potential benefits of a strategy to promote healthy growth:

- any of the strategies also have impact on other aspects of the child's environment – expect impact on multiple aspects of functional development;
- improved immune function and resistance to disease –reduced infant and child mortality rates;
- in long run, better school performance;
- increased work capacity as adults – reduced maternal/fetal risk in pregnancy.”

Martorell further emphasized that good physical growth results in increased human capital.

I cannot bypass another important paper by an individual here present. Nevin Scrimshaw notes that "... fulfillment of the genetic potential of individuals is impaired by malnutrition and other environmental factors throughout life...". Further "... combined findings of early and later risk factors strengthen the conclusion that the bulk of so-called degenerative diseases and many other functional impairments in adult life occur because of environmental factors... the increase in meat, fat and calories consumed with rising affluence is particularly hazardous to formerly poorly nourished populations. (*Am J Pub Hlth*, 1995, 85, 622-4).

The constellation of papers all point in the same direction. Thus there is increased reason for attention to young child growth (prevention of 'PEM' in our conventional terminology).

Is there risk that we will direct too much attention to narrow goals we feel we can accomplish (e.g. control of micronutrient deficiencies) and not enough attention to the root problem we tend to avoid?

Somehow we must come back to more holistic approaches. We run a serious danger of unilateral approaches in single nutrient problems and forget that there may be implicit contradictions in what we are trying to advise countries to do.

POLICY FORMULATION COUNTRY LEVEL SOME PERCEIVED CHALLENGES

- *How should countries existing income gradients in perceived problems? (Overweight in China as example).*
- *How do we, at the same time, urge a country to decrease fat intake for almost all and increase fat intake for 1 and 2 year olds? Or should we be doing that (if we are)?*
- *Do we have a strategy for "total nutrition" – micro – and macro– nutrients, infant young child and adult alike, that we are prepared to promote?*
- *I think the answer is no!*
- *Do we need something like this?*
- *How do we develop it?*

Even worse, we might convince ourselves that the real answer lies in fabricated/engineered diets of the type that are beginning to appear on the North American market.

Conclusions

1. There is need to ensure we remember to address the broader and harder questions of prevention of PEM.
2. Avoid thinking of child problems and adult problems. They are population problems.
3. Solutions must be holistic.

Discussion

Dr Philip Musgrove, World Bank, Washington, D.C.

There are health gains to be had from improving nutrition, and postponing or reducing certain health problems later on, which might be very substantial. However, we are all going to die, and we may die of something quite expensive. In fact if we live long enough we are practically guaranteed to run into something expensive. So I just want to caution against the notion – and it would be nice if it were true – that when you improve some health problem in the world, this actually means less money gets spent on health care. Health care has the most unbelievably inelastic demand of anything you can imagine, and there is nothing to indicate that improving health means spending less. In fact the trend in the last 50 years has been in entirely the opposite direction.

This point is important for two reasons. The first is that it would be a mistake to sell nutritional improvement as a money saver. This will turn out not to be true. It should be sold as a health improver, and that, in fact, is very

much the view taken by the World Bank in the World Development Report. Disability Adjusted Life Years (DALYs) represent the only real quantification of effects of health improvement. It is not a monetary measure, and we resisted any attempts whatever to say what a day is worth. It is true that a great many people reading about DALYs assume that they are some kind of productivity measure, and they are not. If they were productivity measures then a day out of the life of a rich person would be worth 10 or a hundred times as much as a day out of the life of a poor person.

The second reason for the importance of this point is that what counts for the purposes of designing policy is not total expenditure at all. The crucial connection between health gains and money expenditures, I still think, is cost effectiveness.

As we learn more about how much “we are what we eat”, as we learn more about how complicated this is, as we learn more about how our grandmothers may have been right in telling us to eat a varied diet – the question arises of how this affects intervention choice. Deciding which interventions are more or less justified gets more complicated to handle

It seems to me that certain problems need more work. First of all we need to make sure that we have an accurate picture of what all the attributable risks are. This is not trivial. The burden of disease is calculated by disease – it has never been calculated adequately by different risks. Risk factors are difficult to add up as there are many different causes for a given effect.

For example, if two or three interventions can all reduce the size of a health problem, then it may be that the highest payoff will be to whichever intervention is used first, and the others will look very cost ineffective, because there is less of a problem to deal with. Whatever is done first is going to affect the cost-effectiveness of whatever is done second or third. That's inescapable. Some effort should go into working out what should be done first.

Then there's a problem which bothers me a lot, although it doesn't bother most of my colleagues. If you improve people's health, and this is particularly true of children, you get a whole variety of different kinds of effect. You get better health, which is valuable in itself. You get better educability, you probably get better adult health in the long run, you probably get better economic productivity, which is worth something, even if it doesn't belong in dollar calculations, and the adding up of those different kinds of benefits is a matter of their relative prices, and nobody knows what those relative prices ought to be.

To take a very simple example, the World Bank is getting extremely enthusiastic about what it calls early childhood development. But if you pose the question “which is better, graduating from another year of school, or spending three years completely free of disease?” nobody has any idea which one they would rather have, and so we cheerfully say that these are both good things, and we are going to get them both by promoting early childhood development. The stage of trading these outcomes off against each other hasn't really happened yet, and I think this is going to be very awkward because we don't know how to value different kinds of outcomes. The more it turns out that nutrition is behind all of these things, the more inescapable that particular question is going to be, I think. You have already raised it to a considerable extent just by showing that early childhood interventions may be affecting people a long time later in several different ways, including how much schooling they complete.

There are a couple of technical issues related to that. What you think about discount rates doesn't matter if you are talking about short intervals, but it matters greatly if you are talking very long intervals and so the question, does taking account of health effects 50 years later really add very much to the value today of a pregnancy or childhood intervention? At a high enough discount rate the answer is no, it doesn't make any difference at all. It just makes you feel good. At a low enough discount rate it actually changes substantially what you think the intervention is worth, and so arguments about the right way to calculate the burden of disease and the right way to calculate cost effectiveness matter more and more the longer the risk we are talking about.

The last thing I would like to touch on is the question of how do you change people's minds about things? How do you change their behaviour? Some things people will do without much persuasion – taking an injection, or swallowing a pill – because they don't need to change their habits. But we are talking here about substantial, lifelong changes and we are up against a problem of persuading people that something is good for them, but the same thing is not necessarily good for everybody. Children, pregnant women, non-pregnant women, men, and old people all have different requirements. People know this – it's not exactly news – but they don't necessarily act on it – and I think that's the biggest challenge. If the message were extremely simple, if it were just eat less fat, that would be easy to deal with, but if it's eat more fat when young, less

when old, and watch out for what kind it is, it's no wonder that we don't know how to do this very well.

Effective Programmes in Africa for Improving Nutrition

Presented here is a summary of the proceedings of a Symposium entitled 'Effective Programmes in Africa for Improving Nutrition' which was held at the SCN's 23rd Session in Accra, Ghana in February 1996. This event appropriately coincided with the launch of the Ghana National Plan of Action for Nutrition. The major theme of the Symposium – effective programmes in Africa for improving nutrition – focused largely on household food security; a problem which is of major concern to African countries. The overall aim was to arrive at conclusions that will further enhance Africa's search for workable solutions to ensure food security and improved nutrition for all.

In general, the nutrition situation in Africa is deteriorating due to extreme poverty, severe drought and conflict. Diet quality in many parts of Africa is weak and inadequate, and there are underlying problems of chronic malnutrition due to marginal access to food, seasonality problems and the chronic lack of basic services in many countries. But there are successes, and many of these practical experiences were presented at the Symposium, with the hope that lessons learnt from the positive examples could be generalised to benefit every country, and particularly the poorest people in every country. The box on the next page lists all the presentations at the Symposium which will be presented in greater detail in the next issue of SCN News (No. 15). This article reports the summary of the main conclusions arising from the Symposium. In summing up the wide variety of important conclusions arising from the Symposium, Julia Tagwireyi from the Nutrition Department, MOH, Zimbabwe, discussed the emerging issues and the theme of success factors as cross-cutting issues from the different programmes presented.

“The importance of community involvement emerges again from the programmes described in this symposium. Programmes need to build on existing community knowledge and organisational frameworks. Local people have previous experiences and do not have empty minds. While most presentations focused on the special needs of women and their role in household food security and nutrition, the issue of a holistic approach, including the needs of men, also emerged. An integrated community development approach, in which nutrition may be an entry point, has facilitated success in many of the programmes. Where a minimum package has been introduced which is negotiable and flexible at the community level good progress is made. Growth monitoring and promotion seem to be the key elements within this minimum package.

Successes should be publicised, and within the community, awareness needs to be raised so that the communities themselves are empowered to begin to address their own problems and begin to make demands on the system.

There is a need to measure precisely what is meant by community involvement, and to determine how this might be assessed. Providing support and resources such that communities themselves are involved in assessing the problems encourages sustainability at the community level. Programmes need to be carefully monitored and there is a crying need for effective indicators to do this. These issues –community involvement and participation, and strengthening of monitoring supervision so that there is continuous support to the community level – emerged from most of the programmes discussed.

One of the key factors of success is capacity building –building capacity within the community but also across the whole support infrastructure. If capacity support at a higher level does not exist, the activities at a lower level may be jeopardised. Capacity building should be looked at holistically. There are situations where building capacity and supporting institutions at the national and regional levels may be needed, but dearly an accurate assessment of the situation is a prerequisite.

The training aspect of developing capacity also emerged. There is a need for programme–relevant or programme–driven training and making sure that the mobilizers are supported and strengthened in a relevant way. In those countries which have shown some degree of programme sustainability, strengthening a support infrastructure has been shown to be worthwhile investment.

***Talks presented at the Symposium on 'Effective Programmes in Africa for Improving Nutrition'
February 1996, Accra, Ghana***

(to be presented in detail in the next issue of SCN News)

Household Food Security, Kenya	Ruth Oniango, Jomo Kenyatta University, Kenya
Household Food Security, Ghana	Rosetta Tetebo, MOA, Ghana
Urban Household Food Security, Madagascar	Jayshree Balachander, World Bank
Food Security and Nutrition Programme, Benin	Joyce Gbegbelegbe, PILSA, Benin
Child Survival and Development Programmes, Tanzania	Wilbald Lorri, TFNC, Tanzania
Community-Based Nutrition Programmes in Niger	Jean Michel Ndiaye, UNICEF, WCARO, Burkina Faso
Effective Programmes for Improving Nutrition in Ghana	Rosanna Agble, MOH, Ghana
Community Food and Nutrition Programme, Zimbabwe	Julia Tagwireyi, Nutrition Department, MOH, Zimbabwe
Nutrition Surveillance and Intervention, South Africa	Robert Fincham, University of Natal, South Africa
Vitamin A Programme, Uganda	J. Sabiiti, MOH, Uganda
Salt Iodization Programmes in Africa	Festo Kavishe, UNICEF ESARO, Kenya
West African Nutrition Network	Kwadwo Okyere, SADAOC, Ghana
Regional Training Needs in ECSA Countries to Improve Nutrition Programmes	Catherine Siandwazi, CRHCS/ECSA, Tanzania
Reversing Negative Nutrition Trends in Africa	Richard Heyward, UNICEF

Under the issue of long term sustainability, nutrition does not have too many magic bullets, except perhaps IDD in the micronutrient area. Even then the need for a long term look at the investment in nutrition emerged as one of the factors in successful programmes. This brings in the issue of political commitment, the role of national governments, and the question of institutional and policy framework for addressing nutrition. In many African countries, having a national food and nutrition policy will help to mobilise nutrition activities of different sectors. In this regard, the ICN process played a very crucial catalytic role. Encouraging different sectors to sit round the same table in dialogue may help ensure that nutrition be placed higher on the agenda and be considered in the longer term. The issue of a sustained support and partnership between key partners; governments, the private sector, NGOs and donor agencies, may facilitate long-term investment in nutrition.

There has been a lot of discussion about the scaling up and expanding on small successes. This hinges on how to mobilise governments to pay attention and be committed to successful programmes. In this regard, it is important to define success of a programme beyond simply the measurement of outcome indicators. The outcome is of course important – whether it be a positive impact on child growth or a reduction in malnutrition. However, the fact that the community is doing something and has adopted a certain activity or initiative, is a measure of success which also needs to be highlighted to donors and governments. In this respect, there are links between the issue of scaling up a programme, the long term investment in nutrition and the commitment to sustainability by governments.

There is also the issue of inter-agency, inter-collaboration and dialogue. The IDD story is a very good example of how inter-agency collaboration, involving international donors, the private sector or NGOs, really made a difference to a problem in Africa. One wonders whether this example, where different parties work towards a common goal, cannot be applied to the rest of the nutrition programme. Under the whole area of regional cooperation, African countries need to support and help one another in terms of capacity building and bringing different sectors together. There are experiences outside Africa which are so rich and which can help African countries to move the agenda further. Mechanisms – perhaps more effective documentation – need to be found in order to share those experiences.

Finally, the whole question of advocacy and raising awareness is a cross cutting issue. Information, education and communication strategies are a weak link even at the programme level. Successes should be publicised, and within the community, awareness needs to be raised so that the communities themselves are empowered to begin to address their own problems and begin to make demands on the system”.

News and Views



World Food Summit
13–17 November 1996, Rome

World leaders from 186 participating countries assembled in Rome in November 1996 for the World Food Summit, which was aimed at renewing global commitment to the fight against hunger and malnutrition, and achieving lasting food security for all. The FAO called the Summit in response to widespread undernutrition and growing concern about the capacity of agriculture to meet future food needs.

With more than 800 million people throughout the world unable to meet their basic nutritional needs, the Rome Declaration on World Food Security reaffirmed the right of everyone 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. It pledged commitment to achieving food security for all and to eradicating hunger in all countries with an immediate view to reducing the number of undernourished people to half their present level no later than 2015. The Declaration sets out seven commitments:

- *Laying the groundwork for development* a peaceful, stable and enabling political, social and economic environment, based on full and equal participation of women and men is the essential foundation for food security and poverty eradication.
- *Reduce poverty and facilitate access to food*: poverty is a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food.
- *Adapt development policies*: sustainable agriculture, fisheries, forestry and rural development are essential for adequate and reliable food supplies. The problems of pests, drought and desertification need to be combatted.
- *Facilitate trade*: trade is a key element in food security – food, agricultural and overall trade policies must be conducive to fostering food security for all through a fair and market-orientated world trade system.
- *Improve forecasting and respond to food security*: natural disasters and man-made emergencies give rise to transitory and emergency food requirements. Such emergencies must be prevented or prepared for.
- *Encourage investment* public and private investment is required to foster human resources, sustainable food agriculture, fisheries and forestry systems, and rural development.
- *Implement, monitor and follow up the Plan of Action*.

The FAO World Food Summit Web Site offers all the major Summit documents, including Part One of the 'Report of the World Food Summit'. The site includes news bulletins, information for NGOs, and transcripts of some of the speeches. The texts of the Rome Declaration on World Food Security and the World Food Summit Plan of Action are also available at this site. The web site can be found at:
<http://faowfs0a.fao.org/wfs/homepage.htm>

Source: FAO WFS Web site; the Rome Declaration on World Food Security and the World Food Summit Plan of Action

SCN Statement on the World Food Summit

At the 23rd Session of the Sub-Committee on Nutrition which took place from 24 February – 1 March 1996, in Accra, Ghana, the following consensus statement was issued to reflect the SCN's support for the World Food Summit initiative. The Summit took place in Rome the following November.

Malnutrition robs a country of its best minds and bodies and the lives of children. In the two decades since the World Food Conference of 1974, the questions of how much food the world grows and how that food is

distributed have rightly remained at the centre of international debate and concern. However, emphasis on large- and small-scale food production must be linked to access to food and its utilization by households and communities. In Sub-Saharan Africa, the prevalence of undernutrition increased between 1990 and 1995 and nutritional improvement in most other developing areas of the world is slowing down or stagnating. The gravity of malnutrition cannot be overemphasized. Malnutrition reduces intelligence, educability, disease resistance, productivity and activity. Furthermore, it is passed along to the next generation if the pregnant woman is malnourished. Reducing or preventing malnutrition offers widespread, tangible benefits for individuals and countries.

The SCN strongly supports the World Food Summit which will be organized by the Food and Agriculture Organization of the UN (FAO) at its Rome headquarters in November 1996. It welcomes the attention and focus the Summit will bring to the problems of hunger and malnutrition, and sustainable strategies to address them, particularly in view of current and projected world population growth, concerns about the environment, and problems of global, national and household food security. We urge all participating member governments, international organizations, bilateral and non-governmental organizations, to review all background documents to assure adequate attention is paid to malnutrition and to assure the widest possible participation in the preparation for, deliberations at, and follow-up to the World Food Summit.

Agricultural development will have the greatest impact on reducing malnutrition if it is coupled with efforts to improve family income, the health environment, and nutrition behaviours. Agricultural production must be linked to household food security, improved education, and appropriate care practices. To assure a sustainable and sufficient world food supply, it is necessary to keep under review investments in agricultural development affecting supply. It is also imperative to increase the production and consumption of legumes, fruits, and vegetables to address micronutrient malnutrition. However, these necessary steps are not enough. We believe that increased investments in these areas must be matched with programmes of action on nutrition to achieve the goals set by the 1992 International Conference on Nutrition.

It is clear that continued supportive action at the global level is needed. Since the World Food Conference and the International Conference on Nutrition, we have learned much about what works to address malnutrition. It is now clear that a variety of approaches can work within the resource constraints of developing countries. What is common in these approaches is that they involve the family and the community in finding the appropriate solutions to the nutrition problem.

Neither financial resources nor technology are binding constraints. What is required is political commitment and a sound strategy in each country. The world is not trapped in irreversible downward trends. Many countries have shown how to improve the nutritional status of their people, especially the most vulnerable. If clear action is taken seriously and soon, improvements in nutrition will become evident – with positive results for today's society and for future generations.

Accra, 1 March 1996

Regular Deworming of School-Age Children: Study Shows Promising Results

A new study has indicated that a low-cost deworming strategy in school-aged children can significantly reduce the amount of blood loss caused by intestinal worms. According to WHO estimates, around 1,400 million people worldwide are currently infected with one or more of three intestinal helminths – roundworm, whipworm, or hookworm. Infection with any of these can cause health problems, but hookworm is particularly debilitating, attaching itself to the intestinal wall, and causing iron deficiency anaemia by blood loss.

Amongst the most vulnerable to adverse effects are an estimated 400 million infected school-age children, whose normal growth, nutritional status, and learning ability are all threatened.

The study – carried out by a collaborative team with members from Johns Hopkins University, USA, the World Health Organization, and the Ministry of Health of Zanzibar, United Republic of Tanzania – involved 3,600 primary school children in 12 schools on Pemba Island, one of the two main islands of Zanzibar. Researchers estimated that treatment with mebendazole – given three times yearly – saved the loss of almost a quarter of a litre of blood per child annually at a cost of about 15 cents – a fraction of the cost of other drugs currently used for deworming.

Dr Lorenzo Savioli, a WHO expert in parasitology put the findings into context: “these results are a milestone, because they conclusively demonstrate that regular deworming is an effective, cheap and sustainable tool to control debility among children in endemic countries... the challenge now is to utilise this tool and integrate it

with other health interventions, especially micronutrient supplements, to improve the health of children.”

More information can be obtained from Dr Lorenzo Savioli, Schistosomiasis and Intestinal Parasites, World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41-22-7912664, Fax: 41-22-7914869. Email: saviolil@who.ch

Gujarat's Improved Mid-Day Meal Programme for 3 Million Primary Schoolers from 1994

A report on the pre-post impact evaluation of the improved mid-day meal programme, Gujarat. By Tara Gopaldas & Sunder Gujral, 1996

By the year 2000 the Government of India will universalize primary education, and approximately 200 million undernourished and underprivileged schoolers (6–15 years) will get free mid-day meals. The Western state of Gujarat, acknowledged to be one of the most pragmatic in the country, has been the first to realise the vital link between “Education and Educability”, and since 1994, nearly 3 million schoolers in its Mid-Day-Meal Programme (MDMP) have been receiving a simple additional school health package of “deworming + iron + vitamin A”. This report provides an evaluation of the improved mid-day meal programme, based on the operational research conducted by Professor Tara Gopaldas and her group at Maharaja Sayajirao University at Baroda.

The school health package consists of a six-monthly dose (400 mg) of albendazole and vitamin A (200,000 IU) and one tablet daily of ferrous sulphate providing 60 mg of elemental iron for 85 days per term for 2 terms a year. On an average, 72% of schoolers participated in the Health Package Programme.

To evaluate the effects of the package, two rounds of surveys – one at baseline and one 6–9 months after implementation of the Health Package Programme by the Government of Gujarat – were carried out on approximately 6,000 children in 3 selected districts by Tara Consultancy Services.

The prevalence of intestinal parasitic infections in schoolers significantly reduced from 40% to 32% in response to the health inputs. These findings are supported by the stool examination conducted on a sub-group of schoolers where the prevalence was 71% in those who had *not* received the health inputs, compared to 40% in those who had. The mean haemoglobin levels of schoolers significantly improved in response to the health inputs from 10.6g to 11.8g/dl. Consequently, the prevalence of iron deficiency anaemia (IDA) reduced from the Baseline survey to the Resurvey (84% to 53%).

A significantly smaller proportion of schoolers were affected with diarrhoea/dysentery/upper respiratory tract infections at the Resurvey as compared to the Baseline Survey. Vitamin A deficiency ocular signs decreased from 48% to 22%. These reductions were recorded in younger (6–10 years) as well as older (11–15 years) age schoolers. Growth improved markedly, and so did the weight-for-age and height-for-age curves of the schoolers.

More schoolers were nutritionally in the normal category by the Body Mass Index at the Resurvey. About 70% schoolers perceived that they felt physically more fit than before (more active/energetic; could study and play well etc.) after taking the health inputs.

This simple and cost effective intervention was achieved for about 34 US cents per schooler per annum. It can well be adopted by the entire developing world.

For further information please contact: Professor Tara Gopaldas, Director, Tara Consultancy Services, “Saraswathi”, 124/B, Varthur Rd., Nagavara Palya, Bangalore 560093, KA, India. Phone 91 (80) 5282999 Fax: 91 (80) 5285914

Breastmilk's Unique Protective Qualities

It is well known that infants who are formula fed contract more infections than those who are breastfed, and the use of contaminated water in feeds has commonly been thought to be responsible for this. But even when fed sterile formula, infants suffer from more meningitis and infection of the gut, ear, respiratory tract, and urinary tract than their breastfed counterparts. Why is this? The answer may lie in the intricate and unique make-up of human breastmilk – according to an article in *Scientific American* scientists have discovered a range of components which actively offer protection to newborns from disease in a variety of ways.

Antibodies Amongst the antibodies found in breastmilk, one known as IgA, or more specifically secretory IgA, is found in the largest quantities. Secretory IgA is present in abundance in the gut and respiratory system of adults where it binds to pathogens and denies them access to the body's tissues. Infants are unable to make secretory IgA on their own, often until several weeks or even months after birth, and thus rely on the antibody being passed on through breastmilk.

Furthermore, the antibodies in breastmilk are formed in direct response to pathogens ingested by the mother. The result is a highly specific collection of antibodies which can protect an infant against those disease-causing agents he is most likely to encounter.

Immune Cells White blood cells (or leukocytes) are abundant in human breastmilk and have the ability to fight infection themselves, and to activate other defence mechanisms.

Protective Molecules Amongst the other components of breastmilk thought to offer protection are:

- *Oligosaccharides* – these simple chains of sugars can prevent bacteria from entering cells by providing binding sites similar to those on cell walls;
- *Mucins*– have similar properties to oligosaccharides;
- *Lactoferrin* – a protein which can bind to two atoms of iron making it unavailable to pathogenic bacteria;
- *B₁₂ binding protein* – deprives microorganisms of vitamin B₁₂;
- *Bifidus factor* – promotes growth of the harmless bacterium *Lactobacillus bifidus*, which helps to crowd out more dangerous bacteria;
- *Free Fatty Acids* – these can damage the membranes of enveloped viruses such as chicken pox;
- *Interferon* – displays strong antiviral activity; and
- *Fibronectin* – this has the ability to make some phagocytes (a cell which engulfs particles such as invading microorganisms) more aggressive.

Something in breastmilk also appears to bring about faster maturation of an infant's immune system – for example, breastfed babies produce more antibodies when immunized. And something, as yet unidentified, seems to stimulate infants' production of secretory IgA, lactoferrin, and lysozyme, all of which are found in larger amounts in the urine of breastfed babies than formula fed babies (breastfed babies cannot absorb these molecules from human milk into their gut). Perhaps this explains the findings of recent studies that demonstrate that the breastfed infant has a lower risk of acquiring urinary tract infections.

Source: Newman, J. (1995) How Breast Milk Protects Newborns. Scientific American, December 1995, 58–61

Poverty Assessment in Kenya

The results of a poverty assessment in Kenya, published by the Population and Human Resources Division, Eastern Africa Department of the World Bank, have revealed no improvement during the decade 1982 – 1992 in the proportion of the rural population below the poverty line – the figure remains at around 50%. It also showed that in 1992, the proportion of the urban population below the poverty line was around 30%.

According to an article on the findings, the rural poor are predominantly subsistence farmers and families whose income comes mainly from the informal sector, whilst the urban poor are either unemployed or in the informal sector. Children from poor families have less schooling, are more likely to be malnourished, less likely to be immunized, and face higher chances of dying in infancy and childhood.

From 1982–1992, Kenya did achieve improvements in some of its social indicators. However, a lack of sustained per capita income growth together with unequal distribution of education and health care benefits are amongst the factors singled out as responsible for the increase in numbers of poor in the country. These factors are targeted in the strategy for improvement suggested in the report.

The report concludes that “broad-based economic growth and the provision of basic social services to the poor are two mutually reinforcing strategies that could assure rapid and sustainable progress for the people of Kenya. One without the other is insufficient and inadequate progress in one constrains the other.”

To obtain a copy of the report “Kenya Poverty Assessment” Report No. 13152-KE published in 1995 by the Population and Human Resources Division, Eastern Africa Department, Africa Region, World Bank, Washington, D.C. please contact: Ms Yordanos Seium, Room J10-204, World Bank, Washington, D.C. Phone: (202) 473-4099

Source: World Bank (1996) Assessing Poverty in Kenya. Findings: Africa Region, No. 55, 1-3

Thrasher Research Fund.

Request for proposals on food-based approaches to preventing micronutrient malnutrition

Food-based approaches offer sustainable solutions to problems of malnutrition, and include all activities affecting human nutrition and health, which are associated with the production, acquisition, preservation and utilization of food. To exploit the potential for food-based systems, the Thrasher Research Fund are inviting submission of research proposals in the following areas:

- Increasing the effectiveness of foods and/or diets as sources of key micronutrients
- Increasing the supply of micronutrient-rich foods and increasing the micronutrient densities of foods
- Developing effective information, education and communication methods to promote food-based micronutrient interventions.
- Developing programs and policies that influence the choices of consumers and producers to increase the supply and consumption of micronutrient-rich foods.
- Evaluating existing or planned food-based micronutrient interventions to assess their impact in terms of acceptance, effectiveness, efficiency, utilization and sustainability.

The review committee will evaluate proposals based on several criteria: effect on health; practical application; innovation; purpose and aims; project site; replicability; funding considerations; and participatory approach.

Proposals will be accepted until 31 December 1998, or until all designated funds are committed. Support will be limited to three levels of funding: up to US\$10,000; US\$10,000-25,000; and US\$25,000-\$50,000.

For full details of policies, guidelines and application procedure, please contact Food-based Approaches, Thrasher Research Fund, 50E, North Temple Street, Salt Lake City, Utah 84150, USA. Fax: 801 240 1964 Phone: 801 240 4753



World Alliance on Breastfeeding Action (WABA)

The World Alliance on Breastfeeding Action (WABA) held its first Global Forum in Bangkok 2-6 December 1996. It brought together about 380 people from 85 countries, representing a multitude of disciplines as well as organizations.

WABA has existed for five years, but the present Forum was the first occasion for its supporters and users to meet in body. The Forum was ambitiously entitled “Children's Health, Children's Rights: Action for the 21st Century”, concentrating for action for the next century. There were 82 working groups in the course of the four days of meeting, formulating a series of recommendations and actions for the future.

The Forum for the first time addressed the issue of breast milk as a human right for babies, with all its legal and moral implications. A working group was established to work out how to utilise existing tools, such as the

Convention of the Rights of the Child and the Convention on the Elimination of all Forms of Discrimination Against Women. The reporting obligations and the requirements for observance that these Conventions entail for the states that have signed them can also have implications for work to protect and promote breastfeeding.

The Forum was important as a manifestation of the strength and liveliness of WABA, and the goodwill and willingness to work together that exist among the various voluntary organizations working in this field, in spite of differences in origin and agenda apart from breastfeeding which united them all. WABA thus has demonstrated its ability to serve as a unifying force, which can only bode well for the health of tomorrow's children.

For more information contact: WABA, P.O. Box 1200, 10850 Penang, Malaysia. Telephone 60-4-6584816, Fax: 60-4-6572655, Email: sec@waba.po.my

*Source: Elisabet Helsing, Co-Chair, WABA
Email: elisabet.helsing@helsetilsynet.dep.telemax.no*

Zvitambo: Zimbabwe Vitamin A for mothers and babies project

“Zvitambo” is a Shona word which literally means precious or very valuable. It is frequently exclaimed when visiting a newborn baby who is particularly robust and healthy. It is also the acronym for a project about to be launched, Zimbabwe Vitamin A for Mothers and Babies. This study aims to determine whether oral administration of vitamin A to mothers and infants immediately after childbirth will reduce mother-to-child HIV transmission during lactation, sexually transmitted HIV infection in women during the post-partum year, and infant mortality. The study will be carried out in Harare, Zimbabwe where mild vitamin A deficiency is apparent, 30% of pregnant women are HIV sero-positive and 6% of women who are seronegative at delivery become infected during the post partum year. This is a collaborative project between the University of Zimbabwe and the Centre for Tropical Diseases at McGill University, with the main trial due to start in October 1997. The project is funded by the Canadian International Development Agency (CIDA).

Breast feeding policy in HIV endemic countries is becoming a very difficult and emotional issue. Maternal-to-child transmission accounts for over 90% of paediatric HIV infections worldwide, and among breast feeding populations, some one-quarter to one-third of HIV infected infants acquired the infection while breast feeding. The reality of this risk presents a great dilemma for many African countries where a substantial proportion of lactating women are HIV infected but alternative infant feeding choices risk the 6 million infant lives saved each year by breast feeding. Making the issue even more difficult is that most African women do not know and many do not want to know whether they are infected with HIV or not. Therefore, breast feeding policy must weigh up the risks and benefits for populations as a whole. The health and survival of the infants born to HIV uninfected women in these populations may be jeopardized when breast feeding promotion is eroded in attempt to reduce risk among exposed infants. An intervention which reduces the infectiousness of the breast milk of HIV infected women and can be feasibly applied to all post-partum women is needed.

Emerging data demonstrating that vitamin A deficiency among HIV infected women is associated with higher concentrations of HIV in their breast milk and higher rates of HIV transmission to their infants suggest that vitamin A supplementation of mothers in the immediate post-partum period may reduce the risk of HIV transmission during lactation. This intervention has already been shown to benefit woman and their breastfed infants who are not infected with HIV by improving their vitamin A status. Providing vitamin A to uninfected post-partum women may also improve the integrity of their vaginal epithelium and strengthen their immune system, reducing their risk of acquiring the infection from sexual partners during the post-partum year, a period when women appear to be at particularly high risk of becoming infected. Furthermore, in one study, providing vitamin A to infants soon after delivery substantially reduced early infant mortality. Vitamin A supplementation of both mothers and their newborn infants in the immediate post-partum period, when the majority of women come in contact with some member of the health care system, would be inexpensive, readily linked with an existing health care system, and may have multiple benefits for HIV infected and uninfected mothers and infants.

Source: Dr Jean Humphrey, Zvitambo Project, 18 Van Praagh, Harare, Zimbabwe. Fax: 263-4-708-413

NGO Nutrition Association – a new initiative

As an initiative of the 'Action Contre la Faim' Scientific Advisory Committee, its Chairman, Professor Mike Golden of the Department of Medicine and Therapeutics at Aberdeen University has recently established an NGO Nutrition Association. The Association has started as an E-Mail discussion group for those who co-ordinate, manage or advise nutrition programmes in developing countries and for those nutritionists who are working in relative isolation. The idea behind the Association is that participants can share problems and opinions, particularly those originating from the field, with a wide range of interested people who have experience and expertise in a whole variety of topics related to such programmes. New initiatives can be discussed before they are implemented. The results of trying new approaches can be disseminated. Even issues such as the ethics of various nutritional interventions can be aired. Important information from the literature can also be brought to the group's attention.

An Association page is currently being constructed on the World Wide Web which will serve as a location for messages that are consensus statements or conclusions from the Association's deliberations. Currently, members of the Association are mainly drawn from both UN and non-governmental organisations and also from a wide range of academics doing research in both rich and poor countries, many of whom have not had the opportunity to interact with humanitarian organisations. Although optimistic about the usefulness of the Association, Golden observes that "the group will only be as good as those who actively contribute to it". Those who plan, co-ordinate, evaluate, manage or advise nutrition programmes are encouraged to join by sending a message to ngonut-request@abdn.ac.uk which includes their position and address.

*Source: Professor Michael Golden, University of Aberdeen, Foresterhill, AB9 2ZD, Scotland.
Email: m.golden@abdn.ac.uk*

Vitamin A: Fifth Business

Fifth business – definition. 'Those roles which, being neither those of Hero nor Heroine, Confidante nor Villain, but which were nonetheless essential to bring about the Recognition or the denouement, were called the Fifth Business in drama and opera companies organized according to the old style.'

In the context of control of vitamin A deficiency, there are plenty of examples of Fifth Business – meaning public nutrition actions without whose successful conclusion programme targets will not be reached on time or, worse, cannot be reached at all. But here I intend to focus on just one of them, surveys.

Consider surveys of different types – baseline, on-going, for evaluation. Without good baseline data it is impossible to know the size and characteristics of the vitamin A problem, and therefore impossible to come up with appropriate solutions. Without follow-up and evaluation surveys it is difficult to track progress. So for vitamin A public nutrition programs, surveys are certainly Fifth Business.

Yet, as we get uncomfortably close to the year 2000 and its goal of virtual elimination of vitamin A deficiency, many countries (especially for example in Sub-Saharan Africa but also in the Newly Independent States of Eastern Europe and South East Asia) have hardly begun even to establish representative, reliable and countrywide baseline data. Meanwhile other countries with large, longer-term programmes (Bangladesh, India, Indonesia, Viet Nam) are asking questions about cost-effectiveness of different interventions and current vitamin A status.

The reality is that good survey data is in short supply, whether it be recent or historical. The WHO/Micronutrient Deficiency Information System (MDIS) documentation of vitamin A assessments, despite its intended comprehensiveness and ambition, is more like a patchwork quilt of scattered information at different points in time than a complete global mapping.

Furthermore, one cannot fail to be impressed (or more likely depressed) by the increasing number of incomplete, non-reported and simply mis-handled surveys. Is it that our ability to computerize, and superficially juggle, large data sets now exceeds our ability to predict results demanded of the analysis? Sometimes one has the feeling that the ability to deal with more data, in more complexity, has become the drive or principle for designing some studies; rather than the need to ask practical programmatic questions.

Is juggling a large amount of data somehow more fascinating intellectually than creating an interface of critical information linking inputs with likely outputs, that can be used to promote actions for change and improvement, with a realistic amount of resources? EPI-INFO 6, for example, has certainly transformed data handling, but it should not replace the most lucid and clear-headed thought about what data should be handled. Is this evident to readers of SCN News? Probably. But even if so, the point is certainly not understood by plenty of others; and applied during study design by few.

The evidence? Within the past 12 months alone, I have come across examples of uncompleted or only partially reported surveys in Madagascar, Malawi, Nigeria and Senegal. The cost? Not far short of \$900,000 if the figures presented me are to be trusted. Difficult to believe?

Agreed. But probably not far from the truth. And that is without discounting the hours of lost labour by planners, survey teams and most numerous of all mothers with their children (an estimated 20,000 of them).

Definitely not a pretty picture of efficiency. One that, if disseminated, could even provoke awkward questions from donors who have to foot the bill. And, as significantly, a total of wasted surveys which could most likely be considerably added to, without much effort, by readers of SCN News.

So much for the problematic. But if Fifth Business is essential, what about solutions? WHO in 1995 updated 'Vitamin A deficiency and its consequences: a field guide to their detection and control' by Professor Sommer. This work is the gold standard for anybody working with vitamin A surveys. Indeed it is one of those rare publications that, along with a few others, has combined to create a radically new approach to micronutrient deficiency in general. This said, it contains so much detail that the inexperienced survey planner could be tempted to go for the seemingly 'safer' option of more, rather than the practically 'surer' option of less.

Is there an alternative? Well, how about a far shorter document (maximum ten pages) that trims the issues down to a few essentials – and approaches them with the heavy-handed clarity of a cookbook. Not a counter publication, but a different and complementary publication, aimed at small and beautiful, deliberately directive and limited. This trimmed down version would answer only the questions that really need answers; not the uncontrolled range of others that 'would be interesting to know'.

The essential ingredients, for example, could be just three-fold: night blindness, distribution of serum retinol in the population and frequency of consumption of vitamin A-rich foods for mothers and preschool-age children – not much more than that. The built-in objective would be to provide a final report within at most three months of completion of fieldwork. It would also contain a range of maximum acceptable costs for different geographical and socio-economic situations.

Coincidentally (or perhaps not) it was the Canadian novelist, Robertson Davies, who awakened the world's interest in Fifth Business, in the opening section of the Deptford Trilogy. Would it not be especially appropriate, therefore, for the Micronutrient Initiative of Canada to take up the challenge of Fifth Business as it relates to vitamin A surveys? Or would one of the UN organizations, or NGOs, agree to focus on simplifying vitamin A surveys; an unfortunately neglected, yet fundamental, issue if the year 2000 goal is to be shown to be achievable?

*Source: Nicholas Cohen, Focus Asia, Jakarta, Indonesia
27 Avenue Voltaire, 01210 Ferney-Voltaire, France
Tel: 33-4-5040 5263, Fax: 33-4-5040 9643
Email: 106113.720@compuserve.com*

World Federation of Public Health Associations

8th International Congress – Health in Transition: Opportunities and Challenges 12–16 October 1997, Arusha, Tanzania

The World Federation of Public Health Associations announces its 8th International Congress to be held in Arusha, Tanzania, 12–16 October 1997. The meeting will be hosted by the Tanzanian Public Health Association. Join health practitioners, policy makers, administrators, development workers, researchers, and many others from governments, academia, international organizations, and the NGO community for this exciting event.

WFPHA is a non-governmental organization composed of national public health associations from 48 countries around the world. WFPHA Congresses are held every three years and are co-sponsored by WHO and UNICEF. Participation is open to all.

For further information and abstract forms contact: WFPHA Secretariat, c/o APHA, 1015 15th Street, NW, Suite 300, Washington, DC 20005, USA. Fax: (202) 789 5681

Collaborate, Communicate, and Celebrate

Society for Nutrition Education Meeting 1997

The society for Nutrition Education's 30th Annual Meeting will take place from 22–26 July in Montreal, Quebec, and will take the theme of "Building bridges... Through Collaboration, Communication and Celebration".

The meeting will provide a forum for exchanging ideas and information on how to improve and strengthen nutrition education practice and provide an environment for developing professional skills.

Meeting sessions will include invited presentations. Other oral and poster presentations will be reviewed and selected from submitted abstracts.

The Society for Nutrition Education is a professional association of 2,300 nutrition educators in the US, Canada, Mexico and several countries outside North America. The society promotes the nutritional well-being of people through improved education, research and public policy.

For information please contact: Society for Nutrition Education, 2001 Killebrew Drive, Ste, 340, Minneapolis, MN 55425–1882, USA. Phone: 612 854 6721 Fax: 612 854 7869 Email: labat004@tc.umn.edu. For information on membership, call 612 854 9697

Online Primary Health Care Database

The Appropriate Health Resources and Technology Action Group (AHRTAG), based in London, UK, is making available on the INTERNET a unique searchable bibliographic database focusing on primary health care and disability issues in the developing countries.

The database contains descriptions of over 15,000 materials held in AHRTAG's resource centre, including articles, books, manuals, reports, as well as unpublished materials on a wide range of issues including adolescent health, evaluation, health education, HIV and AIDS, planning and management, programme implementation, structural adjustment, training, urban health, and nutrition.

For further information please contact: Margaret Elson, Information Systems Officer, AHRTAG, Farringdon Point, 29–35 Farringdon Road, London EC1M 3JB, UK. Phone: (44 171) 242 0606 Fax: (44 171) 242 0041 Email: ahrtag@geo2.poptel.org.uk

Source: AHRTAG Information Sheet, January 1996

International Postgraduate Courses, Cuba

The Institute of Nutrition and Food Hygiene (INHA) of Havana, Cuba, in its role of WHO Collaborating Centre, holds every year a Program of International Postgraduate Courses mainly for Spanish-speaking specialists all around the world.

In 1997, INHA will be holding the following International Postgraduate Courses:

1. Fats in Human Diet: Effects on Health

October 13–17, 1997

Coordinator Dr Alejandrina Cabrera, PhD. Fee US\$330* US\$210**

2. Systems Design and Data Analysis in Nutritional Surveillance

October 20–24, 1997

Coordinator: Lic. Pedro Monterrey, PhD. Fee: US\$365* US\$275**

3. Food and Nutritional Surveillance

October 27–31, 1997

Coordinator: Prof. John Gay, MD, PhD Fee: US\$300* US\$210**

4. Computer Programs Applied to Dietary Assessment for Food and Nutrition Surveillance

November 3–21, 1997

Coordinator: Lic. Armando Rodriguez, MSc. Fee: US\$1,050* for three modules (US\$350/module) or: US\$750** for three modules (US\$250/module)

5. Food Security

November 24–28 1997

Coordinator: Dr Santa Jimenez, MD, PhD. Fee: US\$300*

Fee: US\$210

6. Epidemiology and Nutrition

December 1–12, 1997

Coordinator Dr Carmen Porrata, MD, PhD Fee: US\$750* US\$525**

* Price includes registration fees, printed materials, lodging and meals in the Guest's House of the Institute of Nutrition and Food Hygiene. Teaching activities take place in the same location with the exception of field activities.

** Price includes only registration fees and printed materials.

For further information please contact: Professor Mirta Hermelo, MD, PhD, Head, Department of Postgraduate Education, Institute of Nutrition and Food Hygiene. Calzada de Infanta 1158, La Habana 10300, Cuba. Phone: (53–7) 78 5919/78 1835/78 1479 Fax: (53–7) 33 8313/33 3375

Source: Professor Manuel Amador, Deputy Director, INHA, 21 August 1996

Food Fortification to End Micronutrient Malnutrition: State-of-the-Art

2 August 1997, Montreal, Canada

This one day symposium will present state-of-the-art fortification technologies for a variety of food vehicles. Experts from research institutions, the food industry and non-governmental organisations will review past achievements, provide analysis of the current situation and highlight opportunities for the future. The programme will focus on the state-of-the-art for fortification of five groups of food vehicles generally considered most appropriate for the elimination of micronutrient malnutrition including cereals and grains, fats and oils, dairy products, salt, sugar and condiments.

Food Fortification to End Micronutrient Malnutrition: State-of-the-Art, is an official satellite meeting to the 16th International Union of Nutritional Sciences Congress.

To register please contact Alison Greig, Micronutrient Initiative, 250 Albert Street, Ottawa, Canada K1G 3H9. Fax: 613 236 9579 Email: agreig@idrc.ca. There is no registration fee. For further information, please phone 613 236 6163 ext. 2203

Short Course on Participatory and Rapid Appraisals for the Health Sector

7–20 September 1997, Keele University

The Centre for Health Planning and Management at Keele University is offering a short course on 'Participatory and Rapid Appraisals for the Health Sector' from 7–20 September 1997. The objective of the course is to familiarize participants with tools and techniques to provide timely and appropriate information as well as facilitate participation of local people in the planning process. The course will introduce a wide range of participatory and rapid methods for assessments and evaluations. There will be considerable group work with course facilitators in applying the methods and skills which are taught, and the course will focus on an intensive interaction for participative learning which will include activities outside the classroom.

Further information, including course fees and an application form, can be obtained from the Course Administrator, Ms Brenda Corbishley, Centre for Health Planning and Management, Darwin Building, Keele University, Keele, Staffs, ST5 5BG, UK. Phone: +44 1782 583192 Fax: +44 1782 711737

The 15th Leeds Course in Clinical Nutrition

2–5 September 1997, Leeds

The Department of Medicine at St. James's University Hospital, Leeds, and the School of Continuing Education at the University of Leeds, are offering a course in clinical nutrition to be held at the University Hospital. Daily sessions will focus on:

- Nutrition, Surgery and Gastroenterology
- Clinical States Associated with Nutritional Problems
- Nutrition in Minority Groups
- Nutritional Treatment

A number of guest lectures will also be included in the programme. The Leeds Course in Clinical Nutrition is approved for a total of 16 hours C.M.E. by the Royal Colleges of Physicians and Surgeons and also has PGEA approval (17 hours A/B).

Further information, including course fees and an application form, can be obtained from the Course Secretary – Clinical Nutrition, School of Continuing Education – CVE, Continuing Education Building, Springfield Mount, Leeds LS2 9NG, UK. Phone: +44 113 233 3233 Fax: +44 113 233 3240

Positions Available, World Bank, Washington D.C.

Senior Nutrition Adviser

The World Bank is currently seeking a (Senior) Nutrition Adviser to the Health, Nutrition & Population (HNP) Board at its Headquarters in Washington, D.C.

As the World Bank's most senior adviser for nutrition, the selected candidate will (a) provide leadership in developing and overseeing nutrition strategy for the Bank; (b) guide quality assurance work on nutrition lending at the Bank; (c) lead the consultative process with borrowers, donors, NGOs, and academics during the different stages of preparation of the Bank's nutrition policies.

The selected candidate will be a dynamic individual with the highest professional qualifications and an internationally recognized authority in the nutrition sector, with demonstrated outstanding managerial and communication skills and excellent analytical ability. He/she will have practical experience working on nutrition for an extended period in a developing country situation. Women and candidates of diverse nationalities are strongly encouraged to apply.

The World Bank offers an internationally competitive compensation package, including expatriate benefits. Candidates should fax their resumes within two weeks of the publication date to: Recruitment Unit, Attention: NUTR-Adv.-SCN, World Bank, Room MC4-137, Washington, D.C., Fax 202 477-4744.

Source: World Bank 6/3/97

(Senior) Food & Nutrition Policy Advisor

The Bank seeks an outstanding candidate of international stature as its (Senior) Food & Nutrition Policy Advisor to: (a) link the Bank's food & nutrition policy issues, practices and research with state-of-the-art knowledge and policies of other international organizations, bilateral donors, and non-governmental organizations; (b) coordinate the work of the Bank's various units involved in food & nutrition policy; and (c) implement its Rural Action Plan and Hunger Strategy.

The nature of the work requires a dynamic individual with excellent analytical ability, outstanding communications skills and demonstrated management capacity. The selected candidate will be an internationally recognized authority in international food consumption policy and human nutrition, with the highest professional and academic qualifications (PhD in Economics/Agricultural Economics preferred). He/she will have a minimum of 15 years of varied field and institutional experience in areas relevant to the impact of agricultural policy and development on food consumption and nutrition. Proficiency in English is essential; proficiency in French, Spanish or Portuguese will be a significant advantage. Women are strongly encouraged to apply.

The World Bank offers an internationally competitive compensation package, including expatriate benefits. Candidates should send their resumes by August 15 to: The World Bank Recruitment Unit, Ref: FDAD-SCN, Rm. 0-4-140, Washington, DC 20433, USA. Fax: (202) 522-2148.

Refugee Issues



Save the Children Fund (UK)

Household Food Economy Analysis

When people are uprooted from their homes and are deprived of their livelihoods as in refugee situations, access to food is often impeded leading to heightened food insecurity among the population. One way to help alleviate this insecurity is the provision of food aid. In addition, it has long been acknowledged that refugees develop alternative ways to ensure they have access to food. However, in the past, it has been difficult to quantify the methods and extent to which refugees are able to meet their needs.

This new method for assessing needs of populations facing acute food insecurity, regardless of the reason, is based upon a deeper understanding of the various options people employ to secure access to food. The method explores in a systematic fashion other food and income sources people rely upon, and the degree to which these can be expanded in times of crisis. Thus, in times of food scarcity, it is possible to analyse what options people have to support themselves and to quantify the size of any food deficit that they may face. Food aid might be one way to tackle the problem of food scarcity, but it is not the only solution. This approach focuses on interventions that will support local initiatives.

The novelty of this approach is the attempt to quantify factors such as relative wealth, sources of income, sources of food, and patterns of expenditure in refugee situations. Assessments have been carried out in a number of places, including Kenya, Ethiopia, Uganda and Nepal, with the result being a more complete information on how refugees cope and therefore how we can most effectively fill the gap. They will hopefully lead to better and more effective use of food aid, that will support and not undermine local practices.

Source: *Household Food Economy Analysis What Is It?* by Save the Children Fund (UK)



Field Exchange – the Emergency Nutrition Network quarterly newsletter

The Emergency Nutrition Network (ENN), has recently started publication of a quarterly newsletter, **Field Exchange**, which will be devoted primarily to publishing field level articles and current research and evaluation findings relevant to the emergency food and nutrition sector. The target audiences of **Field Exchange** are food and nutrition workers involved in emergencies, and those researching this area.

The ENN focuses on food and nutrition aspects of emergencies and is a result of a shared commitment to improve knowledge, stimulate learning, and provide vital support to food and nutrition workers involved in emergencies. The Network aims to improve emergency food and nutrition programme effectiveness by:

- providing a forum for the exchange of field level experiences;
- strengthening humanitarian agency institutional memory;
- keeping field staff up to date with current research and evaluation findings;
- helping to identify subjects in the emergency food and nutrition sector which need more research.

The newsletter will be central to these activities by reporting and exchanging field level experiences.

The first issue of **Field Exchange** was published in May 1997 and is available upon request from: Fiona O'Reilly, ENN Coordinator, c/o Department of Community Health and General Practice, 199 Pearse Street, Trinity College, Dublin 2 Ireland, Email: foreilly@tcd.ie

WFP/UNHCR Co-operation

WFP and UNHCR have signed a new Memorandum of Understanding. According to the cover letter important new elements include provisions for: better assessment of the numbers and needs of beneficiaries, clearer role for WFP in final distribution of food, the need to monitor the food pipeline closely, share timely information and take early joint action on shortfalls in deliveries.

Nutrition is prominent in the objective of this Memorandum. We read that: "through... timely provision of the right quantity of the right food and related non-food inputs, WFP and UNHCR seek to ensure the restoration and maintenance of a sound nutritional status through a food basket that meets the assessed requirements, is nutritionally balanced and is culturally acceptable...". Further, the Memorandum emphasizes "promotion of... self-reliance... through... programmes to develop food production or... self employment". This is aimed at facilitating a shift from food distribution towards development activities.

What exactly are assessed requirements? Requirements established by FAO/WHO are to provide the basis for the calculation of food needs, while a set of "agreed nutritional guidelines" are to be used as well. These guidelines will be released shortly by the two agencies. Numbers of beneficiaries, modalities of assistance, composition of the food basket and ration size are to be determined jointly. However, UNHCR is responsible for determining the nutritional status of refugees and for the implementation of selective feeding programmes "as may be found necessary in addition to the agreed general ration.

Interestingly, UNHCR is responsible for mobilizing local fresh foods, spices, tea and "dried and therapeutic milk". WFP is responsible for mobilizing other commodities, whether for general or selective feeding: cereals, oils, pulses, blended foods, salt (no reference to iodization), sugar and biscuits. WFP will ensure the provision of blended foods "or other fortified commodities" to prevent or correct micronutrient malnutrition.

Reproductive Health in Refugee Situations: An Inter-agency Field Manual (UNHCR, 1995)

Following from the primary objective of the Inter-Agency Symposium on Reproductive Health in Refugee Situations (Geneva, June 1995) to introduce reproductive health activities in all refugee situations, experts and experience field staff have collaborated to produce this Field Manual.

The Manual is intended to inform field managers and operational agencies of the issues related to reproductive health affecting women, adolescents and men in refugee situations, and to serve as a tool to help implement, monitor and evaluate reproductive health-related interventions.

The purposes of the Field Manual are:

- to focus attention on and familiarize field staff with an aspect of refugee rights and welfare which has been too often widely overlooked;
- to offer guidance to field staff in introducing and implementing reproductive health services in refugee situations;
- to foster coordination between potential partners.

The Manual describes the components of a comprehensive reproductive health service. Helpful tools for project implementation and a list of further reading are provided, and appendices contain essential documents on information, education, communication and legal considerations.

A version of this Manual is also available in French. The authors invite users to field test the Manual, so that all comments and input may be used in the preparation of a revised Manual.

Copies of this publication may be obtained from the Programme and Technical Support Section, UNHCR Headquarters, Case postale 2500, CH-1211 Geneva 2 Depot 2, Switzerland. Fax: +41 22 739 7371

Inter-Agency Workshop on Selective Feeding Programmes

18-20 February 1997, hosted by CONCERN, Dublin

This workshop was one of a number of follow-up actions being taken by the Inter-agency Food and Nutrition Group following earlier workshops held in Addis Ababa and Geneva. Among the follow-up actions identified at the Addis workshop (October 95) was the proposal "to develop a typology of the design and objectives of selective feeding programmes currently implemented in emergency situations". A subsequent meeting held in Geneva (May 96) decided to hold a workshop which would focus exclusively upon unresolved issues related to selective feeding programmes in emergency situations. Funding for the workshop was provided by the Department of Foreign Affairs, Ireland.

The primary purpose of the Dublin workshop was to focus on areas of controversy with a view to reaching consensus amongst the workshop participants and making some headway on issues such as the development of a comprehensive typology for selective feeding programmes. Clarification of terminology, the rationale behind supplementary feeding programmes, a conceptual framework for design, programme objectives and suitable indicators were discussed. In addition, the issue of closure and problems of assimilation of selective feeding programmes into local health structures was discussed. Workshop participants were able to share and update technical information between agencies and to clarify priorities for further field research, including issues such as the use of z-scores for admission criteria, the requirements of appropriate foods for use in supplementary and therapeutic feeding programmes and criteria for the assessment of adult malnutrition.

The workshop report is available from CONCERN, Camden Street, Dublin 2, Ireland. Fax: 353-1-4754647, Email: concern1@iol.ie



ACC/SCN Reports on the Nutrition Situation of Refugees and Displaced People

The Reports on the Nutrition Situation of Refugees and Displaced People are published every three months under the AC/SCN's Refugee Nutrition Information System (RNIS). The system was started on the recommendation of the SCN's Working Group on Nutrition of Refugees and Displaced People, by the SCN in February 1993. Updates on rapidly changing situations, and where new information is available, are published on an "as needed" basis, depending on the current situation. The Updates are, where feasible, transmitted by Email.

Information is obtained from a wide range of collaborating agencies, both UN and NGO. The overall picture gives contact and information which separate reports cannot provide by themselves. The information available is mainly about nutrition, health, and survival in refugee and displaced populations.

To obtain more information, or to be put on the mailing list to obtain the reports and electronic mail updates, please contact: Ms Jane Wallace, ACC/SCN, c/o World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41-22-791 04 56, Fax: 41-22-798 88 91, Email: accscn@who.ch

Programme News

FAO – Joint FAO/WHO Expert Consultation on Management of Risks Posed by Foodborne Hazards

A Joint FAO/WHO Expert Consultation on the Application of Risk Management to Food Safety Matters was held in Rome, Italy, from 28 to 31 January 1997. Participants included experts in food safety and risk management, representatives of international organizations and observers from the Codex Alimentarius Commission (CAC) and relevant Codex Committees. The primary objective of the Consultation was to provide recommendations on the practical application of risk management to food safety matters to FAO and WHO, thus to Member States and the CAC.

The Consultation considered risk management definitions, the general principles of food safety risk management and proposed guidelines for developing a risk management framework. In addition, the consultation reviewed the current risk management practices within the Codex Alimentarius Commission, and its subsidiary bodies and the interaction with advisory expert committees.

Among the key recommendations from the consultation, was the need for FAO/WHO to establish a joint expert committee to provide microbial risk assessment information to support Codex risk management decisions and recommendations. The consultation also recommended that the Codex Committees should review standards and advisory texts in their respective areas of responsibility.

The report has been published as Risk Management and Food Safety; Report of a Joint FAO/WHO Consultation, Rome, Italy, 27–31 January 1997, FAO Food and Nutrition Paper No. 65, and is available on the FAO WWW Home Page.

Joint FAO/WHO Expert Consultation on Carbohydrates in Human Nutrition

Our understanding of the role that carbohydrate foods play in both human nutrition and health has taken great strides during the past decade. With the advances in knowledge of carbohydrate foods have come new issues for nutritionists and public health officials to consider. A Joint FAO/WHO Expert Consultation on Carbohydrates in Human Nutrition was held from April 14–18, 1997 at FAO headquarters in Rome, Italy. The group of experts made recommendations regarding the role and use of carbohydrate foods in the diet and in the maintenance of health, including for the prevention of some non-communicable diseases.

There is growing understanding of the diverse physiological roles that these substances play, particularly when they are not glycemic and go on to be fermented in the colon. The consultation adopted recommendations to revise terminology for dietary fibre. Other recommendations are focused on disease prevention, encouraging an intake of at least 55 percent of energy from carbohydrate foods from a variety of sources, including a gradual transition in the diet of two year-olds toward diets consumed by adults.

The interim report of the consultation can be viewed on the Internet (<http://www.fao.org>). The final report of the consultation, including background papers, will be available later this year.

FAO Technical Consultation on Food Allergies

From 13–14 November 1995 a Technical Consultation on Food Allergies was held in Rome. In the interest of consumer safety, thirteen experts from developed and developing countries discussed food allergies and made proposals on the labelling requirements for packaged foods.

To assist the food industry in their task of consumer protection and to facilitate international harmonization and a uniform approach to the labelling of foods, the Codex Committee on Food Labelling (CCFL) considered including a mandatory listing of foods and ingredients which “are known to cause hypersensitivity” and which “shall always be declared as such” in the General Standard for Labelling of Prepackaged Foods.

FAO requested the group of experts to develop science-based criteria to determine which substances should be placed on the list of substances. Their opinion was sought on how to overcome the problem of class naming conventions for the products of allergenic foods, which are themselves also allergenic and which may be used as food ingredients. Finally the experts provided guidance on scientific considerations to be made in striking a balance between health requirements and technological limitations when considering labelling requirements for minor ingredients or for components of composite ingredients which are allergenic.

The experts provided FAO with clear guidelines and recommendations on how the CCFL should proceed in its work. The three criteria for inclusion on the “list” is the severity of reaction, prevalence of sensitivity among the population and the level of allergen in the food. Food ingredients or additives which are products of allergenic foods are to be included on the label and where an ingredient is given its functional name, the source of the ingredient should also be indicated, for example “emulsifier (soya)”.

A report of the Consultation is available from The Chief, Food Quality and Standards Service, Food and Nutrition Division of the FAO, Viale delle Terme di Caracalla, 00100, Rome, Italy.

Background Papers of the Expert Consultation on Nutrition Education for the Public

The complete set of six discussion papers prepared for the Expert Consultation on Nutrition Education for the Public, held in 1995, has been published as FAO Food and Nutrition Paper Number 62. The publication covers the following topics: past experiences and needs for nutrition education; a framework for nutrition education programmes; nutrition education and communication strategies for different groups and settings; training needs for nutrition education; evaluation of nutrition education programmes; and new developments in computer-mediated technology for nutrition education. This document complements the earlier publication,

Nutrition Education for the Public: Report of an FAO Expert Consultation FAO Food and Nutrition Paper, Number 59, which was published in 1995.

Community Nutrition

– Participatory Approaches in Community Nutrition

To promote a coordinated approach to improving household food security and nutrition at the local level, the Food and Nutrition Division is carrying out a joint in-service training programme for senior development officers (government and NGOs) at district level in three districts of Nepal. These five-day participatory training-cum-planning workshops are developed and implemented by a national training institution with technical assistance from FAO. Participants become familiar with relevant nutrition information, participatory planning approaches and participatory appraisal tools, as well as the use of the Guidelines for Participatory Nutrition Projects. The problem-solving approach promoted by the programme leads to the identification of concrete follow-up actions within on-going development programmes and projects. Participants are expected to replicate this training at a more decentralized level. A video on this exercise, 'Introducing Participatory Nutrition Programmes' is now available from the Food and Nutrition Division of the FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy, Fax 39-6-52253152.

A similar approach – based on the joint identification of at risk groups and corresponding causes of malnutrition – is being followed in Guatemala as part of an activity to formulate a food and nutrition strategy for returnees and displaced people.

FAO believes that the two-stage participatory nutrition approach (training at district level followed by promotion of participatory nutrition activities at community level) can prove particularly useful in food insecure areas (e.g. drought-prone, HIV/AIDS affected areas, emergency relief and rehabilitation). It can also contribute effectively to sustainable human development and poverty alleviation.

– Improving Nutrition in Africa

An intercountry workshop on “Improving food supplies and nutrition through household and village level processing of vegetables and fruits in Eastern and Southern Africa” was organised by FAO in collaboration with the Government and the University of Zimbabwe and was held in Harare, 12–16 February, 1996. Delegates from five countries including Zimbabwe, Zambia, Tanzania, Kenya and South Africa participated in the workshop, presented country papers, discussed and exchanged information and made important recommendations for the improvement of village level preservation and processing of vegetables and fruits in the region. They also decided to establish a network for the exchange of information between the countries of the region with the Jomo Kenyatta University as the focal point. A report of the workshop is available in the Food and Nutrition Division, FAO, Rome.

A national workshop on “Food-based approaches for the control of micronutrient deficiencies” was held in Morogoro, Tanzania. This workshop was sponsored by FAO and was organised by the Food and Nutrition Unit of the Ministry of Agriculture, Government of Tanzania. The main objective of the workshop was to prepare a national programme for the control of micronutrient deficiencies in Tanzania through implementation of food-based programmes. The participants reviewed all ongoing nutrition activities and prepared an action programme on the subject with recommendations for future work.

Food Composition Activities

FAO is promoting the establishment and strengthening of national food composition programmes as well as increased regional collaboration among countries aimed at the generation and dissemination of reliable food composition data that meet the needs of national users. FAO anticipates that the regional orientation of collaborative work will assist in the sharing of resources and lead to the cost-effective implementation of food composition activities.

In 1996, these activities included technical and financial support to inter-country meetings on food composition activities in various regions; training courses in several technical aspects; assistance for national institutions and preparatory work for the establishment of Regional Technical Co-operation Networks on Food Composition. The inter-country meetings covered South Asia (SAARCFOODS); Canada, USA and Mexico (NORAMFOODS) and Central America (LATINFOODS). The first two meetings were jointly organized with UNU/INFOODS. At these meetings, participants addressed the major issues relative to food composition activities in their regions, and formulated recommendations useful for policy development at both central

government and institutional levels. The recommendations focused on national programme development, regional co-operation, and linkages among food control, food industry and food composition programmes. Copies of the final reports of these meetings can be obtained from the Food and Nutrition Division upon request.

In 1997, two intercountry workshops to set-up technical cooperation networks on food composition in Central and Eastern European Countries (CEEFOODS) and in Mediterranean Countries (MEFOODS) have been held and training courses on the production and use of food composition data in nutrition are being organized. Through its Technical Co-operation Programme (TCP), FAO is considering proposals received from Bulgaria, China, Cyprus; Egypt and Lebanon for direct technical assistance in this area.

Collaboration in Nutrition Education

In light of technical issues and recommendations resulting from the World Food Summit, held in Rome in November 1996, the Food and Nutrition Division and the University of Giessen's Department of Nutrition are reviewing the curricula of selected international community nutrition masters' degree courses. Following the review, a document will be prepared to assist training institutions in developing and developed countries to strengthen their ongoing or planned courses.

Under the new FAO Special Partnership Programme, the Food and Nutrition Division is developing nutrition education materials for schools in collaboration with the National Institute for Nutrition in the Netherlands.

International Fund for Agricultural Development (IFAD)

Zambia – An Integrated Approach to Generate Drought Resilience

IFAD have adopted an integrated approach to improve household food security (HFS) and nutrition for drought affected households in Zambia. This is one of several recently launched projects in Southern and Eastern Africa that address the particular problem of transitory food insecurity induced by recurrent droughts.

Food insecurity is addressed in three ways:

1. *Improving the long term resilience of households to food security risks.* This would result from improved research particularly on soil and water conservation techniques and diversification towards drought-tolerant crops. Agricultural goals would be complemented by improving accessibility of remote areas, upgrading potable water supplies, and diversifying income sources.
2. *Stabilizing household food access in deficit periods,* through better storage practices and distribution of insecticides as well as improved market access.
3. *Strengthening household food security monitoring.*

The project aims to target the most vulnerable areas and meet the needs of the intended beneficiaries according to their own priorities. Gender awareness permeates all activities, recognising the special constraints faced by women, their needs and responsibilities for HFS and nutrition. The project features strong support for a unified national food security monitoring system, integration into a broader agricultural sector programme, and inter-agency collaboration with UNICEF and WFP. The project also highlights the need for a national perspective and a set of policies and mechanisms through which the Government of Zambia could consistently address the food insecurity problem.

For further information, please contact Dr Mona Fikry, Technical Advisor on Gender and Household Food Security, IFAD, 107 Via del Serafico, 00142 Rome, Italy. Phone: 39 6 54591 Fax: 39 6 5191702

UNICEF

Interactive Multimedia in Nutrition Learning

For many years, UNICEF have discussed the need of a comprehensive Nutrition Learning System, based on modern multi-media and communication systems. This idea was discussed at two meetings during the UNICEF Network for a Nutrition Initiative in South Asia, 1996; the first in Rajasthan (10–12th October), and

the second in Bangkok (11–13th September).

Preparing this interactive global learning package will require the cooperation of a global network of partners. UNICEF and learning institutions (primarily universities) will be the key partners. Data on all aspects of the nutrition problem will be compiled centrally (UNICEF HQ) and stored in databases.

The learning package will consist of three major parts; a Knowledge Base (structured in 10 modules according to the UNICEF promoted Conceptual Framework), a Triple A Tool Box, and a Triple A Stimulation (game). The 10 modules of the Knowledge Base will be (1) nutritional status and mortality, (2) dietary intake, (3) diseases, (4) household food security, (5) care practices, (6) health services, (7) water and sanitation, (8) education, information and communication, (9) access and control of resources, and (10) basic determinants and causes. The Triple A Tool Box will include a series of modules on how to assess, analyse and act, and will also include description and information on how different strategies (advocacy, information, education, training and service–delivery) affect the establishment and/or strengthening of Triple A processes at different levels. Each of these components, and the relationships between them will be described and presented using a variety of multimedia; text, graphics, audio, video and animation. The learning package may be available as CD–ROM, through the internet, or a hybrid of both with links to the Internet launched from various parts of the CD–ROM.

Source: 'Interactive Multimedia in Nutrition Learning' (Part I) – report on the second meeting at Bangkok, Thailand, 11–13 December, 1996; U. Jonsson, Regional Director, UNICEF Regional Office for South Asia, P.O. Box 5815, Lekhnath Marg, Kathmandu, Nepal, Fax (977–1)419479, Email: ujonsson@uncrosa.mos.com.np

Nutrition Improvement in Niger

A UNICEF–supported Nutrition, Family Food Security and Environment Programme in Maradi Province, Niger has shown successful outcomes in several key areas. Malnutrition has declined: in one of the first districts to implement the Programme, malnutrition of preschoolers declined by 18%. Crop production has improved, breastfeeding practices have improved, and women's workload has declined.

The key to this success is the empowerment of women, enabling them to manage small enterprises, be members of village development committees, and generally to help assess community problems and find solutions appropriate to their own needs.

Programme activities include motorised grinding mills, mule carts to reduce time needed to fetch water, cereal banks that help reduce seasonal dips in food availability, and basic health and sanitation measures. Government agents who have been trained in community participation will continue to train and support women. The Programme should cover about a quarter of the country by the year 2000.

Source: UNICEF Communication, June 1996

UNICEF ESARO

Eighth Meeting of the UNICEF ESARO Household Food Security and Nutrition (HFSN) Network, Mangochi, Malawi, 16–19 April, 1996

In Africa, urbanization is occurring rapidly. UNDP estimates that the urban population in Africa will double to 361 million by the year 2000. The result is a shift in poverty from rural areas to low–income peri–urban slums that are unplanned and generally fast growing.

In recognition of the urgent and important need to address the urban problems related to nutrition and care, the eighth meeting of the UNICEF ESARO Household Food Security and Nutrition Network was convened in Mangochi, Malawi, 16–19 April 1996. The following recommendations were agreed upon.

Programme Strategies

Nutrition policies should differentiate between urban and rural household food security and nutrition conditions, with special attention given to vulnerable groups in urban poor families, street children and disabled children. City–wide policies on urban HFS should be formulated, and as women are the key persons in promoting urban HFS and nutrition, activities to empower women socially and economically must be implemented.

Urban Policy, Analysis and Planning

The new paradigm for urban poverty eradication must be South–South cooperation, particularly African–Asian cooperation on urban agricultural micronutrient rich food production and exchange of technological information and experiences.

Urbanization, Policy Making and Planning

UNICEF and other donors are encouraged to fund the emerging post–Bellagio ESARO “research and training network to improve the efficacy of nutrition programmes” to review, refine and adapt existing poverty indicators to urban situations. The UNICEF policy on urbanization should be reviewed to consider the changing conditions of the urban poor.

For further information, please contact Dr Festo Kavishe, UNICEF, No. 11, Street 75, Straschark Quartier, P.O. Box 176, Phnom Penh, Cambodia. Fax: 855–23–426284 Phone: 855–23–426214/5 & 427957/8 Email: fkavishe@unicef.org

WFP

Performance of WFP in 1996

For the fourth consecutive year the global availability of resources for food aid declined; the volume of food decreased from over 16 million tons in 1993 to 7.5 million tons in 1996. In 1996, WFP delivered 2.6 million tons to 45 million beneficiaries, among which 25 million were emergency victims (refugees, internally displaced people and victims of natural disasters). In order to meet its commitments for emergency food aid, WFP had to curtail its development programme, including Food for Work, School feeding and MCH activities, in all but the least developed countries, as increased efficiency could only compensate for part of the reduction in resources.

Nutrition

The importance of nutrition considerations in food aid implementation is increasingly recognised in WFP. As a consequence, there are now two senior nutrition advisers at HQ, while provisions are being made to employ nutrition expertise at regional/country level in the ongoing decentralisation exercise.

Operational Policies

WFP has started to review its operational policies for use of food in development activities, looking for windows of opportunities where food aid has comparative advantage. In this connection, guidelines for School feeding have been completed with emphasis on cost–efficiency. Particular attention is paid to short–term hunger and micronutrient deficiencies as impediments for learning ability.

A new policy concerning MCH interventions is being discussed. A workshop on the theme “Breaking the Inheritance of Hunger” has reviewed the role of supplementary feeding.

The realisation of the strategic role of women in household food security has changed WFP's approaches which now strongly support the involvement of women in management and implementation of food aid activities, contributing thereby to women's empowerment.

Micronutrients

Special donor funding mainly from Canada is available to strengthen micronutrient components in WFP activities. A major limitation is the lack of available cost–effective technologies to fortify cereal and legume grains, which form a large part of the commodities WFP distributes. Some highlights:

- only iodised salt is distributed in WFP programmes;
- most vegetable oil is fortified with vitamin A; in local purchases partially refined palm oil is now selected;

- local production of fortified blended foods is growing; this product is increasingly used in School feeding (Nepal, Ethiopia), MCH programmes (India, Senegal) and increasingly in the general rations of emergency and refugee programmes;
- low-cost “cereal drinks” basically consisting of blended food with a generous addition of sugar, are used in School feeding programmes and vulnerable group feeding programmes to replace milk;
- when cereal flour is distributed, most of it is now fortified with B vitamins and iron (maize flour from South Africa for Liberia, wheat flour from Europe for ex-Yugoslavia and CIS-countries);
- the introduction of fortification of wheat flour with B vitamins and iron on a nation-wide scale is assisted by WFP (Bolivia and Yemen);
- a pilot project for milling of cereals at the distribution site is in preparation; this activity will also investigate the possibility of flour fortification.

WHO

Restructuring of Nutrition, Food Safety and Food Aid Programmes

As part of the ongoing reform process and with a view to strengthening operational integrated programmes in public health, the Director-General decided to restructure the nutrition, food safety and food aid programmes at headquarters. The following changes were effective from April 1997.

The Division of Food and Nutrition was disbanded. The Director-General announced the appointment of Dr G.A. Clugston as Director, Programme of Nutrition (NUT), which is placed within Family and Reproductive Health (FRH), with Dr T. Turmen, Executive Director.

The Food Safety and Food Aid Programmes became the Programme of Food Safety and Food Aid (FSF), reporting to Dr F.S. Antezana, Assistant Director-General. The Director-General announced the appointment of Dr F.K. Käferstein as Director, Programme of Food Safety and Food Aid.

Source: WHO Information Circular, 1997

A New Growth Reference Curve for the 21st Century

Plans to conduct an international multi-centre study have been drawn up by WHO in collaboration with the United Nations University and other international and national institutions, with the primary aim of constructing a new international growth reference. The intention is to carry out the study over a period of four years with the objective of building a set of growth curves for children up to five years from seven geographically diverse countries, with WHO Geneva taking responsibility for central coordination and data management.

The proposal comes in response to deliberations by a WHO Expert Committee, who in 1993 drew attention to the problems associated with the existing growth reference, challenging its suitability for international purposes and expressing serious concern over its use for assessing the growth of healthy, breast-fed infants. WHO-supported research indicated that an inappropriate international reference may lead health workers to misinterpret the growth patterns of breast-fed infants and mistakenly advise mothers to supplement unnecessarily with complementary foods or even to stop breast feeding altogether. The potential adverse consequences for the health and nutritional well-being of infants and the implications for child-spacing resulting from this misinterpretation, led to a request by the World Health Assembly in 1994 to develop a new international growth reference to assess the growth of breast-fed infants (resolution WHA47.5). It is expected that a new, technically sound growth reference will support the identification of the earliest signs of poor growth and, as a result, promote early remedial action to prevent the cycle that, unbroken, leads to more severe forms of malnutrition and increased mortality.

For further information, please contact: Dr Mercedes de Onis, The WHO Multicentre Growth Reference Study. Nutrition Programme, World Health Organisation, 20, Avenue Appia, 1211 Geneva 27, Switzerland. Tel: 4122 791 3320; Fax: 41 22 791 0746/4156, Email: deonism@who.ch

Development of Strategies on Caring for the Nutritionally Vulnerable During Emergencies

WHO is currently implementing activities to develop strategies on caring for the nutritionally vulnerable during emergencies as part of its efforts in implementing the World Declaration and Plan of Action for Nutrition.

A draft review document on "Caring for the Nutritionally Vulnerable during Emergencies: A Review and Implications for Policy" has been prepared. This review document will be sent out for the peer review in June 1997. In addition, several rapid assessment case studies which examined intrahousehold resource distribution, caring practices and nutritional vulnerability during emergencies were undertaken to provide additional information and data to be incorporated in the review document. It is planned that, in collaboration with concerned agencies and experts, a technical consultation will be organized later in 1997 to examine the review document and develop strategies on caring for the nutritionally vulnerable during emergencies. It is envisaged that based on the strategies and guiding principles developed at the consultation, training modules will be developed in order to assist health personnel working in emergencies.

For further information, please contact: Ms C. Nishida, Nutrition Programme, World Health Organisation, 20, Avenue Appia, 1211 Geneva 27, Switzerland. Tel: 41 22 791 3317; Fax: 41 22 791 0746/4156, Email: nishidac@who.ch

Multi-Country Study on Improving Household Food and Nutrition Security for the Vulnerable

A multi-country study on improving household food and nutrition security was launched in February 1995 as part of WHO'S efforts to implement the World Declaration and Plan of Action for Nutrition and is currently being implemented in China, Egypt, Ghana, Indonesia, Myanmar and South Africa. The ultimate aim of the multi-country study is to develop guiding principles for use by policy makers for increasing awareness of household dynamics and also the importance of incorporating cultural, socio-economic and behavioural considerations in development policies and programmes intended to improve household food and nutrition security for the vulnerable.

The specific objectives of the study are:

1. to identify factors influencing the dynamics of intrahousehold food and other resource distribution for improving nutritional security of the vulnerable;
2. to stimulate and build a national capacity for operational research on the examining determinants of health, nutrition & behavioural change and also on approaches to enhance the health, nurturing, caring and development functions within households and communities;
3. to facilitate household and community-based interventions to ensure and enhance family well-being with specific focus on caring for the vulnerable, e.g. infants, young children, women, and the aged;
4. to foster the development of programmes and human resources to protect and promote the health and nutrition security of the vulnerable;
5. to collect and disseminate scientific and technical information, and facilitate and encourage the international exchange of ideas and experience.

The following are the collaborating institutes and organizations in each site:

China – Chinese Academy of Preventive Medicine

Egypt – National Nutrition Institute

Indonesia – GTZ and Universitas Indonesia

Ghana – Noguchi Memorial Institute for Medical Research at the University of Ghana, International Food Policy Research Institute (IFPRI), Rockefeller Foundation, CIDA, IDRD, UNICEF and national NGOs

Myanmar – Ministry of Health

A mid-project review meeting will be held at the WHO Centre for Health Development in Kobe, Japan from 12 to 14 November 1997.

For further information, please contact: Ms C. Nishida, Nutrition Programme, World Health Organisation, 20, Avenue Appia, 1211 Geneva 27, Switzerland. Tel: 41 22 791 3317; Fax: 41 22 791 0746/4156, Email: nishidac@who.ch

Maternity Protection

WHO, at the request of the International Labour Office (ILO), plans to revise the Maternity Protection Convention (Revised), 1952 (No. 103), which will be on the agenda of the 1999 International Labour Conference. In view of the two organizations' common interest in the health aspects of maternity protection, ILO has asked WHO to collaborate in the preparation of a law and practice report for discussion by the Conference, including recommended care for pregnant women and women who have recently given birth; minimum period of prenatal and postnatal leave; recommended duration of breast-feeding and breast-feeding breaks; on-the-job accommodation of job duties and rest breaks for pregnant women and women who have recently given birth; and protecting pregnant and lactating women from occupational and industrial hazards.

For further information please contact Ann Herbert, CONDIT, International Labour Office, Route des Morillons. CH-1211 Geneva 22. Switzerland. Fax: 41-22-798 86 85, Email: herbert@ilo.org

Foodborne Disease Problems Posed by *Escherichia coli* O157:H7

A WHO Consultation on the Prevention and Control of Enterohaemorrhagic *Escherichia coli* (EHEC) Infections was held in Geneva from 28 April to 1 May 1997. Food Safety experts from 14 different countries assembled to share national experiences and lessons learned regarding the contamination of the food supply with EHEC strains, and to exchange information on current approaches to the prevention and control of infections and outbreaks caused by *E. coli* O157:H7 and other EHEC strains. *Escherichia coli* commonly occurs in the intestine of humans and other animals. There are several pathogenic types of *E. coli*, which cause a variety of human diseases. In 1982, *E. coli* O157:H7 was recognized as a human pathogen for the first time, and, since then, has been a steadily increasing cause of foodborne illness worldwide. The pathogen produces potent toxins and causes a particularly severe form of human disease, haemorrhagic colitis. About 10% of these patients can go on to develop the haemolytic uraemic syndrome (HUS), a life-threatening complication of *E. coli* O157:H7 infection that is characterized by acute renal failure, haemolytic anaemia, and thrombocytopenia that is particularly serious in young children. On average, 2–7% of patients with HUS die, but in some outbreaks among the elderly the mortality rate has been as high as 50%.

E. coli O157:H7 is transmitted principally through consumption of contaminated foods, such as raw or undercooked ground meat products and raw milk. Faecal contamination of water and other foods, and cross-contamination during food preparation have been important routes of infection. The range of foods reported as vehicles of transmission and the numerous transmission routes create a major challenge in terms of designing prevention and control strategies.

The consultation specifically considered the issues of surveillance, outbreak investigation and control strategies. When establishing surveillance for EHEC infections, emphasis should be placed on timely collection, analysis and transmission of data to those who can undertake an appropriate response at local, regional and national levels. Appropriate incentives must exist to encourage data providers to supply the needed data in a timely manner. One of the most important of these is the timely feed back of surveillance information in a useful format to those who have provided raw data. A variety of approaches have been taken to surveillance for EHEC infections. The principal systems for surveillance include hospital-based systems for identification of HUS cases and laboratory-based systems for the identification of infected individuals. The latter can be supplemented by active sentinel surveillance systems in some circumstances, for example, in regions in which culture for *E. coli* O157 is not routine. The development of outbreak surveillance systems (that is, systems to document the number and characteristics of EHEC outbreaks over a given time period) is of great value given the magnitude of past outbreaks, the serious nature of the disease and the valuable lessons to be learned from outbreak investigations.

Successful outbreak investigation often depends on keeping effective lines of communication open among multiple agencies involved in public health, food and agriculture. Experience with recent outbreaks shows that media attention will be swift, dramatic and intense because of the serious nature of EHEC infection and the age groups affected. Information from the outbreak team should be channelled to the media via a designated officer by means of regular press briefings. Information should be accurate and consistent.

In general the prevention of foodborne diseases must be based on good hygienic practices and the control of contamination of foods by biological and chemical hazards. This can be most effectively achieved through the application of food safety assurance programmes, based on the principles of the HACCP system. Such a system should be applied by primary producers, manufacturers, retailers, food service establishments and consumers. Recommendations included the application of such food processing methods as pasteurisation of milk to eliminate EHEC, thorough cooking of foods and education of food handlers and farm workers in principles and application of food hygiene measures.

Source: Dr F.K. Käferstein, Director, Programme of Food Safety and Food Aid, WHO, 20 Avenue Appia, CH 1211 Geneva 27, Switzerland. Tel: 41-22-791 3535, Fax: 41-22-791 4807 Email: kafersteinf@who.ch

Global Burden of Disease Study

In the minds of some the Global Burden of Disease Study "revolutionized" priority setting in the health field when its findings were first published in 1993. Up to that time there had been no reliable epidemiological data set comprehensive enough to identify priorities for health services and research. The GBD Study is a worldwide collaboration of over 100 researchers, sponsored by WHO and the World Bank and based at the Harvard School of Public Health. The results of this study provide new analysis of world health.

The GBD is now in its fifth round. The series quantifies the burdens of 483 sequelae of 109 major causes of death and disability disaggregated by region and age-sex groups. Risk factors are evaluated and projections to the 2020 are made. Results are presented in a series of very large (1000 pages, hard cover) volumes.

Where does nutrition fit in? Nutritional deficiencies (including PEM, vitamin A deficiency, IDD and anaemia) are included amongst Group I causes of death, i.e., conditions that decline at a faster pace than all-cause mortality during the process of the epidemiological transition. This is new. At an earlier stage of this work it was felt that there was too much uncertainty in distinguishing these deaths from other nutritional causes using data available at that time. Group II is non-communicable diseases and Group III is injuries.

In general, results show that the epidemiological transition in developing regions is considerably more advanced than is generally thought. Noncommunicable diseases already cause more deaths in the developing world than communicable diseases. Health promotion and disease prevention programmes will have to adapt to this public health reality. So will nutrition thinkers, doers and advocates.

The GBD will come out with a volume VIII next year that presents estimates of malnutrition as a cause of death and disability. Volume VIII will cover PEM (Bailey, de Onis and Bloessner), vitamin A deficiency (Underwood), IDD (Bailey), anaemia (Bailey and Abou-Zahr), and cancer (Miller). The chapter on PEM will present estimates of mortality attributable to malnutrition based on Pelletier's research on the potentiating effect of malnutrition (see Figure on next page). A separate volume IX on selected risk factors is also planned. A recent article published by the same authors in *Science* (vol. 274, p.740) presents the global burden of disease attributable to selected risk factors. Malnutrition came out on top, accounting for 11.7% of total deaths. Poor water and sanitation was next. This is important work to follow.

More information can be obtained from Dr Man Lopez, Programme on Substance Abuse, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41-22-791 2374, Fax: 41-22-791 4851. Email: lopeza@who.ch

It would be helpful to the GBD study team if those interested eventually in purchasing the nutrition volume could make this known to Dr Lopez' office. The cost for individual copies will be \$49.95. It would be particularly appreciated if professional societies would agree to advance purchase several hundred copies of the volume for subsequent distribution to their constituencies – there would be a reduction for such bulk purchases of around US\$10 per copy – contact Dr Lopez for more information. The volume will be available through Harvard University Press.

Child Health and Development

Nutrition is prominent in the work of the Child Health and Development Division (CHD) at WHO. CHD's primary objective is to significantly reduce mortality and morbidity associated with the major illnesses of childhood in the developing world. Deaths associated with malnutrition account for 54% of the 11.6 million child deaths each year.

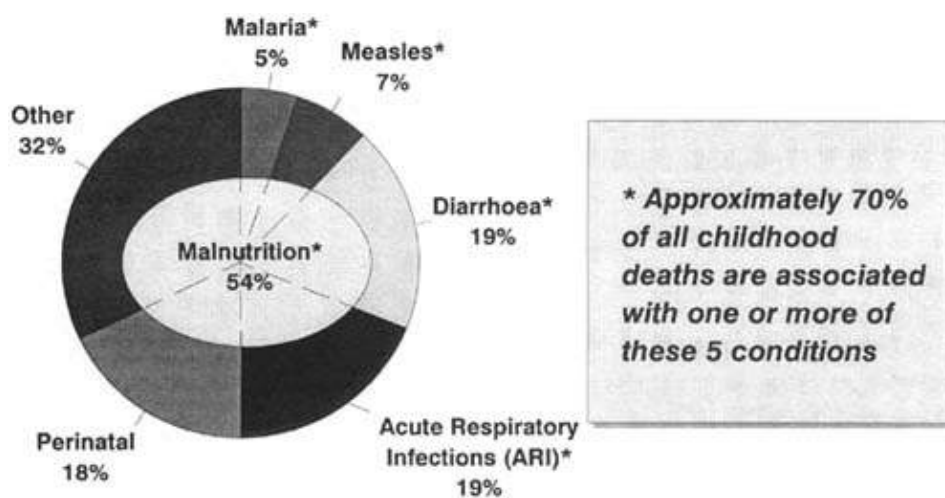
In April of this year the technical advisory group of the CHD Division stated "in recognition of the fact that disease and nutrition are synergistic in determining child mortality and must therefore be dealt with in an integrated way... support for development and testing of nutrition interventions [should] be given even higher priority".

Some of the work in progress includes: research on interventions for the promotion of breastfeeding, persistent diarrhoea and breastfeeding, and complementary feeding. Recent work on the Ten Steps to Successful Breastfeeding, which is the basis of BFHI, systematically reviews the effect of each step on the incidence and duration of breastfeeding.

The Division also continues to support a multicenter trial on the safety and benefits of vitamin A supplementation. This trial involves the follow-up of some 10,000 infants through monthly home visits from birth to nine months of life. Results will be available later this year. A substudy will provide insight into whether bulging fontanelle, a side-effect of supplementation in small babies, is associated with impairments in child development.

Other review work on zinc indicates that zinc supplementation tends to substantially reduce diarrhoea duration and the incidence of pneumonia. Zinc supplementation may also reduce malarial morbidity.

For more information contact Dr J.L. Tulloch, Director, Division of Child Health and Development, World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41-22-791 2632, Fax: 41-22-791 4853, Email: tullochj@who.ch



Distribution of 11.6 million deaths among children less than 5 years old in all developing countries, 1995

Based on data taken from Bailey K, de Onis M, Blössner M. Protein-energy malnutrition, in: Murray CJL, Lopez AD, eds. *Malnutrition and the Burden of Disease: the global epidemiology of protein-energy malnutrition, anaemias and vitamin deficiencies*. Volume 8, The Global Burden of Disease and Injury Series, 1998 (in press), and Pelletier DL, Frongillo EA and Habicht JP, Epidemiologic evidence for a potentiating effect of malnutrition on child mortality, *Am J Public Health* 1993; 83: 1130-1133.

Interagency Meeting

African Nutrition Database Initiative

The ACC/SCN Secretariat organized a meeting, 27 June 1997, in Geneva, to consider an African Nutrition Database Initiative proposed by the World Bank. Participants attended from the FAO, ILO, UNHCR, WHO, World Bank, and SCN Secretariat. There was full agreement on the concept, which brings together a common

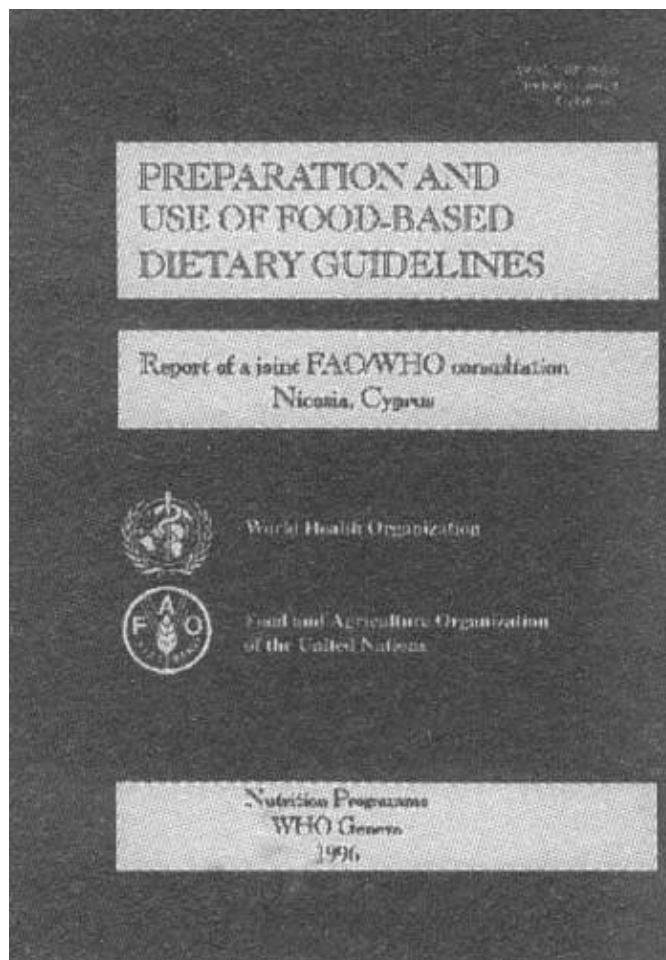
nutrition database for Africa.

The approach will entail linking sectoral databases through a common query engine, agreed standards for data definition, and the establishment of a working group to select the indicators and determine means to assure data quality.

A copy of the meeting report can be obtained from the ACC/SCN Secretariat, c/o WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Fax: 41-22-798 88 91, Email accscn@who.ch

Publications

Preparation and use of food-based dietary guidelines (1996) Report of a joint FAO/WHO consultation, Nicosia, Cyprus



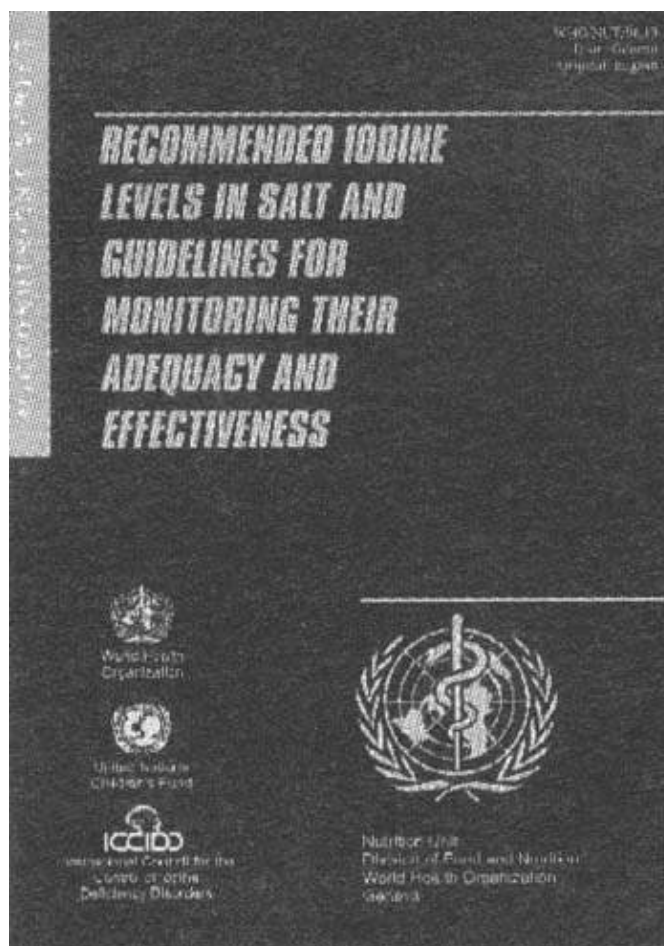
The overall purpose of the joint FAO/WHO Consultation on preparation and use of food-based dietary guidelines, was to establish the scientific basis for developing and using food-based dietary guidelines and to improve the food consumption patterns and nutritional well-being of individuals and populations. This report on the Consultation demonstrates how national authorities can change the traditional focus from nutrients to locally available foods, with dietary guidelines based on country-specific or local dietary practices and prevailing diet-related public health problems, rather than be based on nutrient requirements and recommended intake levels.

The report includes a summary of dietary assessment methodologies – national food supply data, household food consumption data, and individual consumption data – which are appropriate for drawing up and monitoring the use and impact of dietary guidelines. For the last, five methods are presented: food records, 24-hour dietary recall, food frequency questionnaires, diet histories and food-habit questionnaires. Methods of analysis and computation of nutrient intakes including computer software are described, as is the method of presentations of data on consumption of particular foods and food groups.

The scientific basis for food-based dietary guidelines and the requirements for energy, nutrients and related non-nutrient food components are presented in detail. Examples of the food groups and dietary guidelines used in different countries, and some comments on their respective advantages and disadvantages are also given.

Copies of this document can be obtained on request from: WHO, Programme of Nutrition, 20 Avenue Appia, CH-1211, Geneva 27, Switzerland.

Recommended iodine levels in salt and guidelines for monitoring their adequacy and effectiveness. (WHO, 1996) Document based on a joint WHO/UNICEF/ICCIDD consultation, Geneva, July 1996



Universal salt iodization is the recommended intervention for preventing and correcting iodine deficiency. Substantial experience has been gained in the last decade in implementing this strategy and in assessing its impact on iodine deficiency disorders (IDD). A major achievement is the reduction of IDD in countries that have adopted appropriate measures.

There are some cases however, of unnecessarily high iodine intakes that may occasionally be associated with iodine-induced hyperthyroidism. For this reason, WHO, UNICEF and ICCIDD carried out a study in seven African countries to examine the relationship between salt iodization and population iodine status. Previous recommendations for iodine levels in salt have been reexamined as a result of this study, and in the light of other recent technical and scientific developments.

New information suggests that in general, 20% of iodine in iodized salt is lost from the production site to the household, with another 20% lost during cooking before consumption. The average salt intake per capita per day is estimated to be 10g. Based on this information, this document summarizes current WHO, UNICEF and ICCIDD recommendations concerning iodine levels in salt, risk of associated iodine-induced hyperthyroidism, and requirements for monitoring both iodine status and the adequacy of iodine levels in salt.

Copies of this document can be obtained on request from: WHO, Programme of Nutrition, 20 Avenue Appia, CH-1211, Geneva 27, Switzerland.

Anaemia Detection in Health Services: Guidelines for Program Managers (PATH, Seattle, 1996)

These guidelines are a useful tool for health care program managers in developing countries. The guidelines are intended to help managers determine appropriate anaemia detection methods for incorporation into their services or to enhance existing services. They include a general overview of the programmatic issues of anaemia screening to provide a context for method choice and a description of the commonly used anaemia detection devices and methods. The guidelines were produced by the Program for Appropriate Technology in Health (PATH) under the USAID-supported HealthTech project. PATH is a partner in the Opportunities for Micronutrient Interventions Project (OMNI).

Single copies of the guidelines are available by writing to: HealthTech Project Director, PATH, 4 Nickerson Street, Seattle, WA 98109 or by fax at (206) 285 6619 or by Email at mfree@path.org.

Micronutrient Fortification of Foods: Current Practices, Research, and Opportunities (1996)

By Mahshid Lotfi, M.G. Venkatesh Mannar, Richard J.H.M. Merx and Petra Naber-van den Heuvel. Micronutrient Initiative, Ottawa & International Agriculture Centre, Wageningen

Deficiencies in three micronutrients – iodine, iron, and vitamin A – are widespread affecting more than a third of the world's population. Individuals and families suffer serious consequences including learning disabilities, impaired work capacity, illness, and death. They could waste as much as 5% of gross domestic product (GDP). Addressing them comprehensively, using an array of low-cost solutions, could cost less than 0.3% of GDP. In the words of the World Bank in its recent publication "Enriching Lives" "... No other technology offers as large an opportunity to improve lives... at such low cost and in such a short time..."

This manual has been prepared to facilitate and encourage large-scale implementation of fortification programs in countries where micronutrient malnutrition is prevalent. It responds to a long-felt need for a comprehensive documentation of technologies and opportunities for fortification.

Given that technologies are in different stages of development and application, an attempt is also made to review critically the status of these technologies and identify the steps involved in refining them for large-scale application. In addition, the manual appraises their technological feasibility, practicability, cost effectiveness, and consumer acceptability. An annotated bibliography on food fortification, containing more than 500 references with abstracts, including the references mentioned in this manual, will be published as a companion volume.

It is hoped that this manual will be a useful reference for national micronutrient program managers and food industry managers to plan and expand food fortification as a long-term and sustainable solution to the global problem of micronutrient malnutrition.

This document is a product of a unique collaboration between the International Agricultural Centre (IAC) in the Netherlands and the Micronutrient Initiative (MI) in Canada. It has also evolved out of experience gained in organizing the short-term training course in food fortification at the IAC.

To obtain a copy of this book please contact: The Micronutrient Initiative, PO Box 8500,250 Albert Street, Ottawa, Ontario, Canada K1G 3H9 Phone: 613 236 6163 Fax: 613 236 9579 or the International Agriculture Centre, PO Box 88, Lawickse Allee 11, 6700 AB Wageningen, The Netherlands. Phone: 31 317 490355 Fax: 31 317 418552

Midwives and Safer Motherhood (1996)

Edited by Susan F Murray, Mosby, London

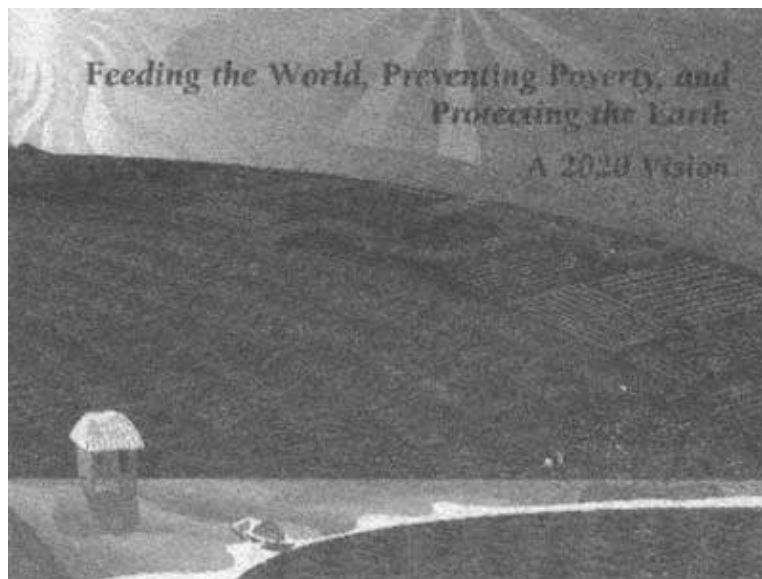
Midwives and Safer Motherhood draws its title from the Safe Motherhood Initiative (WHO, UNFPA, World Bank, 1987). This book provides a unique insight into the ways in which midwives may be involved in the achievement of safer motherhood, especially a reduction in maternal mortality and morbidity. Divided into four key areas, it explores: Research for Safer Motherhood, Midwives' Changing Roles, Midwifery Education, and The Midwifery Profession Internationally. The international team of contributors offers a rich and varied perspective on the changing role of midwives worldwide. The status of midwives across countries and cultures, the impact of medical technology, and the way in which midwives have organized as a profession across frontiers are also examined.

Midwives and Safer Motherhood is essential reading for all midwives, maternity service managers, nursing and midwifery educators, and students undertaking advanced diplomas or degrees in midwifery, advanced studies in mother and child health, primary health care, tropical health, or international public health.

To obtain a copy of this book please contact: Times Mirror International Publishers Limited, Lynton House, 7–12 Tavistock Square, London WC1H 9LB, United Kingdom.

Feeding the World, Preventing Poverty, and Protecting the Earth: A 2020 Vision

IFPRI, Washington, D.C.



Feeding the World, Preventing Poverty, and Protecting the Earth is about people – a farmer in the Amazon, a fisherman in West Africa, a landless family in South Asia. And it is about a vision that every man, woman, and child has enough food for a health life, that each person has economic opportunities for a productive life, and that all of us can achieve these goals in harmony with our natural environment.

This booklet presents eleven stories to show how the broad and often abstract concepts of hunger, poverty, and environmental damage are tragically real when applied to the lives of individuals. It then proposes solutions for improving the lives of these people and millions of others by the year 2020, incorporating comments by world leaders and experts as well as results of research on food and the environment.

Here is a clear and informative introduction to these complex issues for anyone concerned about the prospects for feeding the world in coming decades.

To obtain a copy of this book please contact: IFPRI, 120017th Street, N.W., Washington, D.C. 20036–3006 USA. Phone: 202 862 5600 Fax: 202 467 4439. Email: IFPRI@CGNET.COM

Food Safety and Foodborne Diseases (1997)

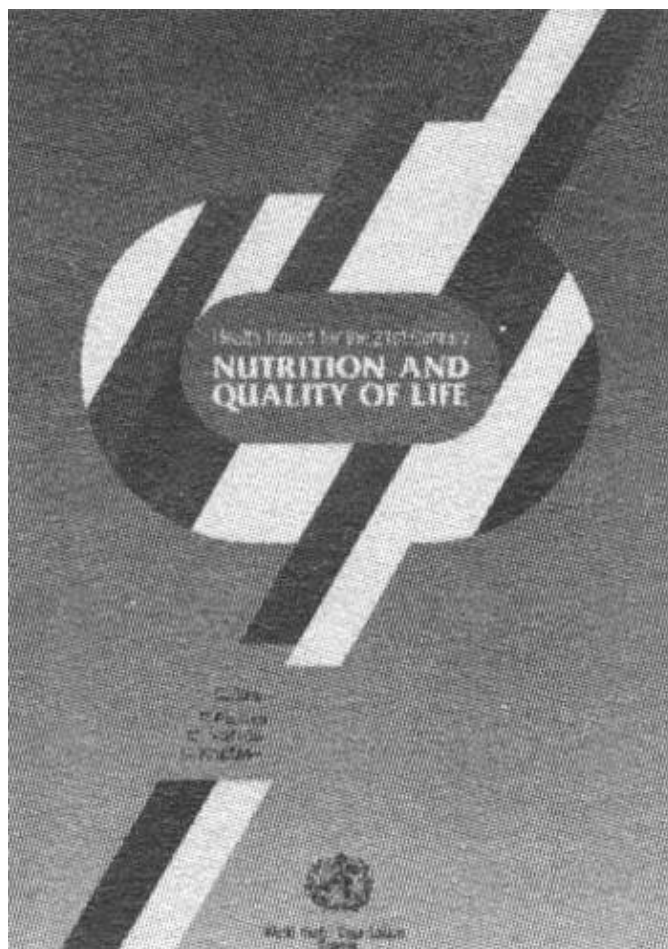
World Health Statistics Quarterly. Volume 50, No 1/2

Illness due to contaminated food (i.e. foodborne disease) is perhaps the most widespread public health problem in the contemporary world and an important cause of reduced economic productivity. Be it in the form of infant diarrhoea, cholera, salmonellosis, listeriosis, infections caused by enterohaemorrhagic *Escherichia coli* or acute or chronic intoxications caused by chemical contaminants, to mention but a few, foodborne diseases cause mortality, morbidity, suffering and economic losses which no country can afford. While by no means a comprehensive account of all the food safety problems encountered worldwide, this issue of *World Health Statistics Quarterly* tries to foster an awareness of a growing and serious public health problem and advocates the need for change. Food safety does not receive the degree of attention and funding which it deserves; the health and economic impact of foodborne diseases associated with the contamination of the food supply has to be recognized nationally and internationally so that resources can be set aside for their prevention.

Source: Programme of Food Safety and Food Aid, World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland

Health Issues for the 21st Century: Nutrition and Quality of Life (1996)

Edited by P. Pietinen, C. Nishida and N. Khaltaev



Health Issues for the 21st Century: Nutrition and Quality of Life is the proceedings of the symposium, held in Japan in December 1993. The aim of the symposium was to address the issues concerning the increasingly important nutrition-related causes of morbidity and mortality in many countries, including the socio-economic and behavioural aspects of nutrition and healthy lifestyles.

The proceedings highlight the global situation and trends of nutrition and quality of life: approximately one-fifth of the world's population is estimated to be undernourished, while up to another one-fifth is estimated to be over nourished. If global population growth remains the same, then there will only be enough food until the year 2020. Hunger and nutritional deficiencies, such as PEM and micronutrient deficiency disorders, are among the most pressing problems of the developing world. Chronic noncommunicable diseases (eg. cardiovascular diseases and diabetes) are also emerging in many developing countries. With increasing urbanization, many traditional dietary patterns and life styles are changing, and increasing numbers of refugees and displaced persons brings nutritional problems ranging from an adoption to an unfamiliar and more costly diet, to serious nutritional deficiencies.

The proceedings are divided into three main sections (in addition to the plenary and state-of-the-art lectures): nutrition, health and lifestyle – transition across history and culture; emerging issues in diet, nutrition and the prevention of chronic diseases; and nutrition education – the critical intervention. The highlights of the symposium are also summarised.

Copies of this document can be obtained on request from: WHO, Programme of Nutrition, 20 Avenue Appia, CH-1211, Geneva 27, Switzerland.

Global Initiative for the Elimination of Avoidable Blindness (1997)

This document reports the conclusions of a meeting between the WHO Programme for the Prevention of Blindness and Deafness and the Task Force of Nongovernmental Development Organizations (NGDO's), which was called as a first step to develop a global initiative to eliminate avoidable blindness over the next 25 years.

150 million people worldwide suffer from visual impairment, 38 million of whom are blind. The major causes of blindness are cataracts (16 million people), trachoma (5.9 million people) and glaucoma (5.2 million people). India, China and Africa bear the greatest burden of blindness, and globally, the number of blind people is increasing by an estimated 1–2 million a year. Projections from demographic trends indicate that, by the year 2020, there will be 54 million blind people over the age of 60 years, and 21 million blind people in other age-groups. Although there are limited population-based data, the available data are sufficient to enable the development of a strategic plan, and to confirm that over two-thirds of all blindness is avoidable.

The document lists the major causes of blindness and reports the aims, indicators, strategies and targets of the global initiative with respect to each cause. Vitamin A deficiency remains an important cause of preventable blindness in some regions of the world. In this respect, the aim of the global initiative is to achieve and sustain the elimination of blindness due to this vitamin A deficiency (xerophthalmia). The control of xerophthalmia is expected to be achieved by the year 2000 through the Global Child Survival Programme. This consists of a number of short-, medium- and long-term strategies. Firstly, to work closely with nutrition, immunisation and PHC systems to achieve and sustain elimination of vitamin A deficiency; and secondly, to establish surveillance systems to identify any new cases of blinding xerophthalmia and report the occurrence for action by child survival programmes.

Copies of this document can be obtained on request from: WHO, Programme for the Prevention of Blindness and Deafness, 20 Avenue Appia, CH-1211, Geneva 27, Switzerland.

WHO Consultation on Obesity

3–5 June 1997, Geneva

This report presents global and regional estimates of the prevalence of obesity based on national sample data (where the prevalence of obesity was defined as the prevalence of body mass index (BMI) > 30 kg/m²), and where no data were available, a procedure was used to estimate the country-wide prevalence of obesity derived from the mean BMI for each country (using the 1996 WHO Nutrition Division/FAO global database of BMI).

Provisional estimates suggested that globally, 286 million people (7.9%) are obese. North America, the Caribbean, Western and Eastern Europe, Western Asia (Middle East), and Oceania were identified as high prevalence areas, with intermediate levels of prevalence in Latin America, and mostly low prevalence in Asia and Africa. For those countries where data were available for more than one time period, the trends in obesity prevalence were usually upwards.

The final report will be published in 1998. The following is a summary of the draft recommendations.

- Obesity is a disease which is largely preventable through life-style changes.
- The prevalence of obesity is rapidly increasing worldwide. Sedentary lifestyles and high-fat, energy dense diets largely account for this increasing prevalence.
- Obesity cannot be prevented solely at the individual level. Communities, governments, the media and industry need to work together to modify an environment which is conducive to weight gain. Obesity should be integrated with NCD control programmes.
- The existing WHO classification of body weight based on BMI is endorsed, but the additional use of the abdominal circumference measurement identifies NCD risk more readily. Longitudinal data should be used to complement the existing WHO classification of obesity in children.
- Overweight prevention should begin in early life.

- Management of overweight in adults should begin with efforts to prevent further weight gain by promoting healthy life styles and increased physical activity even when the BMI is still within the acceptable range.
- Management of obesity should be aimed initially at producing and maintaining a modest (5–10%) weight loss.

For further information please contact: Ms C. Nishida, Nutrition Programme, World Health Organization, 20 Avenue Appia, CH-1211, Geneva 27, Switzerland. Tel: 41-22-791 3317, Fax: 41-22-791 0746, Email: nishidac@who.ch

FAO New Publications and Video

FAO and the International Life Sciences Institute (ILSI) have prepared two new publications on micronutrients:

1. “Preventing Micronutrient Malnutrition: A Guide to Food-Based Approaches”

This is a manual for policy makers and programme planners. After describing the prevalence, causes and consequences of micronutrient diseases, this manual covers such issues as implementing diet- and food-based approaches to reducing deficiencies; planning programmes; monitoring surveillance and evaluation; and special needs of vulnerable groups. A useful guide to agencies working to combat micronutrient malnutrition and list of references are provided.

2. “Preventing micronutrient malnutrition: A Guide to Food-based Approaches I Why Policy Makers Should Give Priority to Food-Based Strategies”

This is a companion publication which briefly summarizes the key issues.

FAO nutrition education packages and videos:

“Get the Best from Your Food”. This a simple nutrition education package that emphasizes basic nutrition concepts that should be conveyed to the public, and provides four central messages that can be refined and incorporated into locally appropriate education and information campaigns. It is now available in French and Spanish. Copies can be obtained from FAO Representatives in Latin America and the Caribbean and Africa. Vietnamese and Polish versions of the package have been completed and versions in Nepalese and Portuguese are being prepared.

“Improving Nutrition through Home Gardening: a training package for preparing field workers in South East Asia”. This training package is for the instruction of agricultural extension, home economics and community development agents working with households and communities in Southeast Asia to promote home gardening for better nutrition. This is currently being adapted for use in Africa and Latin America.

“Introducing Participatory Nutrition Programmes”. The Food and Nutrition Division has produced this video which is available in English, French and Spanish. The video is available in PAL and NTSC format and runs for 13 minutes.

For information about obtaining copies of the above, please contact the FAO Food and Nutrition Division, Viale delle Terme di Caracalla, 00100 Rome, Italy. Fax +39(6) 5225 3152.

World Health Organization Publications on Nutrition – Catalogue (1996)

A catalogue listing WHO publications in the area of nutrition is now available *free of charge* from WHO Headquarters in Geneva.

The catalogue provides the latest bibliographic and descriptive information on both published and “in preparation” WHO documents focused on the links between nutrition and human health. Publications are grouped according to the following topics:

- deficiency diseases
- nutritional assessment, monitoring
- infant feeding
- diarrhoeal diseases
- education, training
- nutrition policy
- nutrition programmes
- “baby–friendly” hospitals
- ten steps to successful breastfeeding
- World Declaration on Nutrition

In view of the magnitude of health problems caused by improper nutrition, several of these books offer advice on national food and agricultural policies that can improve nutrition and reduce diseases, whether caused by an inadequate intake of nutrients, excessive intake, or poor environmental conditions. In view of the importance of infant and child nutrition, other books serve as practical guides to appropriate infant and young child feeding and to the prevention and treatment of diarrhoeal disease. Still others, focused on deficiency diseases, provide comprehensive guides to prevention and control, moving from the policy level to field implementation.

Developing countries receive a 30% discount on the prices quoted in the catalogue. In addition to formal priced WHO publications, the catalogue lists several documents that are available in single copies on request.

For a copy of the catalogue please contact: World Health Organization, Publications, Distribution and Sales, CH–1211 Geneva 27, Switzerland. Email: publications@who.ch Fax: (41 22) 791 4857 Phone: (41 22) 791 2476

Promoting Breastfeeding in Health Facilities: A Short Course for Administrators and Policy–Makers (1996)

Prepared by WHO in collaboration with Wellstart International. 1996, 391 pages, 154 colour slides, eight training modules in loose–leaf binder. SFr 180/US\$163 (In developing countries: SFr 126)

This innovative teaching resource consists of a collection of eight training modules, complete with slides and handouts, for use in a short course intended to help administrators and policy–makers promote breastfeeding in health facilities. The course aims to make decision–makers in hospitals and maternity wards aware of specific policy and administrative changes that can have a major impact on breastfeeding practices. The course also contains abundant practical advice on how to introduce changes in a given setting.

In line with common time constraints, the course consists of eight modules that can be presented over a maximum of twelve hours:

1. *The national breastfeeding situation.* Helps participants review the current infant feeding situation in their own country and understand practices that affect breastfeeding rates.
2. *Benefits of breastfeeding.* Discusses the advantages of breastfeeding and disadvantages of artificial feeding.
3. *The Baby–friendly Hospital Initiative.* Describes the history of the Initiative and the related assessment process.
4. *The scientific basis for the “Ten steps to successful breastfeeding”.* Reviews the research that supports policy recommendations.
5. *Becoming baby–friendly.* Examines strategies for the successful conversion and management of baby–friendly health facilities.
6. *Costs and savings.* What will breastfeeding promotion cost a facility – and what will be the savings?
7. *Appraising policies and practices.* Gives participants an opportunity to assess their own facilities by using the hospital self–appraisal tool developed for the WHO/UNICEF Baby–friendly Hospital Initiative.

8. *Developing action plans.* Enables participants to prepare a written plan for introducing change in their own health facilities.

To obtain "Promoting Breastfeeding in Health Facilities" please contact WHO Publications, Distribution and Sales, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Email: publications@who.ch Fax: (41 22) 791 4857 Phone: (41 22) 791 2476.

WHO Food Safety Unit: new documents (1996–1997)

The following new documents are now available from the Food Safety Unit, WHO:

- Guidelines for strengthening a national food safety programme (WHO/FNU/FOS/96.2)
- Essential safety requirements for street-vended foods (WHO/FNU/FOS/96.7)
- Fermentation: Assessment and Research. Report of a joint FAO/WHO Workshop on fermentation as a household technology to improve food safety, Pretoria, South Africa, 11–15 December 1995 (WHO/FNU/FOS/96.1).
- Training aspects of the Hazard Analysis Critical Control Point (HACCP) system. Report of a WHO Workshop on Training in HACCP with the participation of FAO. Geneva, 1–2 June 1995.

These documents are intended to provide guidance for government agencies on, respectively:

1. the development and strengthening of national food safety programmes through integration of the efforts of various government agencies, industry, trade and consumers (this document provides guidance for the implementation of recommendations in the field of food safety made by the International Conference on Nutrition);
2. prioritizing, with the Hazard Analysis and Critical Control Point (HACCP) approach, the essential food safety requirements for street foods;
3. identifying, through HACCP studies, the essential safety requirements for household fermented foods, gaps in existing knowledge and priorities for research; and
4. training in HACCP.

Also available is the document 'Human Listeriosis 1991 – 1992'. This report, prepared by the WHO Collaborating Centre on Foodborne Listeriosis, Pasteur Institute, Paris, is the update of the previous reports forming a regular summary of data on listeriosis in the world. (WHO/FNU/FOS/97.1).

Requests for copies of these documents should be forwarded to: Food Safety Unit, World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland.

World Health Organization Publications on Food Safety – Catalogue (1996)

This catalogue provides bibliographic and descriptive information for over 40 WHO publications focused on the massive public health problems caused by foodborne diseases and by food losses due to contamination or spoilage. Several of these books advise the food processing and food service industries on measures that can be taken – whether through systems for quality control or the use of new technologies – to assure that consumers are offered safe, wholesome, and nutritious food. Other publications, such as those establishing acceptable daily intakes for food additives and contaminants, form the basis for national legislation governing the quality and safety of food and food ingredients. In line with WHO policy, other publications stress the importance of prevention through education and training, offering practical – and authoritative – advice that can help consumers, food handlers, and industry managers avoid the errors that so often result in illness caused by contaminated food. Publications are presented under the following subheadings:

- trematode infections
- food safety education and training
- food safety policy
- chemical contamination

- food safety control
- food additives
- biotechnology
- pesticide residues in food
- food irradiation
- biotoxins
- carcinogenicity assessment
- drinking water quality
- zoonoses control
- safe use of wastewater for food production

Copies of Developing countries receive a 30% discount on the prices quoted in the catalogue. In addition to formal priced WHO publications, the catalogue lists several documents that are available in single copies on request.

For a copy of the catalogue please contact: World Health Organization. Publications, Distribution and Sales, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Email: publications@who.ch Fax: (41 22) 791 4857 Phone: (41 22) 791 2476

Culture, Environment and Food to Prevent Vitamin A Deficiency (INFDC, 1997)

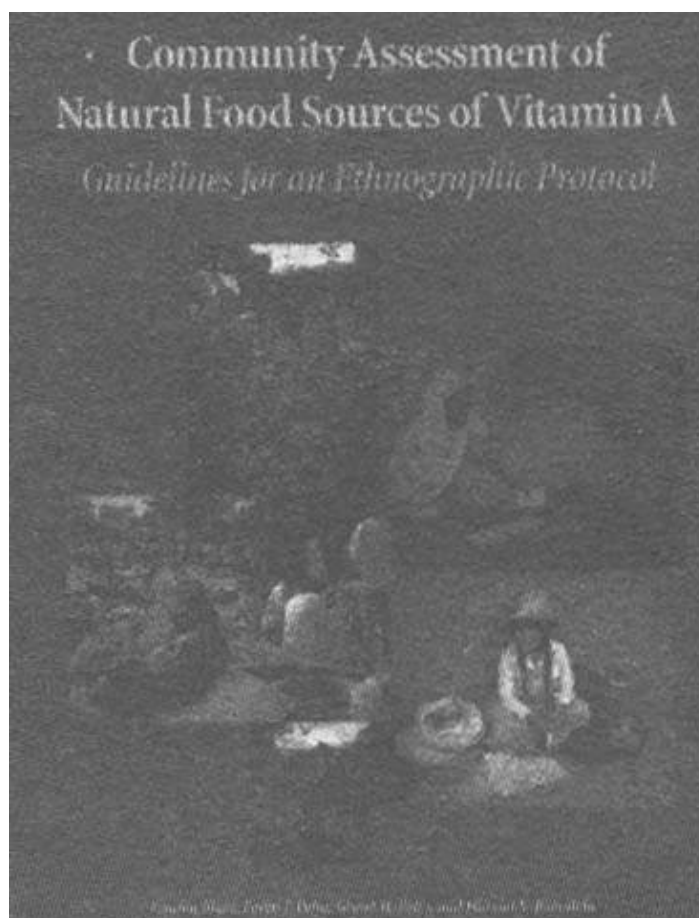


This book describes the creation of ethnographic research tools and their testing in a broad range of cultures and environments in five developing countries: Philippines, Niger, China, Peru and India. This work is based on the assumption that knowledge about the sociocultural and environmental contexts of vitamin A is essential for instituting and sustaining food based prevention of vitamin A deficiency. The book is structured to give the logical flow of the research process, and is divided into four parts: 1) knowledge on vitamin A in food and diets, 2) creating the protocol, 3) the community assessment of natural food sources of vitamin A, and 4) new understanding about community deficiency of vitamin A. This book is a very welcome addition to the now burgeoning literature on vitamin A deficiency and reminds us of the role of food and the role of the community.

The root problem of vitamin a deficiency is lack of sufficient vitamin a in community food supplies.

For more information or to order a copy of this book contact: International Nutrition Foundation for Developing Countries, P.O. Box 500, Charles Street Station, Boston, MA 02114-0500, USA. Fax: 1-617-227 9405, Email: unucpo@zork.tiac.net or food@plymouth.edu

Community Assessment of Natural Food Sources of Vitamin A: Guidelines for An Ethnographic Protocol (INFDC, 1997)



This is a workbook. It is intended for experienced health professionals interested in food-related public health problems. It describes a protocol developed to understand natural food sources of vitamin A: their availability and use, cultural beliefs surrounding their use, and community perceptions about food and vitamin A deficiency. The purpose of the assessment is to provide information for program planning aimed at increasing consumption of vitamin A-rich food among populations at risk of vitamin A deficiency.

For more information or to order a copy of this book contact: International Nutrition Foundation for Developing Countries, P.O. Box 500, Charles Street Station, Boston, MA 02114-0500, USA. Fax: 1-617-227 9405, Email: unucpo@zork.tiac.net or food@plymouth.edu

This is our first issue since late 1995.

The SCN Secretariat has received many enquires about **SCN NEWS**, which we find encouraging. We are pleased to let you know that **SCN NEWS** will again be issued regularly, twice a year.

SCN NEWS No. 15 will be out in December 1997.

Please send us material, books, notices of events, letters to the editor, etc., which you would like to see appear in the next issue.

Many thanks to all those who contributed to this issue!

SCN Publications Available

REPORTS ON THE WORLD NUTRITION SITUATION

First Report on the World Nutrition Situation, November 1987

Supplement on Methods and Statistics to the First Report on the World Nutrition Situation,
December 1988

Second Report on the World Nutrition Situation, Volume I, Global and Regional Results,
October 1992

Second Report on the World Nutrition Situation, Volume II, Country Data, March 1993

Update on the Nutrition Situation, November 1994

Update on the Nutrition Situation 1996, November 1996

ACC/SCN STATE-OF-THE-ART SERIES (SOA) NUTRITION POLICY DISCUSSION PAPERS

Delivery of Oral Doses of Vitamin A to Prevent Vitamin A Deficiency and Nutritional Blindness, by
Keith P. West Jr and Alfred Sommer, June 1987, *reprinted June 1993. (SOA No .2)*

The Prevention and Control of Iodine Deficiency Disorders, by Basil S. Hetzel, March 1988, *reprinted
June 1993. (SOA No .3)*

Women's Role in Food Chain Activities and their Implications for Nutrition, by Gerd Holmboe-Ottesen,
Ophelia Mascarenhas and Margareta Wandel, May 1989. *(SOA No .4)*

Malnutrition and Infection – A Review, by A. Tomkins and F. Watson, October 1989, *reprinted June 1993
(SOA No .5)*

Women and Nutrition, including papers J. McGuire and B. Popkin, M. Chatterjee and J. Lambert, J.
Quanine, P. Kisanga, S. Bajaj, H. Ghassemi, October 1990. *(SOA No .6)*

Appropriate Uses of Child Anthropometry, by G. Beaton, A. Kelly, J. Kevany, R. Martorell, and J. Mason,
December 1990. *(SOA No .7)*

Managing Successful Nutrition Programmes, edited by J. Jennings, S. Gillespie, J. Mason, M. Lotfi and T.
Scialfa, October 1990. *(SOA No .8)*

Controlling Iron Deficiency, edited by S. Gillespie, J. Kevany, and J. Mason, February 1991. *(SOA No .9)*

Nutrition-Relevant Actions – Some Experiences from the Eighties and Lessons for the Nineties, by
S. Gillespie and J. Mason, October 1991. *(SOA No . 10)*

Nutrition and Population Links – Breastfeeding, Family Planning and Child Health, including papers by
S. Huffman, R. Martorell and K. Merchant, R. Short, P. Ramachandran. *(SOA No .11)*

Nutritional Issues in Food Aid, August 1993. *(SOA No . 12)*

**Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in
Developing Countries**, by G. Beaton, R. Martorell, K. Aronson, B. Edmonston, G. McCabe, A. Ross, B.
Harvey. December 1993. *(SOA No . 13)*

Controlling Vitamin A Deficiency, by S. Gillespie and J. Mason, January 1994. *(SOA No . 14)*

How Nutrition Improves, by S. Gillespie, J. Mason, R. Martorell. (SOA No . 15)

PLEASE NOTE: For the State-of-the-Art Series/Nutrition Policy Discussion Papers a charge of US\$10/15 – per copy will be made to those requesting from Australia, Europe, Japan, New Zealand, and North America

REFUGEE NUTRITION INFORMATION SYSTEM

Report on the nutrition, situation of refugee, and displaced populations. Published every three months with an interim electronic mail update.

SCN NEWS – a periodic review of developments in international nutrition compiled from information available to the ACC/SCN, published twice yearly. Contains features, news and views, programme news, and reviews of publications.

Nos. 1 and 2, March 1988 – features: Vitamin A Deficiency, Urbanization, World Nutrition Situation, Economic adjustment.

No. 3, early 1989 – features: Does Cash Cropping Affect Nutrition?, Nutrition in Times of Disaster.

No. 5, early 1990 – features: Nutrition and School Performance, Uses of Anthropometry, Malnutrition and Infection (Part II), Flows of External Resources for Nutrition.

No. 7, mid 1991 – features: Refugees' Nutrition Crisis, Breastfeeding, Birth Spacing and Nutrition, Community-Based Development – From a Programme Towards a Movement, Micronutrient Intakes, Incomes and Prices. **Supplement** Some Options for Improving Nutrition in the 1990s – Reviews experience of policies and programmes, and grouping nutrition issues, leads to identifying options as building blocks for future action.

No. 8, late 1992 – features: Highlights of the World Nutrition Situation, Food Prices and Nutrition, Food Security and Nutrition 1971–91 – Lessons Learned and Future Priorities, Long-Term Effects of Improved Childhood Nutrition.

No. 9, mid 1993 – Focus on Micronutrients. Features: Addressing Micronutrient Malnutrition, Micronutrient Deficiency – The Global Situation, Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries, Zinc Deficiency – Is It Widespread but Under-Recognized?

No. 10, late 1993 – features: Nutrition and Food Aid, Nutrition and Human Rights, The Nutrition Transition.

No. 11, mid 1994 – features focussing on Maternal and Child Nutrition: Adolescent Growth; Prepregnancy Nutritional Status and its Impact on Birthweight; Maternal Nutrition During Pregnancy as it Affects Infant Growth, Development and Health; The Consequences of Iron Deficiency and Anaemia in Pregnancy on Maternal Health, the Foetus and the Infant; Impact of Maternal Infection on Foetal Growth and Nutrition; Maternal Micronutrient Malnutrition: Effects on Breast Milk and Infant Nutrition, and Priorities for Intervention; Vitamin A Deficiency in the Mother–Infant Dyad; Maternal Protein–Energy Malnutrition and Breastfeeding; and Maternal Nutritional Depletion.

No. 13, late 1995 – features: Interview with Dr A. Horwitz, SCN Chair, 1986–1995; Behavioural Change and Nutrition Programmes; and Poor Nutrition and Chronic Disease Part I.

COUNTRY CASE STUDIES

Brazil: The improvement in Child Nutritional Status in Brazil: How Did it Occur? by R. F. Iunes & C. A. Monteiro. September 1993.

Egypt: Review of Trends, Policies and Programmes Affecting Nutrition and Health in Egypt (1970–1990), by H. Nassar, W. Moussa, A. Kamel & A. Miniawi. January 1992.

India: Nutrition in India, by V. Reddy, M. Shekar, P. Rao & S. Gillespie. December 1992.

Indonesia: Economic Growth, Equity and Nutritional Improvement in Indonesia, by I. T. Soekirman, G. S. Idrus Jus'at & F. Jalal. December 1992.

Tanzania: Nutrition–Relevant Actions in Tanzania, by F. P. Kavishe. April 1993.

Thailand: Nutrition and Health in Thailand: Trends and Actions, by Y. Kachondham, P. Winichagoon & K. Tontisirin. December 1992.

Zimbabwe: Nutrition–Relevant Actions in Zimbabwe, by J. Tagwireyi, T. Jayne & N. Lenneiye. December 1992.

Orders for SCN publications should be sent to:

ACC/SCN, c/o World Health Organization, 20, Avenue Appia, 1211 Geneva 27, Switzerland phone: [41 22] 791 0456, fax: [41 22] 7988891, EMail: ACCSCN@WHO.CH

PUBLICATION LIST – JUNE 1997



UNITED NATIONS

ADMINISTRATIVE COMMITTEE ON COORDINATION

SUB-COMMITTEE ON NUTRITION

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20, Avenue Appia, CH-1211 Geneva 27, Switzerland
Telephone: [41-22] 791 04 56, Fax: [41-22] 798 88 91, Email: accscn@who.ch**

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Second Report on the World Nutrition Situation, Volume II, Country Data, March 1993.

Update on the Nutrition Situation, November 1994.

Update on the Nutrition Situation, 1996: Summary Results for the Third Report on the World Nutrition Situation, Late 1996.

Third Report on the World Nutrition Situation. Planned publication December 1997.

ACC/SCN STATE-OF-THE-ART SERIES (SOA) NUTRITION POLICY DISCUSSION PAPERS

Delivery of Oral Doses of Vitamin A to Prevent Vitamin A Deficiency and Nutritional Blindness, by Keith P. West Jr and Alfred Sommer, June 1987, reprinted June 1993. (SOA No. 2)

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Malnutrition and Infection – A Review, by A. Tomkins and F. Watson, October 1989, reprinted June 1993 (SOA No. 5)

Women and Nutrition Background, and papers presented at SCN Symposium, held at UNICEF, New York, February 1989. Papers include “Beating the Zero Sum Game” by McGuire and Popkin, “Reflections from India and Pakistan” by Chatterjee and Lambert, “Grameen Bank Experience” by Quanine, “Improving the Nutrition of Women in Tanzania” by Kisanga, “Nutrition Security System at Household Level” by Bajaj, “Issues in Need of a Global Focus” by Ghassemi, October 1990. (SOA No. 6)

Appropriate Uses of Child Anthropometry Report based on workshop held by ACC/SCN, June 1989. Basic concepts, uses for screening, growth monitoring, population assessment, and surveillance. Prepared and edited by G. Beaton, A. Kelly, J. Kevany, R. Martorell, and J. Mason, December 1990. (SOA No. 7)

Managing Successful Nutrition Programmes Report of ACC/SCN workshop held at IUNS meeting in Korea, August 1989. Includes reports on 16 large-scale nutrition programmes, and summary of discussions on targeting, staff issues, community participation, management information systems, sustainability and replicability. Edited by Joan Jennings, Stuart Gillespie, John Mason, Mahshid Lotfi and Tom Scialfa, October 1990. (SOA No. 8)

Controlling Iron Deficiency Report of ACC/SCN workshop held in Trinity College, Dublin, June 1990. Focuses on iron supplementation and practical means of improving large-scale programmes. Also introduces fortification and diet change. Gives information from six large-scale programmes. Prepared and edited by Gillespie, John Kevany, and John Mason, February 1991. (SOA No. 9)

Nutrition-Relevant Actions – Some Experiences from the Eighties and Lessons for the Nineties Book developed from the original background paper for the ACC/SCN *ad hoc* group meeting held in London in November 1990. Proposes a framework for the analysis of policies and programmes affecting nutrition, before reviewing experiences during the 1980s in several countries, and moving on to consider options for improving nutrition in the 1990s. Complements and expands on Supplement to SCN News No. 7. Prepared by Stuart Gillespie and John Mason, October 1991. (SOA No. 10)

Nutrition and Population Links – Breastfeeding, Family Planning and Child Health. Papers from the ACC/SCN 18th Session Symposium, held at UNFPA, New York, February 1991. Papers include “Nutrition and Family Planning Linkages: What More Can be Done?” by Sandra Huffman, “Reproductive Stress and Women’s Nutrition by Reynaldo Martorell and Kathleen Merchant, “Breastfeeding, Fertility and Population Growth” by Roger Short, “Nutrition and its Influence on the Mother-Child Dyad” by Prema Ramachandran, and with final comments by Miriam Labbok, Barry Edmonston, and Beverly Winikoff. (SOA No. 11)

Nutritional Issues in Food Aid Report of symposium on “Nutritional Issues in Food Aid” held at the 19th Session of the ACC/SCN in Rome, February 1992. Includes papers on the support of public works by food aid as a nutrition intervention, which age groups should be targeted for supplementary feeding, effects of supplementary feeding in the growth of children with infection, experiences of feeding programmes, and protecting refugees’ nutrition with food aid. August 1993. (SOA No. 12)

Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries, by G.H. Beaton, R. Martorell, K.J. Aronson, B. Edmonston, G. McCabe, A.C. Ross, B. Harvey. December 1993. (SOA No. 13)

Controlling Vitamin A Deficiency Report based on ACC/SCN Consultative Group Meeting held in Ottawa July 1993. Prepared by Gillespie and Mason, January 1994. (SOA No. 14)

How Nutrition Improves Report based on ACC/SCN Workshop held on 25–27 September 1993 at the 15th IUNS International Congress on Nutrition, Adelaide, Australia by S. Gillespie, J. Mason, R. Martorell. (SOA No. 15)

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No. 3, early 1989 – features: Does Cash Cropping Affect Nutrition?, Nutrition in Times of Disaster.

No. 4, late 1989 – features: Update on the Nutrition Situation, Women and Nutrition, Malnutrition and Infection (Part I), Targeted Food Subsidies. (*out of print*).

No. 5, early 1990 – features: Nutrition and School Performance, Uses of Anthropometry, Malnutrition and Infection (Part II), Flows of External Resources for Nutrition.

No. 6, late 1990 – features: Preventing Anaemia, Policies to Improve Nutrition – What Was Done in the 80s, Weaning Foods – New Uses of Traditional Methods. (*out of print*).

No. 7, mid 1991 – features: Refugees' Nutrition Crisis, Breastfeeding, Birth Spacing and Nutrition, Community-Based Development – From a Programme Towards a Movement, Micronutrient Intakes, Incomes and Prices. Supplement: Some Options for Improving Nutrition in the 1990s – Reviews experience of policies and programmes, and grouping nutrition issues, leads to identifying options as building blocks for future action.

No. 8, late 1992 – features: Highlights of the World Nutrition Situation, Food Prices and Nutrition, Food Security and Nutrition 1971–91 – Lessons Learned and Future Priorities, Long-Term Effects of Improved Childhood Nutrition.

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