

## **SCN News, Number 06**



# Table of Contents

<b>SCN News, Number 06</b> .....	<b>1</b>
<b>FEATURES</b> .....	<b>2</b>
<u>Preventing Anaemia</u> .....	2
<u>Policies to Improve Nutrition – What was done in the ‘80s</u> .....	9
<u>Weaning Foods – new uses of traditional methods</u> .....	24
<b>NEWS AND VIEWS</b> .....	<b>28</b>
<u>The Lesser Child</u> .....	28
<u>Famine in Sudan and Ethiopia</u> .....	30
<u>Goals for Children and Development in the 1990s</u> .....	31
<u>Can Vitamin A Save Lives?</u> .....	34
<u>Global Immunization Update</u> .....	37
<u>UNHCR and WFP issue guidelines on use of milk powder</u> .....	40
<u>The Protection, Promotion and Support of Breastfeeding</u> .....	42
<u>Recent &amp; forthcoming meetings</u> .....	43
<u>PLUS News from International Union of Nutritional Sciences (IUNS)</u> .....	51
<b>PROGRAMME NEWS – Update on progress around the world</b> .....	<b>56</b>
<b>PUBLICATIONS</b> .....	<b>71</b>
<u>“Conducting Small-Scale Nutrition Surveys a Field Manual”</u> .....	71
<u>“Children and the Environment”</u> .....	72
<u>“Food Security in Developing Countries”</u> .....	73
<u>African Council of Food and Nutrition Sciences (A.F.R.O.N.U.S.)</u> .....	74
<u>“Making Adjustment Work for the Poor: A Framework for Policy Reform in Africa.”</u> .....	79
<u>“Diet, nutrition, and the prevention of chronic diseases”</u> .....	82
<b>UNITED NATIONS – ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION</b> .....	<b>83</b>





## ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION

Number 6

Late 1990

A periodic review of developments in international nutrition compiled from information available to the ACC/SCN

Recent ACC/SCN publications

### **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. (See feature in SCN News No. 4.)

### **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. (See feature in SCN News No. 5.)

### **Managing Successful Nutrition Programmes** (due out shortly)

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.

### **Controlling Iron Deficiency** (due out shortly)

Report based on an ACC/SCN workshop held in Dublin in 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 S. Gillespie, J. Kevany, and J. Mason. (See feature in this issue.)

**Copies of these publications can be obtained by writing to the ACC/SCN Secretariat.**

**(A Charge of \$20 per copy will be made to those requesting from Australia, Europe, Japan, New Zealand, North America, to help cover costs).**

SCN News is issued twice yearly by the Secretariat of the UN ACC/Sub-Committee on Nutrition. A description of the ACC/SCN is given on the back cover.
Your contribution to future issues would be welcome. Please send us items for inclusion in “News and Views”, “Programme News” and/or “Publications”. Letters to the Editor for possible publication in future issues are also most welcome. SCN News aims to help the sharing of experience in nutrition.

If you wish to receive additional copies of the SCN News, or would like to suggest other names to be added to our distribution list, please write to us.

Dr John B. Mason  
Technical Secretary  
ACC/SCN,  
Room X.48  
c/o WHO  
Headquarters  
Avenue Appia,  
20  
CH-1211  
Geneva 27  
Switzerland  
Fax: (41-22)  
7988891

Dr Abraham Horwitz  
Chairman,  
ACC/SCN  
Director Emeritus  
PAHO  
525 Twenty-third  
St. N.W.  
Washington, D.C.,  
20037  
USA

Phone: (41-22) 7910456

*Edited by John Mason, Associate Editor Mahshid Lotfi with contributions from SCN staff Stuart Gillespie, Marito Garcia, and Paula Yoon. We are most grateful for contributions as shown in Sources after articles; illustrations in 'Preventing Anaemia' are by Lindsay Barrett.*

## FEATURES

### Preventing Anaemia

Recommendations on the deficiency control methods – especially supplementation – from recent ACC/SCN workshop.

Anaemia caused by iron deficiency is the most common nutritional disorder worldwide, affecting maybe 1 billion people, particularly pregnant and lactating women. Its detrimental effects are physical, social and economic. Anaemia reduces the capacity to carry out productive work, to manage the household environment and care for children. In pregnant women, it can also lead to intrauterine growth retardation, low birth weight and increased perinatal mortality, while in infants it causes apathy, inactivity and significant loss of cognitive abilities<sup>1</sup>. Severe anaemia is an associated cause in one of every two maternal deaths in developing countries. These effects, and possible remedies, have been known for some time (see box 1). Action remains urgent and improving supplementation programmes is still the best short-term approach for achieving impact among priority groups.

<sup>1</sup> Proceedings of International Conference on Iron Deficiency and Behavioural Development, held in Geneva, October 1988. In: *American Journal of Clinical Nutrition*, **50** (suppl.), No. 3 (September 1989).

#### Box 1

#### The Dangers of Anaemia

"A woman who is anemic has blood low in hemoglobin, which is made by the body from iron. The World Health Organization defines anemia as blood hemoglobin levels under 11 g/dl. Since hemoglobin carries the body's oxygen, low concentration means muscle cells receive less oxygen. This means that anemic women have less energy, tire easily and are more apt to catch infections. That is serious because it makes childbirth more stressful for such women and can even result in their death. Also, anemic women are more likely to miscarry. Children born to anemic women tend to have low birthweight which increases their own risk of illness and death... For the many pregnant women [in Latin America and elsewhere] with an acute need for iron, supplementation is still the current answer. The challenge is to develop local programs that can be implemented and will be accepted by local women."

From: Flores, M. (1990) Pregnant Women and Anemia. *Mothers & Children – Bulletin on Infant Feeding and Maternal Nutrition*. **9 (3)**, 6–7.

"The early stages of anaemia in pregnancy are often without symptoms. However, as the haemoglobin concentration falls, oxygen supply to vital organs declines, and the expectant mother begins to complain of general weakness, tiredness, dizziness, and headaches. Pallor of the skin and of the mucous membranes, as well as the nail beds and tongue, becomes noticeable when the haemoglobin drops to 70 g/l. With a further fall in haemoglobin concentration to 40 g/l, most tissues of the body become starved of oxygen, and the effect is most marked on the heart muscles, which may fail altogether if there is severe anaemia. Death from anaemia is the result of heart failure, shock, or infection that has taken advantage of the patient's impaired resistance to disease.

From: *The Status of Women, and Maternal Mortality*. Chapter 4 in: Preventing Maternal Deaths. Eds. Erica Royston & Sue Armstrong. World Health Organization, Geneva, 1989, 75–106.

"Iron needs increase significantly during pregnancy because of growth of the fetus and placenta and expansion of the mother's blood volume. Women frequently enter pregnancy with inadequate iron stores, and thus the increased demands associated with pregnancy result in anaemia... At 6.0 g/dl, evidence of circulatory decompensation becomes apparent. Women experience breathlessness and increased cardiac output at rest. At this stage, added stress from labor, spontaneous abortion, or other major complications can result in maternal death.

"Without effective treatment, maternal death from anemic heart failure and the effects of severe hypoxia is likely with a hemoglobin concentration of 4.0 g/dl. Even a blood loss of 100 ml can cause circulatory shock and death. Moreover, malaria and pregnancy both increase folate needs, and folate deficiency compounds anemia."

From: *Guidelines for the Control of Maternal Nutritional Anemia*. A Report of the International Nutritional Anemia Consultative Group (INACG). INACG Secretariat, 1989.

"Supplementation with medicinal iron is a highly specific and cost-effective control measure. Iron or iron-folate tablets and solutions can be delivered formally through the health system or informally through the sale of over-the-counter preparations. The success of supplementation depends on a well organized primary health care system, adequate population coverage in relation to the target group or groups, a regular supply of appropriately selected supplements, a low prevalence of side-effects, and effective education and motivation of recipients to ensure compliance with the treatment regimen. The problem of access to those in need of supplementation is not inconsiderable but it should diminish as the primary care system expands. If the anaemia control strategy is properly integrated into general health care such as maternal and child health programmes, iron-folate tablets can be given at antenatal examinations, at postnatal and family planning visits, and at child health clinics. The aim should be to prevent anaemia in those at special risk, such as pregnant women and preschool children, and to treat it when suspected and diagnosed in others."

From: DeMaeyer, E.M. *The Planning and Execution of Anaemia Control Programmes*. Chapter 8 in: Preventing and Controlling Iron Deficiency Anaemia Through Primary Health Care. A Guide for Health Administrators and Programme Managers. World Health Organization, Geneva, 1989, 45–53.

Supplementation with ferrous sulphate tablets (often including folic acid) works well in pilot schemes; but there are problems with the effectiveness of large scale programmes in developing countries. When scaled up to district or country level, why have so many programmes had such a relatively limited impact? Information from six operational programmes (in Burma, the Caribbean, India, Indonesia, Thailand, Zimbabwe), with additional recent research and evaluation experience, gave background for a workshop convened by the ACC/SCN in

June 1990 to address this question<sup>2</sup>.

<sup>2</sup> Report of the Joint ACC/SCN Workshop on Iron Deficiency Control (Dublin, 6–8 June). To be published by ACC/SCN as Nutrition Policy Discussion Paper No. 9.

In this context, iron deficiency control depends on service supply and delivery and shares many of the problems of primary health care and essential drugs programmes. Central to this is the need for *daily* supplementation. The issue addressed by the workshop was how to make supplementation – as well described by DeMaeyer in box 1 (fourth quote) – work on a wide scale. At the same time, longer-term strategies of iron fortification and dietary modification were briefly considered.

The meeting agreed the introductory statement shown in box 2.

## **Box 2**

### **Controlling Iron Deficiency**

“Iron deficiency is the most common nutritional disorder in the world. It occurs when the amount of iron absorbed in the body is insufficient to meet its requirements, and if prolonged, results in iron deficiency anaemia (IDA). It is estimated that 1.3 billion people suffer from anaemia, of which most is due to iron deficiency. IDA is an important cause of morbidity and, when severe, mortality. This situation persists although the interventions required for prevention and treatment are available, effective and inexpensive.

“The frequency of IDA is more than 50% amongst pregnant women and pre-school children in many communities, and progressively less in school children, non-pregnant women and adult males. IDA reduces work-capacity, with adverse effects on productivity, earnings and the ability to care for children and the home. In developing countries, severe anaemia can be an associated cause in 50% and the main cause in up to 20% of maternal deaths. Maternal anaemia results in intrauterine growth retardation, low birth weight and increased perinatal mortality. Iron deficiency in infancy and childhood is associated with apathy, inactivity and significant loss of cognitive abilities.

“The target group of highest priority for intervention is women during pregnancy and early lactation. In areas where iron deficiency is highly prevalent, blanket coverage of the group with supplements is recommended. Major constraints on effective intervention include low accessibility and utilization of ante-natal care, inefficient supply and distribution of supplement (usually ferrous sulphate/folic acid tablets), inadequate training and motivation of first line health workers, insufficient and inappropriate counselling of mothers, and failure of effective screening and referral procedures (where these are required). Iron deficiency control, in other words, shares many of the same problems as primary health care and essential drugs programmes. Another priority group is premature and low birth weight infants, for whom an affordable preparation for administration in the first weeks of life needs to be developed. For pre-school children in areas of high prevalence, screening for anaemia and selective supplementation should be considered.

“In general, supplementation programmes are of limited effectiveness outside these target groups and other approaches are needed to correct deficiency states. Of these, food fortification with a suitable iron compound is the method of choice in most situations. Attempts to improve iron intake and availability by dietary change are important in the long term, but behavioural change is gradual. Theoretically, there are three ways in which the amount of bioavailable iron in the diet can be improved: by increasing intake of haem iron; by increasing ascorbic acid intake to favour iron absorption; and by reducing inhibitors of iron absorption in the diet.

“For the immediate future, raising the effectiveness of programmes providing iron supplementation during pregnancy and lactation as a component of primary care appears to be the most practical approach to alleviating the problem of iron deficiency and anaemia for the most vulnerable group in areas of high prevalence. The successful prevention of iron deficiency in a community will lead to improved health especially in women and children, reduction of maternal and infant mortality, increased productivity in adults and improved learning capacity in children. Programmes should be highly cost-effective with the costs being offset by a better economic performance. The control of iron deficiency is an essential component of primary health care, the Safe Motherhood Initiative and the AIDS Control Programme (the latter through the reduction of the need to transfuse blood in severe anaemia).”



Source: Report of the Joint ACC/SCN Workshop on Iron Deficiency Control (Dublin, 6–8 June). To be published by ACC/SCN as Nutrition Policy Discussion Paper No. 9.

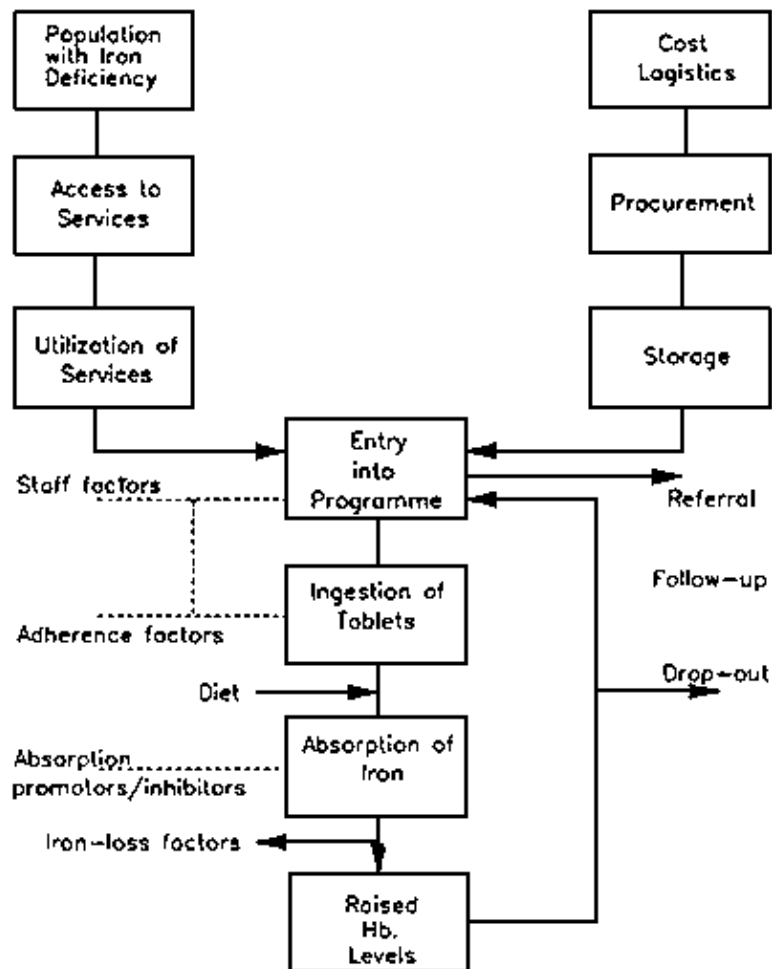


Figure 1: Process Involved in Iron Supplementation

In order to ensure that those people most in need actually do ingest iron supplements on a daily basis so as to raise their haemoglobin levels, a system of supply, delivery and consumption needs to be functioning smoothly. This has been seen in the past to be more manageable in smaller scale programmes than when these are scaled up to national level. Figure 1 above has been used to represent this system, in questionnaires distributed prior to the ACC/SCN workshop to help identify constraints in large-scale programmes.

The top half of the “Y” shows how the iron-deficient population and the iron supplements reach the ‘distribution point’ e.g. an antenatal clinic, on a regular basis (marked “Entry into Programme”). People with iron deficiency need first to be identified. If the iron supplementation is carried out through health services, these people need access to the services and to be sufficiently informed and motivated then to utilise them. Iron tablets should be regularly available in sufficient quantities at the distribution point. This will involve considerations of cost, logistics, transport, distribution and finally storage within the clinic.

The bottom half of the “Y” illustrates how, having entered into an iron supplementation programme, an individual’s haemoglobin levels can be raised. The human element is critical here. Staff at the distribution point need to be trained to reassure the patient of the benefits of supplementation, particularly if there are any initial side-effects. They need to know when and where to refer a severely anaemic patient, how to monitor patients within the programme as well as to motivate those who have dropped out. Finally, given regular ingestion of an appropriate dose of iron by the patient, dietary and disease factors can modify iron absorption and loss, hence the degree to which haemoglobin levels are raised.

The components of the system (as illustrated in Figure 1) from overall supply of tablets through to individual adherence provided a structure for the workshop, which is also followed in this article.

## Target groups

Pregnant and lactating women are of highest priority, and generally require blanket coverage in areas of high anaemia prevalence. Premature and low birth weight infants are also a high priority target group. Supplementation of pre-school children should be considered in areas of high anaemia prevalence, and similar considerations apply to school age children. In adolescent girls pilot studies have shown benefit from supplementation through building iron stores before pregnancy.

### Supply and logistics

Overall supply of iron tablets is frequently a major constraint. This arises not only from inadequate financing, but from failures in procedures for ordering and scheduling deliveries, ensuring quality control, storage, monitoring of distribution etc. at all levels of administration. An interesting illustration came from one programme discussed at the workshop: at district level, 83% of the target group were judged to be covered by supplement supply; at primary health centre level, this proportion was 67%; at sub-centre level it was 61%, and finally at village level, only 8% of the target group were in fact covered. Three factors were bringing down the coverage: the “needy” were considerably under-estimated at district level, distribution bottlenecks were progressively reducing the flow of supplements from district to village level, and (often) the supply actually reaching the villages was going to the “captive audience” of school children rather than the intended target group of pregnant women.



Higher priority for tackling iron deficiency at every level of decision-making in the health system is needed – as well as better recognition among those affected themselves – which in turn requires better communication and information. Heightened awareness among those affected would lead to an increased demand, which in turn would put pressure on the supply system; both demand and supply need thus to be developed simultaneously.

### Service delivery

In the first place, iron supplementation through existing service delivery systems requires regular contact of those in need with the services – and this is commonly lacking in areas most affected by anaemia. Health services, often antenatal clinics, are the most common network for the delivery of iron supplements to the priority target group – pregnant women. Access and utilisation of such services, however, are very low (often below 50% of the target group) in many countries. Reasons for this included the lack of both physical access (clinics being out of reach) as well as economic access (transport costs, wages foregone in using services), and a lack of awareness of the possible benefits.

Within the health system, capabilities for preventive measures, and for diagnosis, treatment and referral, need to be enhanced, starting at the village health post level. *Blanket* coverage of vulnerable groups (notably pregnant and lactating women) is recommended. Other delivery systems including the private sector show promise. The integration of iron programmes with others (e.g. Safe Motherhood, primary health care, family planning, school feeding etc.) can maximize opportunities to reach targeted groups. Other systems that have wide outreach, such as schools, churches, party networks should also be considered.

Additional training of health and other service staff is often required for the prevention and treatment of anaemia. This applies to basic and in-service training, and should include management, surveillance, communication with people, screening, etc. In addition, increased awareness of managers and policy-makers is needed, and should be fostered.

### Tablets, doses

Ferrous sulphate is currently the most suitable preparation, being of low cost and high bioavailability. For infants, however, low-cost paediatric preparations need to be developed. New forms of iron preparations providing sustained gastric delivery are promising, but have yet to be made widely available.

For *prevention in pregnant and lactating women* 60 mg elemental iron (= 200 mg ferrous sulphate, often with 250 mcg folate) per day (1 tablet) is recommended in areas where iron deficiency anaemia is of low prevalence; in areas of higher prevalence 2 tablets, i.e. 400 mg ferrous sulphate per day is recommended. For *infants* breastmilk should be adequate for the first six months, but in low birth weight infants supplementation may be required from two months onwards.

From six months supplementation may also be widely necessary. The preventive dose of elemental iron is 1 mg/kg/day. Suitable liquid preparations need to be developed. For *children* supplementation is less widely needed and screening may be advised; the dose is 100 mg ferrous sulphate per day (pre-school) to 200 mg (school age).

For *treatment* the dose depends on the severity of the anaemia. For severe anaemia in *pregnant and lactating women* 60 mg elemental iron (200 mg ferrous sulphate) *three* times daily is recommended; twice daily for mild-moderate anaemia. In *infants and young children* the recommended dose of elemental iron is 3 mg/kg/day; for *adolescents and other adults* 60 mg elemental iron daily is recommended for mild anaemia, and 60 mg twice daily for mild-moderate. Parenteral iron is seldom essential, and can be risky particularly in malaria endemic areas.

The potential *toxicity* of iron, while not counter-indicating control programmes, needs to be borne in mind. However, it is stressed that oral iron supplementation to normal pregnant women causes no risk of toxicity and present evidence indicates only minor undesirable side effects when the dose is relatively small. Furthermore limited periods of supplementation are not a concern even in patients susceptible to iron overload.

### **Adherence (compliance)**



Side-effects from taking ferrous sulphate tablets are common – usually mild but sometimes unpleasant enough to discourage continuing daily supplements. Where supplies are not a problem, even with good access to health care, side-effects are thought to be a major reason for some women dropping-out of a prescribed course of iron, usually during pregnancy. How far does this effect the success of iron supplementation on developing countries? Information from the programmes reviewed and from previous literature indicates that side effects from ferrous sulphate are actually associated with only a relatively small proportion of drop outs from supplementation programmes in poorer countries. For example, in a 1985–86 ICMR study in India<sup>3</sup>, the drop-out rate varied from 9% to 87% between States with a mean of 58%. Over 80% drop-outs cited tablet supply failure as the reason; less than 3%, side-effects. Among the programmes reviewed, supply constraints tended to be more important in causing lack of adherence. Cultural issues and improved community understanding and participation in programmes are important.

<sup>3</sup> Report of the Meeting on Prevention and Control of Nutritional Anaemia, Ministries of Health and Family Welfare, Government of India, New Delhi and UNICEF, New Delhi (November 1989).

Improved monitoring of adherence within programmes would also improve programme effectiveness. Accurate monitoring can assist in deciding whether it will be cost effective to sustain a programme, or if modifications to a programme have impaired or detracted from performance. Most approaches do not

measure consumption directly due to the high costs (in time and equipment) and invasiveness. Possibilities include the counting of returned tablets or reporting by the subject of tablets consumed (either directly to the health worker or by marking a calendar each time a tablet is taken). Each method depends on recall and the accuracy and reliability of reporting. One interesting method uses light sensitive paper on which the test tablets are “blistered” (packaged). The paper is affected as the tablets are removed for use, and the sequence of removal is recorded since the “density” of the paper exposed is affected by length of exposure to light.

\* \* \*

## **Fortification**

An alternative approach is fortification, widely used in developed countries. While not necessarily substituting for supplementation, fortification can reduce its urgency and allow it to be more specifically targeted. Effective fortification programmes require long-term commitment, a bioavailable but non-reactive iron source, and suitable “vehicles” – foods to be fortified. A suitable food vehicle will be one that is centrally processed, technologically and economically fortifiable (with no change to taste, texture, appearance), acceptable, frequently used by the target group or whole population, and made available through an effective distribution system. Proven iron sources exist (such as iron-EDTA), as do several examples (but mostly in developed countries) of suitable food vehicles. In some cases fortification can be targeted to vulnerable groups, e.g. weaning foods.

## **Dietary modification**

Iron deficiency can also, in principle, be tackled in the long-run by modifying dietary patterns. The three main ways in which diets can increase iron status are:

- increasing the intake of haem iron (from animal products);
- increasing the intake of vitamin C, along with foods promoting iron absorption e.g. acidic, fermented;
- reducing the intake of iron absorption inhibitors, e.g. in coffee, tea, some cereals.

Changing diets in such directions – allowing for cultural constraints especially concerning animal products – provides a potential solution, but changing behaviour takes time. In designing suitable social marketing and education techniques, food beliefs, preferences and taboos governing consumption should be understood, particularly as these are likely to be most evident in at-risk groups such as pregnant women and young children.

## **Parasitic disease control**

Control of hookworm and malaria are significant strategies for reducing iron deficiency anaemia. Hookworm transmission may be reduced by hygienic measures such as keeping faeces out of the soil (e.g. through the use of pit latrines), and keeping skin from contact with the soil (e.g. through use of adequate footwear). ‘De-parasitization’ should be carried out the first time a pregnant women attends an antenatal clinic, preferably in the first trimester. This will prevent iron loss due to hookworm in this pregnancy although there is then the probability of subsequent re-infestation. Ideally, de-parasitization needs to be complemented with hygiene education plus improvements in water and sanitation and the use of adequate footwear. Schistosomiasis, trichuriasis and *Giardia* infestation are other diseases adversely affecting iron status. In malaria-endemic regions the benefits of *oral* iron outweigh the risks (which exist partly because the malaria parasites need iron for replication).

## **Conclusions**

For the immediate future, raising the effectiveness of programmes providing iron supplementation during pregnancy and lactation as a component of primary care appears to be the most practical approach to alleviating the problem of iron deficiency and anaemia for the most vulnerable groups in areas of high prevalence. Inadequate and unreliable supply of supplements and low service utilization are major constraints in most programmes. Programme effectiveness depends on outreach and effectiveness of service delivery. Recognition of the importance of iron deficiency must be increased at all levels, including among those affected. Adherence to a supplementation regime is a constraint, probably more related to unreliable supply to the individual than to undesirable side effects, although the latter also need to be tackled.

Blanket coverage of pregnant and lactating women in at risk areas is recommended. Greater attention is needed to iron supplementation in premature and low birth weight infants, for which new preparations are needed. In other age groups selective supplementation (e.g. using screening) may be desirable. Fortification and dietary modification are complementary approaches, and should be developed. In general, a mix of strategies is likely to be the most successful.

– S.R.G./J.B.M.

#### *Other useful references*

DeMaeyer, E.M. and Adiels–Tegman, M. (1985) The Prevalence of Anaemia in the World. *World Health Statistics Quarterly* **38**, 302–316. WHO, Geneva.

DeMaeyer, E.M. (1989) *Preventing and Controlling Iron Deficiency Anaemia through Primary Health Care: A Guide for Administrators and Programme Managers*. WHO, Geneva.

INACG (1989) *Guidelines for the Control of Maternal Nutritional Anaemia*. Available from INACG Secretariat, ILSI–Nutrition Foundation, 1126 16th St., NW Washington DC, USA.

Odaybea Morrow (1990) *Iron Supplementation during Pregnancy: Why Aren't Women Complying?* Safe Motherhood Programme, WHO, Geneva.

Rae Galloway (1990) *Determinants of Medical Compliance*. The World Bank (PHN), Washington DC.

*The full report of the meeting which provided material for this article is shortly to be published as 'Controlling Iron Deficiency' – see announcement inside front cover.*

#### **Policies to Improve Nutrition – What was done in the '80s**

Review of recent experience, focusing on household food security, malnutrition/infection, and caring capacity.

Malnutrition is one of the worst aspects of poverty. Poor people are often hungry, frequently sick, overworked, living in bad conditions, with not enough access to services such as health and education. They have no social security: if sick, they lose income; if the economy deteriorates, they lose jobs and may starve. Their children often die, or grow up stunted with unfulfilled intellectual potential. Lack of schooling, sickness and hunger all have long term effects. The girls get pregnant too early, often before maturity – and stunted women have small babies who fail to thrive well, perpetuating the cycle. Avoidance of this poverty and its effects is a human right, and a major objective of socio-economic development.

This situation persists, indeed malnutrition is growing in numbers, and only patchily declining in terms of proportions. Poverty alleviation is at the forefront of the development agenda – but waiting for poverty decline to alleviate malnutrition will take decades, and in the interim the misery and unnecessary deaths will continue. Is it necessary to only wait for economic advancement to prevent this suffering? What can be done in the interim?

These results of poverty – hunger, sickness, early death, debilitation and fatigue – revolve around nutrition. Nutrition is the *result*, and preventing malnutrition is an aim, and one that can be monitored.

We know more now (than say ten years ago) about how the nutrition situation is evolving. Much painstaking research in many countries has allowed a coherent picture to be built up – hence, for example, the SCN was able to describe trends in its reports on the world nutrition situation<sup>1</sup>, and this process continues. We can now look at examples of where nutrition has improved, and begin to figure out why, drawing lessons for future actions. These actions cost money – requiring allocation of resources by governments and through international assistance. Decisions need to be made as to *how* to spend that money, and this is complex. Nonetheless decisions *have* to be made, and these can now be better-informed than in the past.

<sup>1</sup> ACC/SCN (1987) *First Report on the World Nutrition Situation*; ACC/SCN (1988) *Supplement on Methods and Statistics to the First Report on the World Nutrition Situation*;

Moreover, we have a better idea of the external resources available, through the careful data compilation by such organizations as ACCIS, OECD, and the World Bank<sup>2</sup>. The resources are not much, but this means they need to be used to maximum effect while efforts are geared to getting more resources.

<sup>2</sup> ACC/SCN (1990) *Estimates of Flows of External Resources in Relation to Nutrition*. Paper prepared by Paula Yoon and John Mason for the 16th Session of the ACC/SCN, February 1990.

A crucial question becomes: what can we propose *now* for the '90s, to not only contain malnutrition, but even to contemplate reaching the very ambitious objectives currently being put forward for dramatic cuts in the extent of the problem? (See box.)

### Box 1

#### NUTRITION GOALS FOR THE 1990s

The nutrition goals for the 1990s can be divided into the following two categories:

a) The control of protein–energy malnutrition, including:

i) The reduction of both moderate and severe protein–energy malnutrition in children under five years of age by one half of the 1990 levels;

ii) The reduction of the rate of low birth–weight (less than 2.5 kilograms) to less than 10 per cent (an indicator of the status of maternal nutrition);

b) The control of micronutrient deficiency disorders, including:

i) The reduction of iron deficiency anaemia (haemoglobin level in the blood, or serum ferritin) among women of child–bearing age by one third of the 1990 levels;

ii) The virtual elimination of IDD (urinary iodine, or serum thyroid hormone);

iii) The virtual elimination of vitamin A deficiency and its consequences, including blindness (serum retinol, or some other measure of vitamin A status).

The indicators to be used in monitoring the achievement of the micronutrient goals are given in paragraph b) above; those for protein–energy malnutrition in children are as follows: underweight (low weight–for–age); wasting (low weight–for–height); and stunting (low height–for–age).

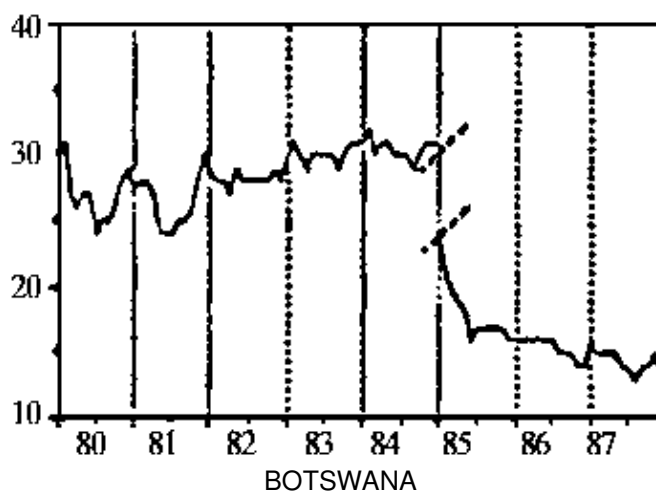
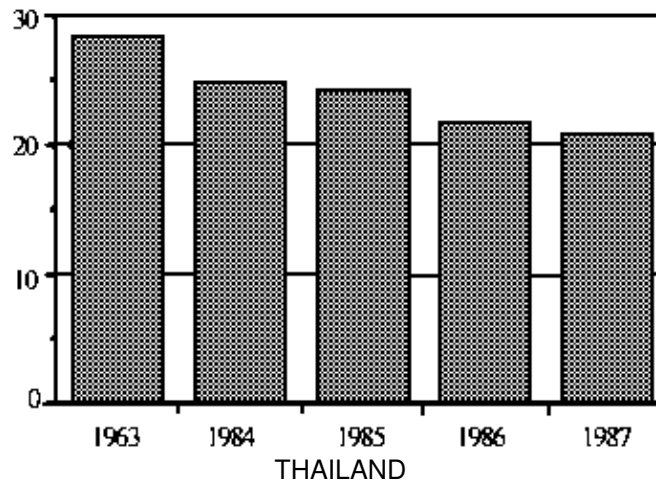
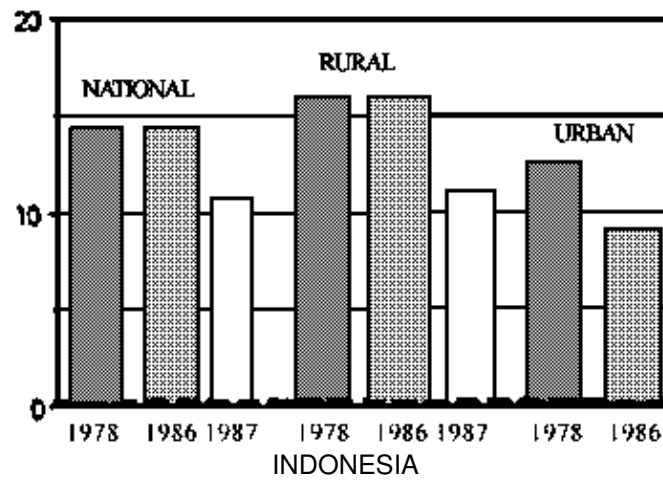
Source: UNICEF. (1990) *Strategy for Improved Nutrition of Children and Women in Developing Countries*. A UNICEF Policy Review. 15–16.

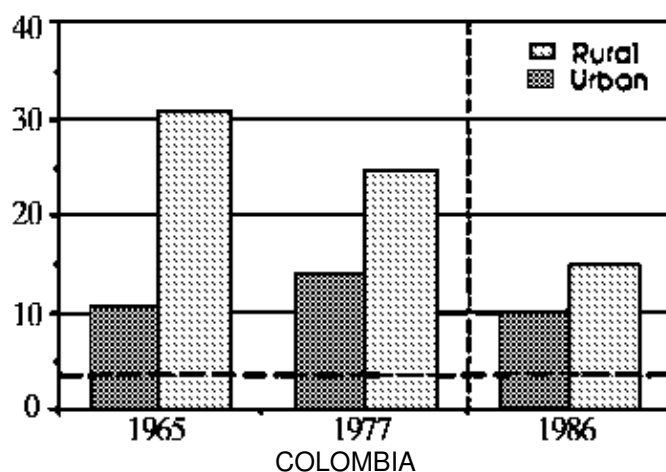
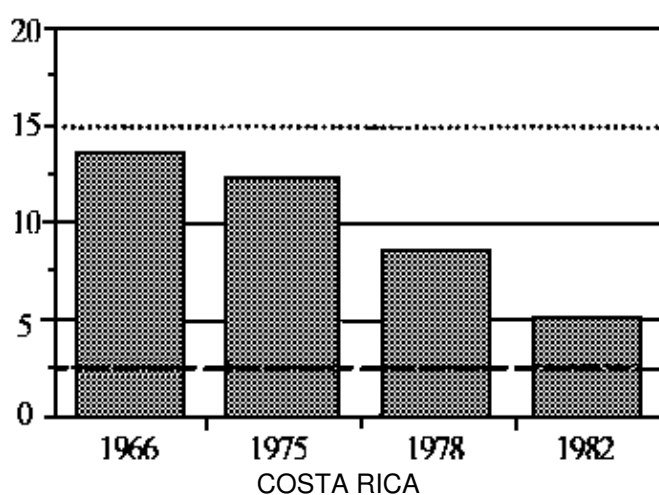
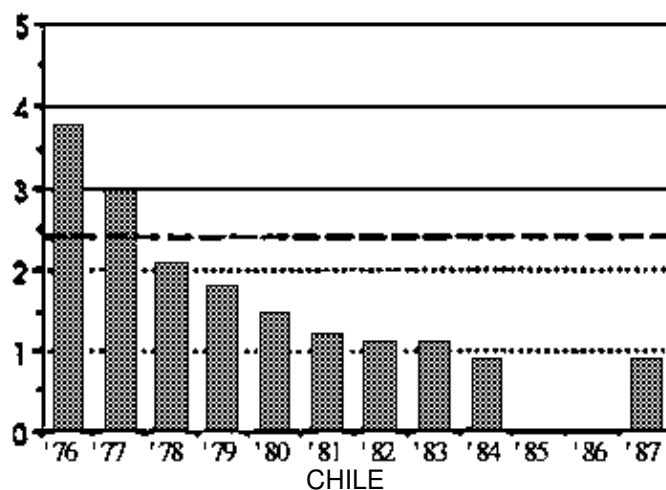
The SCN, with its mandate for harmonizing policies in the UN for preventing malnutrition, has started to address these questions. Essentially, this is in two stages: first to look at and evaluate recent experience – drawing on information on trends accumulated for reports on the world nutrition situation; and second to seek the best possible consensus on what should now be undertaken in the decade of the 90s. This article is based on background material<sup>3</sup> for a meeting convened by the SCN, with support from the German government's development agency (GTZ), in London in November 1990. The next article scheduled for SCN News No. 7 will give the forward–looking conclusions of that meeting, to be reviewed by the Subcommittee in February 1991.

<sup>3</sup> Gillespie, S.R. & Mason, J.B. (1990). *Nutrition–Relevant Actions in the Eighties: Some Experience and Lessons from Developing Countries*. Draft background paper for the

The experience in the 1980s of several countries where nutrition was known to have improved, at least for a certain time, was used to illustrate trends and related policies. Some data are shown in Figure 1.

**Figure 1: Trends in Prevalences (%) of Underweight Children in Selected Countries**





(Prevalences are for children under five years for Indonesia, Thailand and Botswana; for under six year olds in Chile and Costa Rica; for 6–36 month olds in Colombia. Data for Indonesia, Colombia and Costa Rica are from surveys; Thailand and Botswana from weighing programmes, and Chile from health centres.)

Source: ACC/SCN (1989) Update on the Nutrition Situation; additional 1989 Indonesian data supplied by Dr. B. Kodyat, November 1990.

In Africa, trends in prevalences of underweight children from clinics in Botswana and Ghana were taken as one measure of nutritional outcome. In Botswana recurrent drought threatened food security, livelihoods and nutrition throughout the 1980s. Yet the evidence is that this was contained; indeed nutrition may have improved towards the end of the decade (uncertainties arise due to changes in the reporting system). Vigorous efforts to provide public works employment and food distribution, as well as about the best outreach



of any health system in Africa, may partly explain the success. In Ghana, far-reaching policy changes began to resolve the severe economic crisis of the early 80s – when food prices and inflation rocketed, employment and wages crashed, drought and bush fires wreaked havoc in the countryside. The situation was under control by the late '80s and malnutrition fell. In Indonesia and Thailand steady improvement in the 80s in child nutrition was indicated (by underweight prevalences, from surveys and weighing programme data, respectively). In Thailand especially this was no doubt helped by the sustained rapid economic growth. Both countries increased their outreach of family health services, with explicit nutrition components. In Indonesia, the State Rice Marketing Organization (BULOG) helped stabilize staple food supplies and prices. The situation in Tamil Nadu State in India was also considered: here a combination of state food interventions and specific child programmes (ICDS, TNINP) are thought to have contributed to improving child nutrition.

Several countries from Latin America have positive experiences in nutrition. One of the best known is Costa Rica. Here substantial expenditures on health and social services have helped reduce infant and child mortality to very low levels, and child malnutrition has been nearly eliminated in many areas. Both Chile and Cuba provide similar examples in outcome, with variations in approach<sup>4</sup>. In Colombia continued economic development, with a period of specific food and nutrition programmes, as well as other factors may account for the nutrition improvement seen.

<sup>4</sup> Horwitz, A. (1987) *Comparative Public Health; Costa Rica, Cuba, and Chile. Food and Nutrition Bulletin* 9 (3) 19–29.

One constant difficulty in understanding what happens to cause improved nutrition, in order to inform future policies, is how to limit the scope. Too wide, and one ends up reviewing world history – yet underlying factors have a powerful effect. Explaining Thailand's improvement for example must consider the strong economic growth. Too narrow, and the risk is only marginal activities will be included. One criterion applied is how far considerations of nutritional effects can be expected to affect policy decisions.

Thus macro-economic policy decisions may have the nutrition of the population as a sub-objective, but are seldom primarily driven by this. Structural adjustment, for example, in the first instance address such problems as balance of payments deficits and restarting economic growth – although they may include short-term compensation, similar in principle to social security. On the other hand, for example, policies for food distribution do have food security as an objective, and thus are more directly influenced by considerations of nutritional outcome.

Policies may aim to protect *current* consumption and hence nutrition; or may give priority to investment for *future* well-being. This contrast has been called “growth” compared with “support”, and a balance is usually sought, in other terms, between investment and social security. In “Hunger and Public Action” Jean Dreze and Amartya Sen<sup>5</sup> evaluate such options, citing examples from China, Jamaica, Sri Lanka and Costa Rica (among others), which emphasized support; others they quote, such as South Korea and Singapore emphasized growth along with active public provisioning. Both approaches brought improvement in survival and nutrition. Others still achieved growth, but their ‘unaimed opulence’ did not improve quality of life to the extent of the others. In general, neither growth alone or public support work sustainably in isolation; and growth policies must deliberately include the poor if they are to alleviate poverty – and reduce malnutrition. In fact, such observations have led to considerable consensus on overall policy. The World Bank in the 1990 Development Report, UNDP in its Human Development Report 1990<sup>6</sup>, (and indeed Dreze and Sen) agree on an approach which in the present context includes:

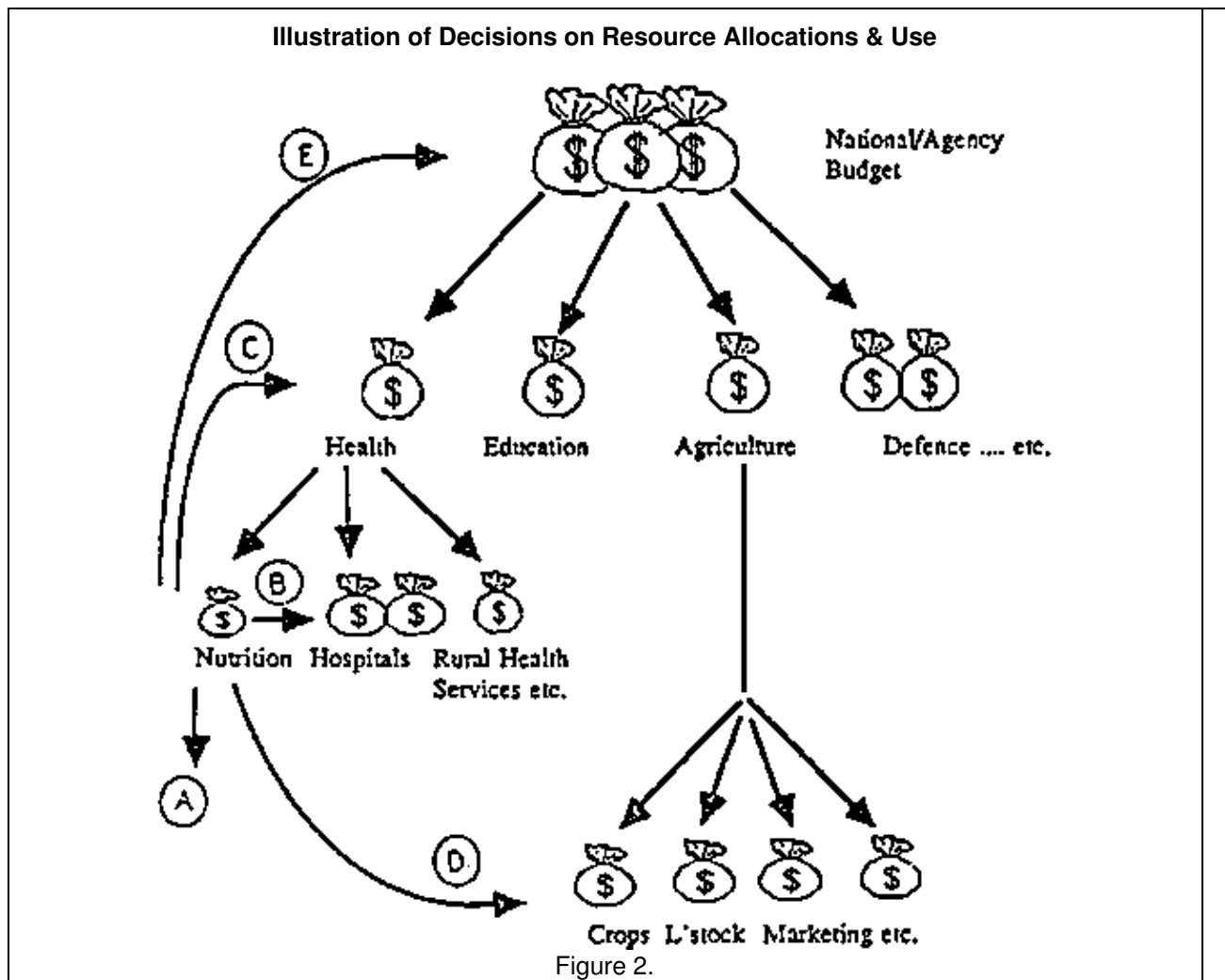
- economic growth that deliberately involves participation of the poor as the long-term solution to poverty;
- in the interim social security for the poor is imperative and need not retard growth; the means for this importantly are good access to food (not least because maybe 70%–80% of income is spent on food) – or “food security” – and there is experience now on how to achieve this; equally health access must be ensured, and the means for this are also becoming known.

<sup>5</sup> Dreze, J. and Sen, A. (1990) *Hunger and Public Action*. Clarendon Press, Oxford.

<sup>6</sup> World Bank (1990) *World Development Report*, World Bank, Washington D.C.; UNDP (1990) *Human Development Report*, Oxford University Press for UNDP.

Nutrition concerns need this consensus. It provides a framework where nutrition objectives do not interfere with overall development; in fact nutrition is now more able to focus down on questions within these areas: *how* can poverty-oriented development best alleviate malnutrition; *which* options in social security are most cost-effective, with an emphasis on food?

Nutrition objectives will be reached by suitable decisions on resource allocations, both to sectors and to areas within them, and hence to effective activities. Should funds be allocated to rural health centres or hospitals? To cash crop production or subsistence? To one sector or another? Such information flows and decisions are pictured in Figure 2. This illustrates one important level of decision-making: allocation of resources *between* sectors, and to different activities *within* sectors. It also means to display the communications issue: nutrition concerns may be of priority in one sector, but action is required by *others* – hence effective use of information and advocacy are needed by those promoting nutritional aims.



The example imagines a nutrition unit in a Ministry of Health, wishing to make or influence decisions that affect nutrition. Often this may involve persuading others to make decisions. These may get progressively more difficult – but sometimes more important – in the examples A–E:

- (A) decisions by a nutrition unit on the use of its own resources: e.g. nutrition education vs. nutritional surveillance;
- (B) recommendations on use of resources by departments within the same sector – e.g. including nutrition education activities in primary health care;
- (C) recommendations on allocation of resources between departments within the same sector, e.g. hospitals vs. rural clinics;
- (D) recommendations on use of resources by other sectors: e.g. nutritional considerations in agricultural projects;

(E) recommendations on allocation of resources between sectors.

Source: Mason (1988) Nutritional Surveillance: Extension at Country Level and Required Indicators, paper for AID workshop, Annapolis, 20–22 April, 1988.

Allocations to social sectors are illustrated in Table 1, for some of the countries considered here. One purpose of these figures is to see how affordable social action is – it has been argued that expenditure on social security is beyond the reach of the poorest countries. This issue is considered in some detail by Dreze and Sen in 'Hunger and Public Action'. They point out that in fact some of the poorest countries have successfully used social security. The costs need not be prohibitive, partly because much of the services are labour-intensive, and thus less expensive in poorer countries with lower wages. This implies that it is more the *proportion* of national income devoted to the social sectors, than the absolute funding. The figures in Table 1 show considerable *per capita* allocations, and higher levels proportional to GNP, in countries such as Botswana, Chile, and Costa Rica, in relation to the others. Poorer countries do seem to be less able to afford social security. But nonetheless, *some* resources are available even there – around \$12 per head per year in Indonesia, \$23 in Ghana, as examples.

Table 1: Resource allocations to social sectors for selected countries in 1987

<b>Country</b>	<b>GNP per capita (\$)</b>	<b>Total expenditure on health/education/social security and welfare (\$/capita/yr)</b>		<b>Total expenditure on health/education/social security and welfare (\$/capita/yr)</b>		<b>% of total social expenditure from external sources</b>
		<b>Government budget</b>	<b>External aid</b>	<b>Govt. + External</b>	<b>%GNP per cap.</b>	
Costa Rica	1610	244	1.4	245	15	0.6
Chile	1310	246	0.1	246	19	0.04
Botswana	1050	135	23.3	158	15	14.7
Thailand	850	57	0.2	57	7	0.3
Indonesia	450	11	0.7	12	3	5.8
Ghana	390	21	1.5	23	6	6.8
India (central govt. only)	300	5	0.1	5	2	2.0

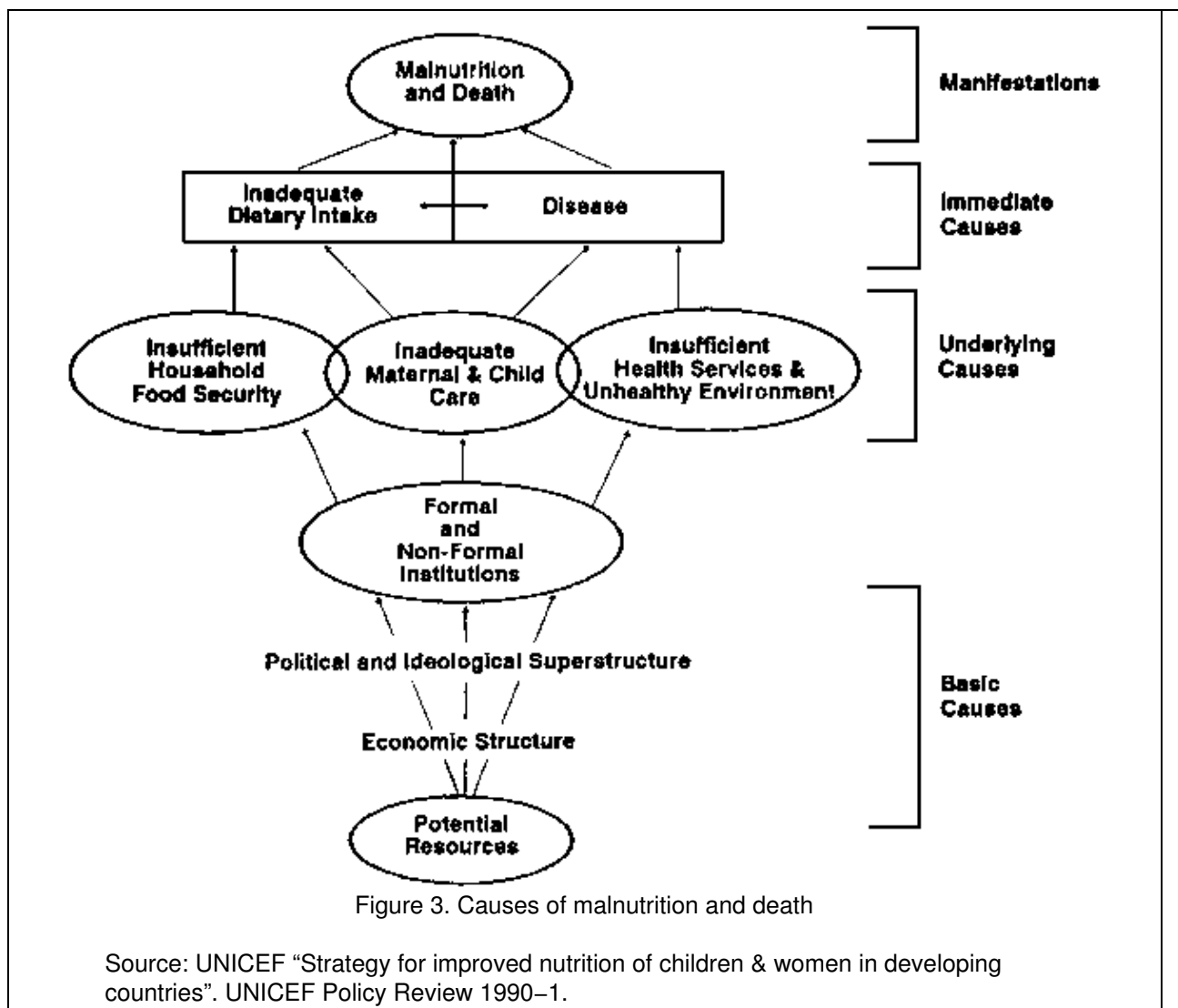
*Sources: ACC/SCN database on external resource flows, from ACCIS, World Bank, and OECD; World Development Report (1989) (World bank) for GNP, health & education budgets; IMF Financial Statistics Yearbook (1989) for social security and welfare figures.*

A final clarification is needed, to assess the importance to nutrition of inter-sectoral planning and integrated interventions. One problem has been the concept – now rejected – that because malnutrition has multiple causes, integrated interventions are obligatory. This idea does not survive examination. Discarding the concept is essential for progress, otherwise any single, feasible, intervention will be regarded as doomed from the start, if it is thought to need a number of other interventions at the same time to succeed. Nothing could be more discouraging for those who only can influence a few actions at a time – and this applies to most decision-makers except perhaps the heads of state. Advocating action on wide-ranging inter-sectoral decisions as a prerequisite can cause paralysis, or at least frustration. Even if a number of interventions are decided, they can be a managerial nightmare. So it is of more than theoretical importance to establish that single interventions can be worth while. None of the country examples reviewed appeared to have proceeded by saying "if you can't do it all, don't do any of it"; on the contrary, limiting the scope of activities is a practical necessity.

We said in the background paper "It is often possible to decide on a single or a few useful, if not optimum interventions. There is generally not an inescapable need for a complicated mix of actions. This is not to say that campaign-style quick fixes are warranted – they undermine the institutional capability for broad

responsiveness. But not everything has to be done at the same time. Responsible planning identifies the best feasible approaches at any one time, with an eye to future needs.” This view seems to be accepted. “There is thus no absolute need for governments to develop all-embracing statements which constitute a ‘nutrition policy’. Such a document may promote the notion that a centralized inter-sectoral planning approach is required. Decisions and actions are more important than statements.”

To describe recent experience, with a view to determining where to go next, we need to summarize activities, as well as to keep the scope manageable. The immediate causes of malnutrition are dietary intake and infectious disease. Dietary intake depends considerably on the ability of the household to acquire food – or household food security; and infectious disease depends substantially on exposure to disease in the environment, and access to services. But both these are modified by what happens within the household, especially by women’s roles – for example maternal care of children. Therefore a grouping of factors, and policies that impinge upon them, that provides a useful summary is to distinguish these three clusters: household food security, malnutrition and infection complex, and “care” factors. This formed the basis for UNICEF’s nutrition strategy, as shown in Figure 3. This framework has been adopted in reviews of past policies, and in recommendations for the future. Here we use it to draw conclusions from recent experience.



### Household Food Security

Household food security refers to the ability of household members to assure themselves sustained access to a sufficient quantity and quality of food to live healthy active lives. The term also implies assurance of future intake – removing the fear that there will not be enough to eat. These aspects could be called “current” and “future” food security. In principle, the idea for current intake can be illustrated as in Figure 4. This shows the range from low to high food energy (kcal) intake. The effect on the individual of sustained low energy intake is to lose weight, and at the other end of the scale to gain weight. At the extremes, these involve starvation and hunger, and overeating and obesity. The individual at a certain low level of food intake will respond by reducing activity, usually first discretionary activity for leisure, and then productive activity itself. In a sense,

the individual may protect against loss of body weight by conserving energy through reduced activity, but clearly this is a policy of some desperation. At the other end of the scale, given adequate food availability, the individual regulates food intake particularly through appetite control. Clearly the objective is to have food accessible somewhere in the region where productive and discretionary activity are supported, and there is enough food available that the individual can choose how much to eat. In practice there are measurement difficulties, both because of the concept and because of the data. In terms of concept, the time dimension is not easy to incorporate. However, in common sense it is clear that the objective is to sustain food availability such that “insecurity” is not a major problem, and this is likely to be around the levels quoted at population level for “requirement”. “Future” security is rather different, since it involves assessing individuals’ perception of what will happen. Probably one needs to know both the public action available – for example employment guarantees – as well as private insurance such as food stocks or savings. Security in this sense is the converse to vulnerability, and social security is an important means of dealing with it.

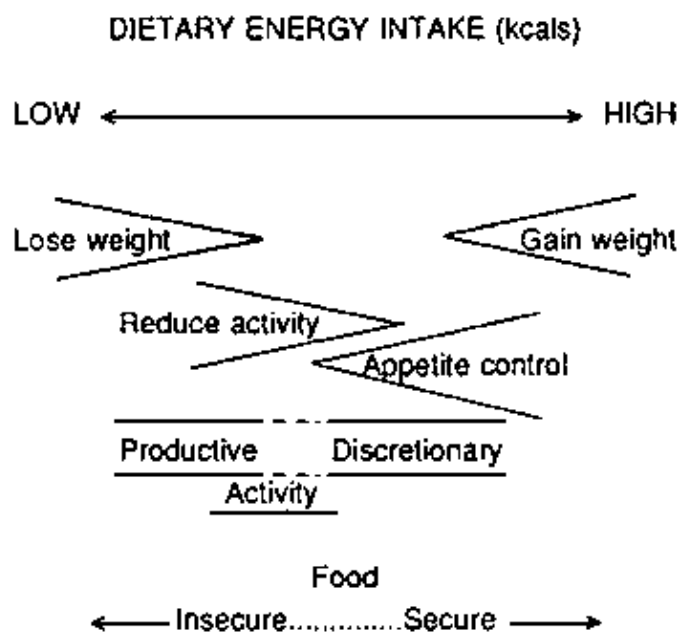


Figure 4. Illustration of implications of dietary energy intake.

Causes of food insecurity are clearly related to poverty, but it is important to distinguish underlying trends and “shocks” that may turn vulnerability into actual deprivation. In this context, we will emphasize the policies in different sectors that affect food security (reducing vulnerability). Again, more emphasis has been given to those that are more likely to be influenced by nutrition considerations, and this tends to be those which support consumption in the relatively short run – related to social security.

*Macro-economic adjustment programmes* are now established as affecting nutrition. Broadly there are two types. Stabilization programmes aim at reducing imbalances in external accounts and domestic budgets, reducing government expenditure and restricting credit. Secondly, structural adjustment programmes aim to change the economy over the medium term, through an expansion of supply of tradeable goods, and increasing exports and import substitutes. In both cases, compensatory programmes may be included, to cushion the effects on consumption. The latter are particularly relevant to nutrition, should be carried out with the aim of reaching the most vulnerable, and monitored using nutritional information.

*Agricultural policies and development programmes* may influence household food security through their impact on both the supply and the demand for food; through determining food availability and the levels and fluctuations of household incomes, through their impact on food prices, women’s labour demand and time allocation, and on the nutrient content of foods made available. The focus should be on people and their means of acquiring as well as producing food. Higher and more stable real incomes for people dependent on unskilled agricultural labour may be the most important contribution agricultural policies can make to human health and nutrition in developing countries. The labour intensity of agricultural strategies is increasingly becoming a major priority. While there are a number of very relevant concerns in agricultural policy, the issue of cropping policy has been used to illustrate these. The effects on household food security of a shift towards commercialized agriculture, or cash cropping, are mediated by changes in employment and income distribution. This is likely to have a greater nutrition impact than that through effects on food availability. However, households may become more dependent on fluctuating markets, and the propensity to consume more calories out of additional income can be quite low, even in poor households; often more expensive

rather than simply more calories are bought. Income from commercialized agriculture thus may or may not benefit nutrition. This depends partly on the expenditure behaviour of families which is influenced not only by total income but by its source and form, and by who controls it.

Cash crops are therefore neither good nor bad *per se*. This depends on their role in the economic process as a whole, which will differ between different areas. For example, some cash crops may be labour-intensive and provide employment for agricultural labourers without other possibilities. Recent research on the effects of agricultural commercialization has shown little impact – either positive or negative – on the nutritional status of children. Thus it is as much the details of how policies affect households, particularly the control of income and the effects on women, as the cropping policies themselves that affect nutrition. This argues for more effective incorporation of nutritional concerns in their planning and implementation. (See article in SCN News No. 3)<sup>7</sup>.

<sup>7</sup> ACC/SCN (1989) *Does Cash Cropping Affect Nutrition?* SCN News No. 3, p 2–10.

*Food price policies* clearly have direct effects on food consumption and household food security. As the poor spend more than half their income on food, any serious instability in prices causes severe instability in their purchasing power for food. Risk and uncertainty arising from unstable prices in an environment without insurance or effective credit markets acts as a serious constraint to investment in agriculture. Food price stabilization policies are important. These take a number of forms, and are closely related to public distribution schemes. Some of the experience in these, reviewed for the background paper, is informative.

A number of options exist for distribution schemes, aimed at subsidizing consumption and alleviating problems for net consumers arising from producer price increases. These try to guarantee food security through the provision of some form of social safety net, thus compensating to some degree for the lack of social security systems in many countries. The example of Chile, for example, where the safety net was largely successfully maintained during a political dictatorship, is illustrative.

General food subsidies, in which the government pays a proportion of the total production, storage, and marketing costs of a commodity, while not explicitly targeted, may reach different populations determined by marketing channels. They tend to benefit the urban rather than the rural population. General subsidies are usually expensive – for example in 1975 their costs accounted for 21% of Egypt's total budget, 19% of Korea's, 16% of Sri Lanka's, and so on. General food subsidies are difficult to implement on a small scale, and they are expensive and administratively complicated on a large scale, particularly for rural areas. Generally market-wide subsidies are not regarded as a sustainable and cost effective way of reducing chronic food insecurity among the poor.

Targeted food subsidies may be more cost effective, but are politically difficult. However, a number of examples do exist. For example, the national coupon programme of Colombia only accounts for about 1% of the national budget; positive income and consumption effects of targeted subsidies have been demonstrated in Sri Lanka, Kerala (India), and Bangladesh.

Subsidies may be targeted by community, household, season, or commodity. In some cases geographic targeting has proved to be effective, for example food subsidy and food coupon schemes in Brazil and Colombia. Targeting by season can counteract variations in food prices, but has yet to be widely explored.

Subsidies for weaning foods and special foods for pregnant and lactating women are other options for reaching the most vulnerable, on which there is some more experience. Targeting by commodity is a promising possibility. These subsidize foods largely consumed by the poorest groups, for example coarse grains. A study in Indonesia has shown that reducing the prices of less-preferred foods such as corn and cassava, while increasing the prices of rice, can actually benefit the food security of the poor. Selected subsidization like this has also worked in Bangladesh. A mix of targeting – by area, age, income etc. – is likely often to be the most efficient method. We described one such scheme in SCN News No. 4, from the Philippines<sup>8</sup>.

<sup>8</sup> Garcia, M. and Pinstrop-Andersen, P. (1987) *The Pilot Food Price Subsidy in the Philippines: Its Impact on Income, Food Consumption and Nutritional Status*. Research Report No. 61. IFPRI: Washington D.C.; SCN News No. 4, p 12–14, 1989.

Subsidized foods may be distributed more equitably using rations or quotas. Essentially these assist targeting, by restricting the amount of subsidized foods that can be bought by specific households at particular times. Often they operate within a two-tiered market system, whereby unlimited amounts of a commodity can be

purchased in the open market, and restricted amounts at a subsidized price. They may also give some self-targeting, with consumers choosing between the rationed commodity and the open-market alternative. Ration outlets may also be strategically located in poor neighbourhoods, and quantities distributed rather small, which discourages participation by the better off. The fair-price shops in India, for example, disburse rationed commodities, although this generally has had an urban bias. Other states in India, such as Kerala and Jammu and Kashmir have extensive rural distribution schemes for rationed foods. Concerns about disincentive effects of subsidy and ration programmes on food production have been expressed, but may not be too serious.

Food stamps provide a further alternative for subsidized food distribution. These differ from rations mainly in that the quota is in terms of currency value rather than weight or volume. Again, the rationale for using stamps rather than cash is that the effect on food consumption may be higher with such methods than simply by transferring cash; moreover cash transfers tend to be politically more difficult. Examples exist from Sri Lanka and Jamaica, as well as the United States.

Subsidies, rations, quotas, food stamps and coupons are all means of lowering the real price of food for targeted consumers. Supplementary feeding programmes are also in fact a form of highly targeted ration or in-kind transfer schemes. They are aimed more at reducing the undernutrition in individual groups, rather than improving household food security overall.

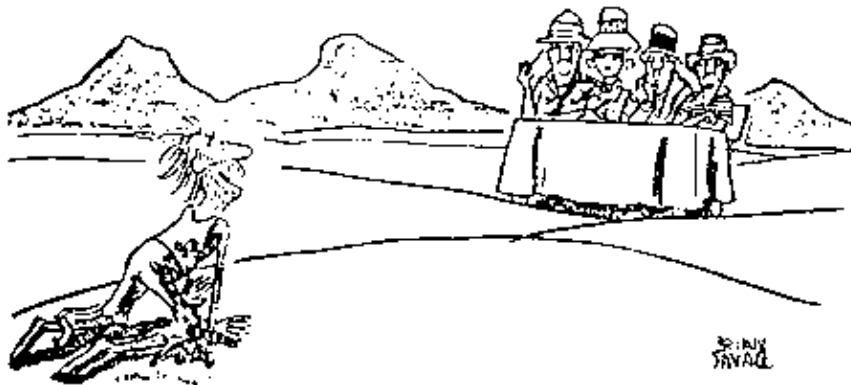
*Employment policies* affect nutrition through their impact on the levels, fluctuations and distribution of income and purchasing power. Clearly policies that favour employment opportunities for the poor are central to long term prevention of malnutrition. At the macro level, structural adjustment has led to a deterioration in the overall employment situation in many countries. One indicator of this is the decline of modern sector wage employment, another is the widespread fall in real wages. For example, out of 20 African countries with comparable and recent data only three, Burundi, Senegal and the Seychelles, have reported modest increases in real wages since 1980.

The segmentation of labour markets between formal and informal, agricultural and rural non-farm sectors is also gradually disappearing at the household level in many countries, as many urban household re-establish links with rural areas as a strategy to survive in the face of adjustment-induced drops in real wages. Such occupational multiplicity, however, is at the expense of labour productivity and output, and could ultimately prove harmful to economic growth – a possible example of the counterproductive nature of many short-term adjustment “shocks”.

In poor rural societies, agricultural policies are effectively employment policies. As production is forced to intensify and populations grow in many countries, higher proportions of people are involved in agriculture as wage labourers, fewer as net producers. Their livelihoods will depend on the sustained ability to assure themselves of secure regular employment at a remunerative rate of pay. This once again stresses the need for labour-intensive agricultural strategies that put people and not production in the forefront. Equity should be seen more in terms of production, not just as distribution.

There is a distinction between long term employment creation, and provision of employment by public works (cash-or-food-for-work) which are a means of providing food security in the short-run.

Public works have been effectively used to cushion the effects of food crises, particularly in times of drought – examples of this come from India, Indonesia, Botswana, and a number of other countries. Public works employment is also used effectively as a safety net for the very poor in normal times, frequently being self-targeting by setting the remuneration rates below those of other employment. Employment provision obviates the need either to move food to families, or families to feeding programmes, as work can be offered close to home, at the same time building up the assets of the community and infrastructure. Public works may also preferentially benefit women where they form a great majority of the work force on such schemes, through raising their incomes. India's success in such programmes is well established, and there may be unexplored potential in Africa, where, unlike India, much land is publicly owned. Ghana, Kenya, Lesotho, Malawi, Zimbabwe, Tanzania, and Mozambique have all used this method of employment provision. Food-for-work programmes fall within this category providing food as payment in kind, with potential for immediate impact on nutrition.



"Thank God! A panel of experts!"

A major choice concerns whether such schemes should provide a guarantee of employment. Such a safety net will obviously be more costly. The Maharashtra Employment Guarantee Scheme, for example, is financed by taxes on richer urban sector workers, and was originally introduced as one means of reducing rural–urban migration into Bombay. In Bangladesh, aid is used to fund such schemes with wages paid in kind.

Increasing income through employment provision is however not always sufficient to maximize the food security of all household members. A crucial question remains: who controls the increased income? Some considerations involve within–household decisions, and are looked at again under the heading of caring capacity.

### Malnutrition and Infection

Interactions between nutrition and infection, to produce the “malnutrition/infection complex” cause the major public health problem in the world (see SCN News No. 4). Infection influences nutritional status through its effects on intake, absorption and utilization of nutrients, and in some cases on the body’s requirement for them. A child’s rate of growth may be retarded by too little food and/or too many infections or parasites. Malnutrition is associated with lowered immunity. Infections can lead to loss of appetite, decreased efficiency of food and nutrient utilization, to increased energy requirements, and decreased rates of child growth. The relationship between diarrhoeal disease and physical growth in children has been widely shown. This cycle is discussed in more detail in ‘Malnutrition and Infection’<sup>9</sup>.

<sup>9</sup> Tomkins, A. and Watson, F. (1989) *Malnutrition and Infection: A Review*, ACC/SCN State-of-the-Art Series, Nutrition Policy Discussion Paper No. 5. ACC/SCN, Geneva.

Measurement of protein energy malnutrition in children is often carried out using anthropometry (see SCN News No. 5 and ‘Uses of Anthropometry’<sup>10</sup>). It is important to re-emphasize that anthropometry is an *indicator* of nutritional status, and one that is nonspecific in relation to causes. It picks up problems but does not identify the reasons. For instance, we know that acute infection causes growth faltering, and in early stages this affects soft tissue, hence an acutely sick child becomes wasted first. However, in the absence of other information, one cannot confidently interpret wasting as indicative of infection, although they may often be correlated. Low values of weight–for–height and/or height–for–age do not distinguish food intake and infection (which themselves are related). Low anthropometric values, particularly stunting, are generally good medium–term indicators of mortality risks. It is probably true to say that anthropometric measures provide reasonable assessment of the overall malnutrition/infection complex in children.

<sup>10</sup> ACC/SCN (1990) *Appropriate Uses of Anthropometric Indices in Children*, ACC/SCN State-of-the-Art Series, Nutrition Policy Discussion Paper No. 7. ACC/SCN, Geneva.

In adults, while there is less data available, measures of wasting or thinness can be used. Presently the most common are body mass index (weight/height<sup>2</sup>) and arm circumference.

The synergism between disease and malnutrition is an essential reason that the health sector has a major responsibility in addressing malnutrition. Effective health services are among the most important interventions for dealing with malnutrition. Primary health care is the cutting edge for health for all, and of itself essential in dealing with malnutrition. Beyond this, it is possible to include specific nutrition activities within health services.

Here, we can look first at the nutritional activities which could be emphasized within the health services, contributing to the prevention and management of specific infectious diseases. Secondly, the possibilities of



including more extensive nutritional activities – for example supplementary feeding – within health services needs to be considered. Third, policies for developing primary health care can have differential effects on malnutrition and infection. For example, there are trade-offs between pursuing a few selected interventions, such as ORT and immunization, compared with broader more institution-building approaches. This has some parallels with the questions of “growth-mediated” versus “support” strategies; they need not be mutually exclusive, if care is taken.

A number of *priority actions within health* directly addressing nutrition were discussed in the SCN publication on “Malnutrition and Infection”, and in the summaries given in SCN News Nos. 4 and 5. These merit brief reiteration in the present context. They would include the following points – it must be stressed that they are emphasized in the context of the usual activities of primary health care.

Exclusive breast feeding needs constant emphasis, as the best protection for babies up to four to six months. This is particularly important in preventing diarrhoea, and the need for continuing breastfeeding during episodes of diarrhoea as a primary method of management needs to be widely and continuously communicated. In older children, and particularly during persistent diarrhoea, the importance of continued feeding during the disease and in convalescence needs to be promoted. The role of vitamin A in relation to measles must be stressed: adequate vitamin A status in populations vulnerable to measles, and supplementation during treatment of the disease, are crucial. Supplementary feeding itself, to increase protein and energy intakes as well as micronutrients, before, during, and after measles, is important. Respiratory tract infections are becoming better recognized as major killers in young children, and nutrition has a role to play here too. Adequate vitamin A status, and increasing and maintaining food intake, possibly through supplementary feeding, in relation to these diseases is gaining more emphasis. In dealing with parasitic diseases, not only treatment of the parasite but increasing food intake is necessary.

Many of these considerations apply to childhood diseases. But concern for the nutrition of women, especially but not only as mothers, is increasing. Although general supplementation of mothers' diets is not often feasible, changing attitudes to highlight its importance may be. Here, the possibilities of increasing the effectiveness of distribution of iron supplements through the health system, particularly targeting reproductive age women, requires heightened priority (see first article in this issue of SCN News).

*Conventional nutrition interventions* can be regarded as being aimed directly at malnutrition and infection. At a certain stage in the development of a country's economy, these direct interventions may be useful as an interim measure to nutritionally buffer vulnerable individuals, while poverty is tackled in the long run. However, in some of the poorest areas in the poorest countries, with hardly any infrastructure or capability for service delivery, the very first priority, as mentioned above, may be to develop some kind of health care, communications, with nutrition programmes of somewhat lower urgency. Nonetheless, the type of emphasis on specific nutrition actions discussed above may still be possible. At the other end of the development spectrum, priority for nutrition programmes may tail off as countries industrialize, food becomes more plentiful, and health care extensive. This, it has been argued, is the position in countries such as Costa Rica, where the priority should shift again from nutrition to health. The value and success of direct nutrition interventions may depend on factors such as their historical timing as well as their relation to the real nature of the problem, the infrastructure and management capacity for implementation, and the political support and resources to ensure sustainability.

Supplementary feeding programmes are generally targeted to vulnerable individuals, for example by the age of the child, or the state of pregnancy or lactation of the mother. They are perhaps the most common type of nutrition intervention. While their benefits are not always clear, it seems sure that under the right circumstances they provide a direct means of increasing the intake of total energy as well as other nutrients. One problem has been that the benefits may not always be readily detected in terms of increased child growth – as discussed in “Uses of Anthropometry”; for children above two years of age much of the growth deficit may be irreversible. But, as also stressed in “Uses of Anthropometry”, growth is only an *indicator* of benefit, and not the sole objective itself. Therefore children may benefit by increased activity, improved immunity, and hence better health and development. This includes supplementary feeding of school-age children (as discussed in SCN News 5). One caveat here is that the poorest children often may not get to school.

Other common interventions include growth monitoring and promotion, nutrition education, home gardening, and so on. Growth monitoring must be linked with “growth promotion” – in addition to problem diagnosis, it should facilitate and accompany actions designed to remedy the causes of growth faltering. Growth promotion can be attained through linking monitoring to the identification of at-risk children, individual counseling and appropriate subsequent actions to at least prevent further deterioration. This has been easier to achieve in small-scale programmes due to the relative ease of frequent social interaction between health workers and

mothers.

The need for nutrition education is especially pronounced where large changes have occurred in the environment constraining household decision-making, such as rural to urban migration or shifts from subsistence to cash cropping; in fact, any change that significantly alters the magnitude and source of household incomes and the availability of food and non-food commodities. Although nutrition education or behavioural change obviously has its limits where the causes of malnutrition are primarily economic, notable successes have been reported in several countries e.g. Indonesia.

Evidence suggests that home gardens have a positive impact on micro-nutrient intakes, more than on energy. Like growth monitoring and nutrition education, they are generally more effective undertakings on a small scale and problems of expansion will need to be dealt with. Sufficient land and labour are also prerequisites which are likely to be scarce amongst the most needy. However, experience from Zimbabwe has shown that community gardens (within which each person has a private plot) may be a viable option in Africa, with economies of scale in both farming methods and training.

### **Caring Capacity**

At the individual level, nutritional status is determined by dietary intake and by infection. Dietary intake clearly depends to some degree on household food security, and the incidence, duration and severity of disease depends upon exposure to infection, access to health services, and the health environment. However, within the household there are a number of very important factors which operate. For example, breastfeeding and child feeding practices may be only partly governed by household food security, and much more affected by factors such as the availability of women's time, control over income, etc. Equally, hygienic practices, care of sick children and other matters which are particularly the responsibility of mothers can mitigate the effects of an unhealthy environment. In the first place, many policies may directly or indirectly change such factors, often as a spin-off: a classic example is when agricultural development causes changes in cropping patterns, potential effects on nutrition of increased income may be modified by changes within the household. Or, increased employment for women may have detrimental effects on child care, unless other measures are taken. Further, it is possible to improve caring capacity directly by interventions, focusing on, for example, women's education/literacy, her social security, etc. More direct effects may come through the promotion of breastfeeding, provision of weaning foods, or access to health services.

This important area of concern has recently been highlighted, particularly by UNICEF, and is now considered to be a central aspect of policies aimed at improving nutrition. It is however the least well described, not least in terms of empirical findings; in our review we had to depend more on concepts than hard results. What is given here is therefore initial thoughts on the topic, to be made firmer in future work. The features of the problem are not difficult to describe in general terms, however. They relate particularly to the role of women. Women have a primary responsibility for their families' nutrition in most parts of the world. Therefore their ability to cope, their contribution to household decisions, and their time availability, are central to good nutrition.

Women have multiple roles in many poor households. (See "Women and Nutrition", now published)<sup>11</sup>. They may be mothers, home managers, producers and community organizers. Two of their primary resources, which often conflict, are income and time. The capacity of a mother to care adequately for her children will depend to some degree on how she allocates her time between productive and domestic work, as well as her access to health services, water and fuel supplies, and markets for foods. Within the household, her status will govern her degree of control over her time and income, and hence her capacity to ensure the health and well being of her children. The nutrition and health status of children has been considered a function of the quantity and allocation of income and time, which has itself been referred to as "household real income". Increases in female income may thus not translate into increased food intake for children, since child feeding requires time, and the control over income is a crucial factor. Time may affect other activities, including bringing children for preventive health care such as immunization, protecting the child from unsanitary conditions, and providing a healthy environment. Food and water collection, and food gathering may be constrained by lack of time. As a first step to defining problems and relevant policies in this area, we distinguished the possibilities for direct intervention, from the broader policies primarily aimed at improving women's position. This has now been developed more in the context of the policy statement (to be considered by the SCN in Feb/March), but the specific interventions are worth considering here, although they are in fact familiar.

<sup>11</sup> ACC/SCN (1990) *Women and Nutrition*, ACC/SCN Symposium Report, Nutrition Policy Discussion Paper No. 6. ACC/SCN, Geneva.

*Intra-household food distribution.* Maldistribution of food within the household may not be as widespread as was once feared, but undoubtedly discrimination does exist in some areas. Moreover there is scope for positive discrimination in favour of women and children. Actual within-household distribution of food is difficult to measure, requiring as it does assessment of individual food intake. Evidence can be obtained from, for example, gender differences in growth rates, although this is affected by other aspects of care. In any event, interventions are available to directly increase the food intake of individuals within the household. For women, intervention trials have shown that supplementation in maternal diets is feasible, and has effects on birth weight. As routine interventions maternal supplementation is not common, but under some circumstances is likely to be feasible and effective. On the other hand, maternity benefits in terms of supplementary income, legislative rights to time off from work, and certainly rights of return to employment, are features of social security in more developed countries, and can legitimately be considered as important aspects of social development.

*Child Feeding Practices.* The availability of time for mothers to care for children importantly affects child nutrition through feeding practices. This concerns breastfeeding, frequency of feeding, energy density of foods, and other factors. Mothers' time for adequate food preparation and attention to feeding is a major constraint. These can be affected by conventional nutrition programmes, and technology has a role. Access to processed foods or labour saving means of processing them, better cooking facilities, etc., are important. Not to be forgotten in, at least, middle income countries is access to satisfactory food storage, particularly refrigeration. The importance of feeding sick, anorexic children, and those convalescing from illness is constantly being re-emphasized. This may be a particular place where maternal time and caring capacity has an effect on child nutrition.

*Exposure to Infection and Utilization of Health Services.* Reducing exposure to infection comes down to factors such as women's time to undertake household chores, income to purchase the necessary supplies, adequacy of water supplies and sanitation, etc. Labour saving technology again may have a role here. Health education and facilitated access to simple supplies, e.g. soap, may be part of health and nutrition programmes.

The care of sick children in this context, to reduce the severity and duration of current infection, and to prevent secondary infection, as well as to prevent worsening of minor injuries, require both time and knowledge. Home visits by health workers, and better utilization of health services are important here. Constraints to adequate use of health services are time available for attendance, money available for transport/medicaments and sometimes clinic attendance itself. Increased use of home remedies – in particular oral rehydration – can clearly be improved by intervention. Distribution of oral rehydration salts, and the necessary information to use them correctly, is already increasing.

*Children's Well Being.* A child that receives plenty of loving care from parents, guardians, relatives and friends, thrives better. This is understood in terms of psychological and cognitive development, where stimulation is known to be beneficial. It may also be the case in terms of health. Certainly a miserable and neglected child is going to be more exposed to infection, and there may be other effects through the immune system. It hardly needs proving that loving care is valuable in its own right; and it may legitimately fall within the concern for health and nutrition. Here, it is possible that such measures as adequately organized and supported day care may have a direct benefit on nutrition.

*Women's Control of Resources.* This area has been explored elsewhere, and needs emphasis here because of its important influence on nutrition. It essentially concerns the social and economic status of women and how this governs their degree of control over resources within and outside the household. In most poor societies, patriarchy is likely to be the main obstacle to securing a fairer distribution of work and decision-making power between adult household members. Gender divisions however are not written in tablets of stone; they can be altered.

The social status of women has been seen to be improved by raising their economic status. Measures aimed at increasing women's economic productivity will affect their own position in the immediate family as well as their valuation in society in general. Direct unmediated access to income drastically reduces a woman's dependency and thus strengthens her ability to realize her own preferences within the family; of which the health and well-being of her children is likely to be seen as a priority.

In the longer term, as women's economic status improves, so will the opportunity cost of not investing in their welfare; raising female earning power may thus be critical to increasing the effective demand for such services as education, health and family planning. Maternal literacy and schooling has been associated with a more efficient management of limited household resources, greater utilization of available health care

services, better health care practices, lower fertility and more child-centred caring behaviour. The education of daughters would also be seen as more of a priority, reducing gender inequities in school enrolment, attendance and literacy levels. The future pay-offs of this would include reduced fertility and reduced infant mortality rates. The increased awareness, communication and exchange of ideas would generate more effective political demand, consolidating these changes.

The problem of women's lack of power is often not captured by national censuses or agricultural surveys.

These may need re-designing. A gender-specific disaggregation of indicators of labour participation, time allocation to domestic and productive work, wages, power over decisions made are examples that would show the relative status of women vis-a-vis men in different societies.

\* \* \*



This review gives one possible agenda for deciding on policies for improving nutrition in the future. It includes both short- and long-term measures, and may be supportive of broader policies for development. The meeting in November reached a considerable degree of consensus on ways ahead. This, it is hoped, will be reported in SCN News No. 7, scheduled for mid-1991.

– J.B.M./S.R.G.

### **Weaning Foods – new uses of traditional methods**

Fermentation reduces contamination; adding germinated grains reduces bulk – both help safer weaning.

Malnutrition during weaning age – when breast milk is being replaced by semi-solid foods – is highly prevalent in children of poor households in many developing countries. While the etiology is complex and multifactorial, the immediate causes are recognized as feeding at less than adequate levels for child growth and development, and recurrent infections, including diarrhoea resulting mainly from ingestion of contaminated foods. Special weaning foods are seldom available at a cost affordable by the poor households.

As a result, staple foods cooked in water are normally fed to weaning age children in the form of gruels. Such traditional weaning food preparations do not satisfy the energy and other nutrient needs if they are either too liquid and, thus, have a very low energy density, or too bulky from which enough cannot be consumed by young children. On the other hand, the preparation itself is often contaminated with various germs. Highly contaminated weaning foods are reported to be associated with severity of malnutrition in young children. Access to inadequate facilities – for both preparation and storage of foods – by many poor households contribute substantially to weaning food contamination. Under conditions such as lack of clean water, refrigerator, fuel, adequate sewage disposal, as well as enough time to prepare fresh food for every meal it is hardly possible to provide young children with uncontaminated weaning foods. As a result of insufficient food intake and frequent diarrhoea, many young children, particularly between 6 months to two years of age, experience weight loss and impaired growth and development.

Safer weaning can be achieved through preparation of hygienic and nutritionally balanced weaning foods with high energy density per unit volume, of which *enough can be eaten*. How to reach these goals in simple, practical and economical ways has been the subject of extensive studies by investigators from Ghana, India, Tanzania, Sweden and other countries in recent years. The efforts, concentrated on traditional food preparation methods, have resulted in offering cheap and practical answers to these problems from familiar, indigenous and culturally acceptable home-processing practices. “Dialogue on Diarrhoea” has recently produced an issue in which two methods of fermentation and germination are discussed for a safe weaning. Some of the data provided are used in this article.

Both *fermentation* and *germination or malting* are reported to have the potential for contributing to safer weaning, tackling the twin problems of bacterial contamination and bulk.

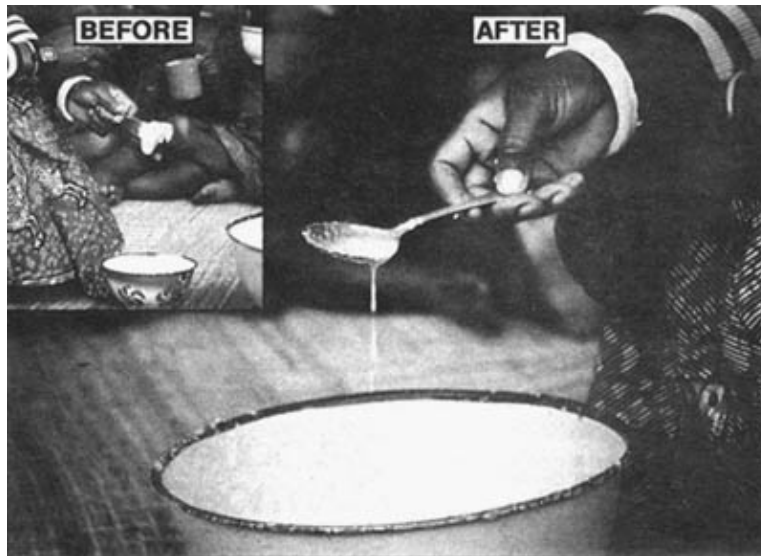
Firstly, cereal fermentation is used for reducing the risk of contamination under the existing inappropriate conditions for food preparation and storage in many households. Secondly, trials in some developing countries indicate the value of using a tiny amount of sprouted grains’ flour in preparation of weaning foods as a magic way to thin down the viscosity without decreasing energy density. Nutrition and health promotion programmes can benefit greatly from such strategies in order to reduce the prevalence of food-related diarrhoeal diseases, as well as to increase energy intakes of many poor weaning-age children around the world.

A brief description of how these familiar methods can help to achieve safer weaning comes next.

### **Reducing Contamination through Fermentation**

Many weaning foods have a serious level of faecal contamination. That contaminated feeds are a principal cause of gastroenteritis in children and even adults is well documented.

A method to eliminate pathogenic bacteria and inhibit their growth during storage of weaning preparations can benefit nutrition and health in young children considerably. Use of fermented foods for feeding children of weaning age appears to be an effective solution. Fermented foods have lower levels of diarrhoeal-germ contamination, they are suitable for child feeding, and can be safely stored for much longer periods of time than fresh foods. The practice has been a traditional way of food preservation in many parts of the world. The antimicrobial properties of fermented foods and their relative higher safety – documented since the early 1900s – has been indicated in a number of studies (e.g. Mensah *et al*, 1990). In Ghana, it is common to ferment maize dough before cooking it as porridge. In Kenya, cereal-based porridge (called uji) and milk are traditionally fermented. Preserving milk in the form of yoghurt has been known to many households living in hot climates.



The same porridge shown both before the addition of kimea (inset), and a few minutes afterwards (main picture).

Source: Dialogue on Diarrhoea, issue No. 40, March 1990.

*Ulf Svanberg/Wibald Lorri*

Fermentation is a familiar and already accepted procedure for food preparation in many societies.

What are the underlying mechanisms by which fermentation processes help to prevent or reduce contamination? A possible answer suggests that during fermentation process foods become more acid. This explains why diarrhoea-causing bacteria are not able to grow in fermented foods as rapidly as in unfermented ones. It is also hypothesized that some of the germs present in the foods are killed or inhibited from growing through the action of antimicrobial substances produced during fermentation (Dialogue on Diarrhoea, 1990). The fermented foods can, therefore, be kept for a longer time compared to fresh ones. It has been shown that while contamination levels in cooked unfermented foods increase with storage time, fermented foods remain less contaminated.

Whatever the underlying mechanism, the fact is that the exercise reduces contamination without adding to the household cost both in terms of time and money. Its preparation is easy. The cereal flour is mixed with water to form a dough which is left to be fermented; addition of yeast, or mixing with a small portion of previously fermented dough is sometimes needed. The dough can be then cooked into porridge for feeding to the child. Although beneficial unfortunately the practice is going out of fashion, partly because of current emphasis on the use of fresh foods particularly for children. For example, a study on the use of fermented foods for young children in Kenya (Dialogue on Diarrhoea, 1990), demonstrated that while foods are still frequently fermented at home for child feeding, their use is becoming less popular particularly in urban areas where commercial products are more available. Consequently, the fermented foods have now been replaced by these products. It was also noticed that health workers are discouraging the use of fermented foods, being unaware of their benefits. The potential benefits of using fermented foods for child feeding, particularly where risk of contamination under poor environmental conditions is high, are now recognized and need to be promoted.

### **More liquid but not diluted!**

A new, cheap and simple solution challenges the old problem of bulky low-energy density weaning foods, traditionally made around the world from rice, sorghum, wheat, maize, millet, tapioca, sago and the like. The water-holding capacity of cereals makes them swell upon cooking in water. This high volume and viscous characteristic of a diet is known as dietary bulk. The resultant thick and bulky gruel is not easily consumed, especially by sick and anorexic children. When water is added to make it more liquid, the energy and other nutrient density of the meal declines. This means that a large volume is required to satisfy the energy needs. For example, it is calculated that a liquid gruel which usually has about 5% dry matter, will have an energy density of about 0.2 Kcal per gram. To meet energy needs a young child should consume 4 to 5 liters of such gruel (Mosha and Svanberg, 1990). The upper limit of dry matter is normally 20% (0.7–0.8 Kcal per gram), because beyond this level, the gruel would be too thick to stir.

The new solution tackles this same problem of high viscosity. The trick lies in using flour of sprouted grains, known as “power flour” or amylase rich flour (ARF). During germination, amylolytic enzymes or amylases are developed and become activated. These enzymes break down the long chains in a complex carbohydrate such as starch into shorter dextrans, while at the same time free the water trapped in the gel. When germinated flour is used or added to an already made thick gruel (up to even 30% solid concentration), the meal becomes liquified *almost instantly*. A meal prepared in this way with 25 to 30% dry matter would have an energy density above 1 Kcal/gram. This is the level of energy density recommended for a weaning diet, on the basis that breast milk has an energy density of around 0.7 Kcal per gram. Use of power flour has been shown to be a most effective and practical approach to reduce the viscosity and dietary bulk. In Chile, Alvina *et al.* (1990) have shown that the energy density of an extruded pea–rice mixture can be doubled from 0.8 to 1.6 Kcal/g without any change in viscosity by adding different amounts of malt flour. (The initial extrusion treatment produced a lower consistency by cleavage of starch molecules, therefore energy density of 0.8 Kcal/g could be achieved in the absence of malt flour).

The germination process is simple and well–known. Any cereal or legume grains can be soaked overnight and allowed to germinate for 2–3 days (depending on the type of the grains used) in the dark, covered by a wet cotton cloth. The germinated seeds are then dried in the sun for 2 days (as moisture will destroy the enzymes) and ground into a flour, which should be stored in a dry cool place.

While the procedure for making power flour is simple, routine use of germinated flour itself for preparation of weaning foods is a rather time consuming task and adds to the already heavy work load of women in these societies. This may in fact explain why this practice – benefits of which are already recognized in some communities in Asia and Africa – has not been widely used. For this reason it is proposed to use germinated flour as an *additive* to weaning foods prepared with ungerminated cereal grains (Gopaldas *et al.*, 1986; John and Gopaldas. 1988; Hansen *et al.* 1989; and others). The amount of germinated flour needed to be added to already prepared gruels is small (4–5% of the total flour used). It has been shown that higher amounts usually have no further effect on viscosity. As little as 100–200 grams of any cereal (or legume) grains may be used for making germinated flour, enough to thin down a child’s daily gruel for one month according to Gopaldas (1990). The cost is a fraction of a US cent, much lower than commercially available weaning foods.

Germination is traditionally used in many countries in Asia and Africa. As an answer to the problem of bulky and low–density weaning foods it was used by the Tanzanian Food and Nutrition Institute in the early 1980s when the UNICEF/WHO Joint Nutrition Support Programme promoted the use of power flour (called Kimea) in the Iringa region of Tanzania. A number of trials in various countries have reported that use of power flour is acceptable to both mothers and their children. Community trials in Chile, India and Tanzania have shown that the food and energy intakes of children have been increased substantially upon consumption of gruels to which power flour was added. In India both acceptability and growth trials indicated the potential of power flour for improving the growth of young children (Gopaldas, 1990). It is also suggested that the use of power flour may prove to be a valuable way to feed anorexic children, as well as during and after a diarrhoeal episode (Dialogue on Diarrhoea, 1990).

Both fermentation and germination are practical, economical and familiar to the mothers in many countries. They seem to have the potential for making weaning a much safer experience for many young children living under poverty and undesirable hygienic conditions.

Mahshid Lotfi

#### **SOURCES:**

Alvina. M. et al. (1990). Ecology Food and Nutrition, 24, 189–193.

Desikachar, H.S.R. (1980). Food and Nutrition Bulletin, 2 (4), 21–23.

Dialogue on Diarrhoea, Issue no. 40, March 1990.

Gopaldas, T. (1990). Concept of Amylase Rich Food (ARF) and its Role in Infant Feeding and Growth. Communicated by Tare Gopaldas, Faculty of Home Science, Baroda–2, India.

Gopaldas, T. et al. (1986). Food and Nutrition Bulletin, 8 (4), 42–47.

Hansen. M. et al. (1989). Food and Nutrition Bulletin, 11 (2), 40–45.

John. C. and Gopaldas, T. (1988). Food and Nutrition Bulletin, 10 (4), 50–53.

Mensah, P.P.A. et al. (1990). Fermentation of cereals for reduction of bacterial contamination of weaning foods in Ghana. Lancet, 336, 140–143.

Mosha, A.C. and Svanberg, U. (1983). Food and Nutrition Bulletin, 5 (2), 10–14.

Mosha, A.C. and Svanberg, U. (1990). Food and Nutrition Bulletin, 12 (1), 69–74).

## NEWS AND VIEWS



*A mother's grief*

*Photograph:* Courtesy of Children's Hospital, Islamabad, Pakistan.

This picture tells two stories: most obviously, about the often fatal consequences of bottle-feeding; more profoundly, about the age-old bias in favour of the male. The child with the bottle is a girl – she died the next day. Her twin brother was breastfed. This woman was told by her mother-in-law that she didn't have enough milk for both her children, and so should breastfeed the boy. But almost certainly she could have fed both children herself, because the process of suckling induces the production of milk. However, even if she found that she could not produce sufficient milk – unlikely as that would be – a much better alternative to bottle-feeding would have been to find a wet-nurse. Ironically, this role has sometimes been taken by the grandmother. In most cultures, before the advent of bottle-feeding, wet-nursing was a common practice.

"Use my picture if it will help", said the mother. "I don't want other people to make the same mistake."

*Source:* UNICEF.

### The Lesser Child

The photograph on our cover – reproduced with explanation above – is horrifying. Another baby girl dies unnecessarily. The Department of Women and Child Development, Government of India, with assistance from UNICEF, has produced a compelling account of the plight of "The Lesser Child".

"In a culture that idolizes sons and dreads the birth of a daughter, to be born female comes perilously close of being born less than human. Today the rejection of the unwanted girl can begin even before her birth: prenatal



sex determination tests followed by quick abortions eliminate thousands of female foetuses before they can become daughters. Those girls who manage to survive till birth and beyond find that the dice is heavily loaded against them in a world that denies them equal access to food, health, care, education, employment and simple human dignity.

“Born into indifference and reared on neglect, the girl child is caught in a web of cultural practices and prejudices that divest her of her individuality and mould her into a submissive self-sacrificing daughter and wife. Her labour ensures the survival and well-being of her family but robs her not only of her childhood but also of her right to be free of hunger, ignorance, disease and poverty.

“We expect tomorrow’s woman to become the pivot of social change and development. Yet today we deprive her of her rightful share of food, schooling, health care and employment, then marvel that she does not come running to get her children immunized, or when she refuses to send them to school or practice good nutrition, hygiene and birth control... Unless the girl becomes a priority in health, nutrition and education policies, can there be Health for All by 2000, or universal elementary education, or social justice and equality? It is already late. But perhaps not too late.”

A number of key statistics are used to illustrate the problem. The sex ratio (females per thousand males) is shown to have declined during this century, for example from 972 in 1901, 950 in 1931, and down to 933 in 1981; variations in the sex ratio between states is also illustrated, with a high value of 1032 in Kerala, dropping to below 800 even in some states (although migration may account for some of this, it clearly does not account for all). Anthropometric data also tell a sad tale: data quoted from one area show, for example, these differentials for growth retardation (adding mild, moderate, and severe). In infants, the prevalence among females was estimated at 79%, versus 43% in males – almost double; in one to two year olds, these figures became 86% compared with 63%; and preschoolers 72% against 65%. This also illustrates that the effects are particularly severe in the first year of life, and suggests that girls become relatively better able to look after themselves as they grow older. The morbidity patterns quoted, from rural Tamil Nadu, show much higher incidence of diseases such as respiratory infections among young girls; poignantly, the only condition in which boys are more affected than girls is dental caries, perhaps resulting from the observation made in “The Lesser Child” that “although there are great variations in feeding practices across the country, it is generally true that boys eat better than girls even in privileged families. Sons are more likely to be given milk, eggs, meat and fruit in their diet. As they grow older, boys spend part of their earnings on food and snacks while girls continue to eat the same unvaried diet at home.”

The book, though short, makes the compelling point very clearly and repeatedly. But it continues to suggest that not only long term changes must be brought about, particularly through education, but that there are also programmes that can be effective now. “The glaring disparity between male and female infant mortality rates, if plotted on a map, shows a clear belt running across the north-western part of the country, with a few pockets elsewhere, and this is where immediate health and nutrition interventions must now be focussed”.

*“Through a haze of heat and pain, Sushma hears the dai mutter ‘Another daughter’ and bursts into uncontrollable sobs. Throughout her third pregnancy she has fasted and prayed for a son. Burdened by the guilt of having two daughters, she has supplicated every deity she knows, praying to Shiva, to Santoshi Mata, even walking to the outskirts of the village to prostrate herself at the grave of the Pir Baba. Now the sound of her mother-in-law’s wailing fills the air...”*

Source: “The Lesser Child”, p. 4.

“The ICDS (Integrated Child Development Services) network is clearly one effective response to the problem of early neglect of young children. Through its immunization, nutritional supplementation and pre-school education components (which now reach ten million children) it can offset the discrimination a girl faces at home and can lay the foundation for health physical and mental development. But an urgent answer has to be found for meeting the needs of girls in the 6–14 year age-group, for this is when they have either dropped out of school or are too old for ICDS and are nobody’s concern. They have to wait until they are 15, which is when they become another target group that the health system recognizes – “women in the reproductive age-group”. Perhaps it is time to enlarge the scope of ICDS projects so that they can include girls between the ages of 6 and 14 years. This is an important period in a girl’s life, when major biological, psychological and social changes take place... repeated adolescent pregnancies, common in many parts of rural India, arrest this growth spurt and prevent full physical maturation of the girl, affecting not only her own health, but also the survival and development of her offspring.”

### **Everyone’s Concern**

Although the book is specific to India, the issue extends far wider. Indeed, the same thoughts are exactly right for many other places, whatever the child's gender. The book finishes like this.

“An integrated and holistic approach to the girl-child's development is essential for the creation of a new environment in which she can be valued and nurtured. Our search for brave new efforts to give the girl-child her due, to allow her to evolve to her full potential, involves a process of social mobilization that will make her everyone's concern: the media, the family and the community, as well as government and voluntary agencies. By supplementing formal schooling with non-formal education that conforms to local needs and constraints; by enlarging the ambit of child development programmes with the creation of new channels to reach adolescent and pre-adolescent girls; by reinforcing constitutional mandates through widespread awareness of the rights of girls: these are only some of the ways in which we can empower the girl child to enter the mainstream of economic and social activity. And help her to walk out of the maze of neglect in which she has been lost for centuries.”



Source: “The Lesser Child”, Dept. of Women and Child Development, Ministry of Human Resource Development, Govt. of India, with assistance from UNICEF.

### **Famine in Sudan and Ethiopia**

The famine now worsening in Sudan and Ethiopia may be the most severe for decades. The reports are sickeningly familiar. Successive years of drought, large numbers of displaced people, war – all lead to a “rapidly deteriorating situation in Sudan, and a continuing emergency in Ethiopia”. This was reported more and more loudly in the latter part of 1990, but were enough people listening? “Massive international assistance will be required in 1991 in Sudan and Ethiopia” – FAO, December 1990. The 1990 harvest in Sudan was compared to 1984's, then the “most devastating drought and famine of recent times... the effects could be far worse (this time) because then people had more resources, but now these are totally depleted... the government has virtually no grain reserves, nor resources with which to address this need”. UN agencies, bilaterals (the US-supported Famine Early Warning System, for example), and many non-governmental organizations have all called for action. The need for cereals in Sudan is estimated to be at least one million tonnes but the maximum internal carrying capacity for relief food is judged to be only about 300,000 tonnes. Even if the gross deficit were met by aid and imports, distribution would be a nightmare.

This time, there is no question that adequate information is available, and diverse sources confirm each other. On the ground, widespread crop failure due to drought has been observed. Satellite information has helped, and shown the extent in areas with less information. Many reports from NGOs confirm the picture: local stores empty, people collecting wild foods, distress sales of last possessions, and increasing malnutrition. Prices of livestock have plummeted, due to their poor condition and the economic situation; at the same time prices of staple grains have risen sharply. Thus the terms of trade for those dependent on livestock have collapsed.

Indicators of malnutrition in young children show high levels of wasting. In late 1990, prevalences of around 25% (as <80% weight-for-length) were being reported from around Khartoum. Now we hear accounts of up to 30% and more, presumably still rising; nutrition surveys are continuing. We have no information on mortality rates. But with possibly 10 million people affected, in Sudan and Ethiopia, many deaths are likely.

Now, with the Gulf crisis, shipments of food may be halted for an unknown period. WFP has appealed for accelerated pledges and delivery of emergency food aid for Sudan, adding that this is "vital for the survival of millions of people. Situation in some parts of the country now desperate." For Ethiopia, WFP has appealed to donors for immediate action to secure a food pipeline to Ethiopia... "the consequences of major disruptions will be irreparable."

(Sources: FAO, WFP, SCF, FEWS, others)

## **Goals for Children and Development in the 1990s**

The World Declaration on the Survival, Protection and Development of Children and a Plan of Action for its implementation in the 1990s came out following the World Summit on Children held in New York from 29 to 30 September 1990 (see SCN News No. 5 p. 27).

As announced in the Summit, with the right policies, appropriate institutional arrangements and political priority, the world is now in a position to feed all the world's children and to overcome the worst forms of malnutrition, – to halve protein energy malnutrition, virtually to eliminate vitamin A deficiency and iodine deficiency disorders and to reduce nutritional anaemia significantly. Yet, the Summit heard that hunger and different forms of malnutrition contribute to about half of the deaths of young children. More than 20 million children suffer from severe malnutrition, 150 million are underweight and 350 million women suffer from nutritional anaemia.

The Summit emphasized that improved nutrition requires adequate household food security, a healthy environment and control of infections, and appropriate maternal and child care. The most essential needs are: provision of adequate food during pregnancy and lactation; promotion, protection and support of breastfeeding and complementary feeding practices, including frequent feeding; growth monitoring with appropriate follow-up actions; and nutritional surveillance.

An adequate diet is an obvious human priority. Meeting this need requires employment and income generating opportunities, dissemination of knowledge and supporting services to increase food production and distribution. These lie within broader national strategies to combat hunger and malnutrition. Overall goals for children and development in the 1990s will provide opportunities for improving the quality of life and virtually eliminating preventable diseases that have afflicted tens of millions of children for centuries. Actions are proposed to be taken in the following areas. Child health; food and nutrition; role of women, maternal health and family planning; role of the family; basic education and literacy; children in especially difficult circumstances; protection of children during armed conflicts; children and the environment; and alleviation of poverty and revitalization of economic growth.

The Summit formulated the following major goals – reproduced in the box opposite – through extensive consultation in various international forums. These major goals for children survival, development and protection are recommended for implementation by all countries where they are applicable, with appropriate adaptation to the specific situation of each country.

## **Canada's Commitment**

One month after the Children's Summit in New York and on the occasion of the World Food Day, Canadian Ministry of External Relations and International Development announced a new initiative to join the battle against two of the world's widespread nutritional deficiencies – vitamin A and iodine – from which many children are suffering. While damage to physical and mental growth as consequences of these deficiencies are substantial, the costs for their treatment and prevention are quite small, particularly in the light of their tremendous positive impact on child wellbeing and survival. The initiative to tackle these problems was called, by Monique Landry, Minister for External Relations and International Development, "just one demonstration of our commitment" to take concrete actions to improve conditions of children. The Canadian International Development Agency (CIDA) will contribute \$5 million over three years to the efforts to combat vitamin A and iodine deficiencies in the Third World countries. (see also Programme News section, under Canada in this

issue).

(Source: Minister for External Relations and International Development, 16 October 1990)

### **IVACG Meeting in Ecuador**

The International Vitamin A Consultative Group (IVACG) was established in 1975 to guide international activities aimed at reducing vitamin A deficiency in the world. Through its international meetings, IVACG provides a forum to foster the interchange of ideas, the presentation of new research findings and survey data, and discussion of action programmes.

Ecuador will be the site of the XIV IVACG Meeting in June 1991. The theme of the meeting is community-based interventions. The programme includes brief presentations of selected research reports on this topic and new research findings related to the effect of vitamin A status on morbidity and mortality and assessment of vitamin A status.

More information may be obtained from Laurie Lindsay, R.D., IVACG Secretariate, The Nutrition Foundation, Inc, 1126 Sixteenth Street, Washington, D.C. 20036, USA. Tel: 202-659-9024. Telex: 6814107 "NUFOUND", Fax: 202-6593617.

(Source: IVACG)

## **GOALS FOR CHILDREN AND DEVELOPMENT IN THE 1990s**

### **I. MAJOR GOALS FOR CHILD SURVIVAL, DEVELOPMENT AND PROTECTION**

- (a) Between 1990 and the year 2000, reduction of infant and under-5 child mortality rate by one third or to 50 and 70 per 1,000 live births respectively, whichever is less;
- (b) Between 1990 and the year 2000, reduction of maternal mortality rate by half;
- (c) Between 1990 and the year 2000, reduction of severe and moderate malnutrition among under-5 children by half;
- (d) Universal access to safe drinking water and to sanitary means of excreta disposal;
- (e) By the year 2000, universal access to basic education and completion of primary education by at least 80 per cent of primary school-age children;
- (f) Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990 level with emphasis on female literacy;
- (g) Improved protection of children in especially difficult circumstances.

### **II. SUPPORTING/SECTORAL GOALS**

#### **A. Women's health and education**

- (i) Special attention to the health and nutrition of the female child and to pregnant and lactating women;
- (ii) Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many;
- (iii) Access by all pregnant women to pre-natal care, trained attendants during childbirth and referral facilities for high-risk pregnancies and obstetric emergencies;
- (iv) Universal access to primary education with special emphasis for girls and accelerated literacy programmes for women.

## B. Nutrition

- (i) Reduction in severe as well as moderate malnutrition among under-5 children by half of 1990 levels;
- (ii) Reduction of the rate of low birth weight (2.5 kg or less) to less than 10 per cent;
- (iii) Reduction of iron deficiency anaemia in women by one third of the 1990 levels;
- (iv) Virtual elimination of iodine deficiency disorders;
- (v) Virtual elimination of vitamin A deficiency and its consequences, including blindness;
- (vi) Empowerment of all women to breast-feed their children exclusively for four to six months and to continue breast-feeding, with complementary food, well into the second year;
- (vii) Growth promotion and its regular monitoring to be institutionalized in all countries by the end of the 1990s.
- (viii) Dissemination of knowledge and supporting services to increase food production to ensure household food security.

## C. Child health

- (i) Global eradication of poliomyelitis by the year 2000;
- (ii) Elimination of neonatal tetanus by 1995;
- (iii) Reduction by 95 per cent in measles deaths and reduction by 90 per cent of measles cases compared to pre-immunization levels by 1995, as a major step to the global eradication of measles in the longer run;
- (iv) Maintenance of a high level of immunization coverage (at least 90 per cent of children under one year of age by the year 2000) against diphtheria, pertussis, tetanus, measles, poliomyelitis, tuberculosis and against tetanus for women of child-bearing age;
- (v) Reduction by 50 per cent in the deaths due to diarrhoea in children under the age of five years and 25 per cent reduction in the diarrhoea incidence rate;
- (vi) Reduction by one third in the deaths due to acute respiratory infections in children under five years.

## D. Water and sanitation

- (i) Universal access to safe drinking water;
- (ii) Universal access to sanitary means of excreta disposal;
- (iii) Elimination of guinea-worm disease (dracunculiasis) by the year 2000.

## E. Basic education

- (i) Expansion of early childhood development activities, including appropriate low-cost family and community-based interventions;
- (ii) Universal access to basic education, and achievement of primary education by at least 80 per cent of primary school-age children through formal schooling or non-formal education of comparable learning standard, with emphasis on reducing the current disparities between boys and girls;
- (iii) Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990 level, with emphasis on female literacy;
- (iv) Increased acquisition by individuals and families of the knowledge, skills and values required for better living, made available through all educational channels, including the mass media, other forms of modern and traditional communication and social action, with effectiveness measured in terms of behavioural change.

#### F. Children in difficult circumstances

Provide improved protection of children in especially difficult circumstances and tackle the root causes leading to such situations.

(Source: World Declaration and Plan of Action, World Summit for Children, United Nations, New York. 30 September 1990)

### Can Vitamin A Save Lives?

A number of investigations on the effect of vitamin A in preventing child sickness and death are under way, with more results regularly being published. Many of these were launched following findings of a significant reduction in child mortality following vitamin A dosing in Indonesia, by Sommers and colleagues. At that time, the SCN's Advisory Group concluded that similar effects might be expected elsewhere, at least under similar conditions (see SCN News, No. 1). Several groups and agencies started urgently to investigate further. IVACG in 1989 concluded that a 'fundamental breakthrough' might be seen when all results are put together (SCN News, No. 5, p 33-34).

At a WHO/UNICEF meeting in December 1990, at which future strategies for vitamin A deficiency control were considered, the results of data from these studies were summarized by Dr Barbara Underwood. We reproduce here the summary table she presented to the meeting. Of the five results then available, in four there was evidence for reduction in child deaths in the group receiving vitamin A. Still, further results are going to be very important, as well as analysis of such matters as the underlying conditions where the effect is strongest – eg existing nutritional deficiencies – and the best methods of increasing vitamin A intake.

#### Summary of Published and Ongoing Vit. A. Intervention Trials

	Design: Masked/ Placebo	Age Range		Mortality	
			n	Ascertainment	Effect Reduction suppl. vs non
<u>LOW DOSE</u>	Yes	0 – 11m	1370	weekly	72%
Madurai		12 – 35m	6400		54%
(8333 IU/WK)		> 36m	7688		37%
					(117 deaths)

Indonesia	Yes	< 1y	1700	11 mo follow-up	11%
MSG-A		1 – 5y	6200		45%
1/4–1/2 PDA					(186 deaths)
<u>HIGH DOSE</u>	No			9 – 11 mo follow-up	Rel. risk
200,000 IU/6 mo		< 12m	4000		1.2
ACEH		12 – 23m	4000		1.2
		24 – 35m	4000		1.8 34%
		36 – 47m	4000		0.8
		48 – 59m	3600		1.6
		60 – 71m	5000		3.5
					(128 deaths)
Hyderabad	Yes	< 1y	3500	3 mo follow-up	No
		1 – 2y	3500	Only 1–5 yr olds	
		2 – 3y	3600	used in analysis	
		3 – 4y	3600		
		4 – 5y	1400		
					(62 deaths)
Thailand	No	1 – 6y		Not determined	
<u>In Progress</u>					
Sudan	Yes	preschool	30,000	6 mo	
Nepal – Serlahi	Yes	~ 4 mo – 6y	25,000		
Ghana	Yes	0 – 6y	>16,000		
Indonesia – Muhilal	No	0 – 11 mo	3300	monthly	39% (126 deaths)
Nepal – Jumla	Yes		?		
Indonesia – Morvita	Yes	6 – 48 mo	~ 700		

### Malnutrition–Infection Statement

Following the publication of the ACC/SCN State-of-the-Art paper on “Malnutrition and Infection”, in October 1989 (see SCN News Nos. 4 and 5), the SCN considered and approved a statement, drafted by the Advisory Group on Nutrition. This was endorsed by the Administrative Committee on Coordination (ACC) of the UN system. This statement is reproduced here.

“The combination of malnutrition and infection – the ‘malnutrition–infection complex’ – remain the most prevalent public health problem in the world today.

“A state-of-the-art paper on the inter-relationship between infection and nutrition has recently been published by the SCN. This examines the scientific basis for defining the relationship between infection, diet, and nutritional status and their effects, particularly on young children. It also explores the implications for the design of programmes, both those directed at general improvement of health conditions as well as those specific to infectious disease control and the prevention of malnutrition.

“Infections adversely affect nutritional status while nutritional status affects the severity of infections. In conditions of poverty and social disadvantage, populations are simultaneously exposed to a high infectious load in the environment and to inadequate food intake. This double hazard particularly affects infants and pre-school children with their immature immune systems and high nutritional demands for growth. Most infections result in a measurable but temporary decline in nutritional status. In normal circumstances, a good diet during illness and the recovery period can ensure that infections do not adversely affect health and development in a permanent manner. Under conditions of dietary inadequacy recovery is often incomplete, resulting in both impaired growth and increased vulnerability to subsequent infections arising from depression of the immune system. This effect becomes circular resulting in progressive decline in health status leading at least to permanent stunting and underdevelopment, and often to early death.

“The health impact of diarrhoeal disease, measles, pneumonia, malaria and intestinal parasitism can be prevented or reduced by nutritional measures. Early and continued breastfeeding, active feeding during infection, vitamin A supplementation, food hygiene and safe and nutritious weaning foods all contribute to this preventive effect. Iron, zinc, and iodine supplementation also have an identified role where the deficiencies are prevalent. Likewise the nutritional status of disadvantaged populations can be enhanced or maintained when infectious disease control measures such as immunization, personal hygiene, improved water supply and sanitation, deparasitization and early treatment with antibiotics for severe respiratory infections are put in place. Programme design should consider the synergism and the enhanced programme impact to be achieved when appropriate nutrition and infectious disease control are implemented together. Coordination, therefore, between programmes and sectors is required.”

(Source: Report of the ACC/SCN 16th Session, 19–23, February 1990, Paris)

#### **Undernutrition and Low Birth Weight – Important Risk Factors for Pneumonia**

“National programmes for the control of acute respiratory infections are being advised to support nutrition and maternal and child health/family planning programmes including the promotion of breastfeeding, since undernutrition and low birth weight appear to be the most important risk factors for pneumonia in children” according to a WHO Executive Board Report, November 1990. As well as biological factors (like malnutrition and low birth weight) affecting the incidence and severity of pneumonia, the Report cites environmental (e.g. indoor air pollution, cold exposure) and behavioural factors as other likely risk elements. The Report examines the progress and current status of the programme – established in 1982 – for the control of acute respiratory infections.

Acute respiratory infections now account for about 4 million out of the estimated 15 million deaths that occur annually in children under five years of age in developing countries. They comprise 30–40% of all visits by children to health facilities, and 20–40% of hospitalizations. Their control, thus, would save many lives and much resources.

The report emphasizes the need for conducting relevant studies in order to quantify the importance of risk factors in incidence, severity and outcome of acute respiratory infections in young children. The significance of vitamin A deficiency in this regard is currently under investigation. A case-control study initiated in 1989 in Brazil is to assess potential importance of different risk factors. For the control strategies the programme, with the collaboration of the London School of Hygiene and Tropical Medicine, is making an analysis of available information on the effectiveness, feasibility and cost of interventions in order to prevent or reduce risk factors for pneumonia.

Not enough is known about the clinical signs and etiological agents of pneumonia in severely undernourished children. For this reason, the programme will support – among other research topics to be undertaken – studies to provide the necessary knowledge of signs and etiology of pneumonia in undernourished children. The current clinical guidelines of the programme recommend “hospital admission and parenteral therapy in view of the wide range of etiological factors that may be involved”. Timely and appropriate case management is the main strategy for reducing deaths and morbidity, while immunization is regarded as a *specific strategy* for preventing acute respiratory infections caused by measles, pertussis and diphtheria.

(Source: Control of Acute Respiratory Infections. Report by the Director-General – Executive Board, Eighty-seventh Session. World Health Organization, 11 November 1990)



## **Global Immunization Update**

Worldwide coverage of childhood immunization against diphtheria, measles, pertussis, poliomyelitis, tetanus and tuberculosis stands at 70% for children under the age of one year, WHO reports. Massive immunization programmes in highly populated countries such as China, Indonesia, India, Nigeria and Pakistan are a major reason behind this global success.

Based on the figures released by WHO, immunization coverage is now 74% for three doses of poliomyelitis, 72% for DPT vaccine (diphtheria, pertussis and tetanus), and 68% for measles vaccine. However, coverage of pregnant women with a second dose of tetanus toxoid (to protect newborns against tetanus) is still only 27%.

Over 400,000 cases of poliomyelitis are thought to be prevented annually through immunization. Immunization also prevents 2.6 million deaths per year from measles, pertussis or neonatal tetanus. Moreover, the immunization services themselves have been established in most developing countries where they did not exist only 15 years ago. Now such services can deliver some 2.5 million immunizations every day of the year. Also the number of the children missing second and third doses has markedly declined.

In these achievements the 167 Member States of WHO, WHO'S Expanded Programme on Immunization (EPI), and the United Nations Children's Fund (UNICEF) played a significant role supported by governments, the World Bank, the United Nations Development Programme (UNDP), the Rockefeller Foundation, Rotary International, the Save the Children Fund and other organizations.

The goal of WHO is to increase global immunization of infants to 90% by the year 2000.

(Source: World Health Organization Features, No. 147, September 1990)

## **Super Vaccines**

Important steps towards the development of "super vaccines" have already been taken. Approaches such as microencapsulation (biodegradable microcapsules release the entrapped antigen after injection in a way to mimic repeated injections) and live-vaccine carriers (unrelated live viral or bacterial vaccines will be carriers to deliver a second vaccine) are some of the new techniques – made available through recent advances in molecular biology, immunology and biotechnology. The main objective is to improve the existing vaccines and to develop new ones for diseases against which no immunization is yet possible. Evidently man is not far from producing a new generation of vaccines which can give effective immunization to a variety of bacterial or viral diseases, in a single dose taken orally. The target viral diseases are measles, rotavirus, poliomyelitis, hepatitis (A, B, C, E), dengue and Japanese encephalitis, and acute respiratory viral diseases. Among bacterial diseases targeted by the programme are tetanus, bacterial meningitis, bacterial diarrhoeal diseases, pneumococcal pneumonia and tuberculosis.

Progress towards achieving these goals has been made possible through a programme specifically devoted to vaccine development against viral and bacterial diseases established in 1984 by WHO. In 1990, UNDP joined the programme which has been expanded to include research on vaccines against viral and bacterial diarrhoea. The Children's Vaccine Initiative was launched by WHO, UNICEF and UNDP at the World Summit for Children in 1990. With the programme for vaccine development playing an essential role, the Initiative calls for a major acceleration of the development of essential vaccines for children by the year 2000.

Since 1984, 230 research projects have been supported in 28 countries. It is expected that by 1995, at least six improved or new vaccines will be available, and by 1999, eight vaccines will be integrated into a single dose "multivalent vaccine" and several others will be single-dose vaccines that can be given at the same time, soon after birth.

To reach the 1999 targets, an estimated global amount of \$20–30 million would be needed annually. It is hoped to provide facilities for strengthening research capabilities in vaccine oriented lines in developing countries to enhance participation of scientists from these areas.

(Source: Executive Board Report, 87th Session. World Health Organization, 21 November 1990)

## **Gastric Delivery of Iron Supplement**

Poor compliance has often been reported as a problem in field iron supplementation programmes to deal with iron deficiency (see first article in this issue). The most common reason for the poor compliance is the gastrointestinal side-effects particularly experienced at higher iron doses. The frequency of these side-effects is correlated with the amount of absorbed iron. For example, the severity of symptoms is shown to be increased with the addition of iron absorption enhancers like ascorbic acid. Various preparations are available with delayed-iron release properties. Unfortunately, however, these compounds decrease side-effects at the expense of lowering the total amount of iron absorbed from the supplement, as iron release can be delayed too much and the iron excreted. Such preparations, therefore, are blamed on the grounds of reduced iron absorption and increased cost.

A recent report (see source) on the gastric delivery system (GDS) for iron supplement challenges some of these problems. In this alternative method, the supplement is retained in the stomach for a much longer time, while its iron is gradually released from a hydrocolloid matrix into gastric solution. This is done by altering the hydrodynamic properties of the supplement compound; in a word, it floats in the stomach. The approach is particularly suitable for substances (like inorganic iron) which are more acid soluble. Ferrous sulphate is, therefore, incorporated into a gastric delivery system because it polymerises and precipitates as the gastric contents are alkalinised shortly beyond the pylorus. GDS is reported to be retained in the stomach of healthy subjects for 5–12 hours.

A controlled double-blind trial in 200 women has revealed many of the advantages of this new method. The side-effects are reduced, while absorption of GDS iron compared with ferrous sulphate elixir is three times higher. A major advantage is that a single 50 mg GDS iron capsule daily delivers the same dose of absorbed iron as conventional ferrous sulphate given three times per day, i.e. the maximum amounts of ferrous sulphate generally recommended for supplementation. The cost is low and the material could be sold in bulk and encapsulated regionally. Thus, using GDS iron for supplementation programme adds no more cost than that of conventional methods. Finally, since GDS retains iron in the stomach until the bulk of the meal has left, the inhibitory effects of typical cereal-based diets of many developing countries on iron absorption do not occur. It is, however, stated that “the GDS advantage might not occur if ingested when in fasting state and might be reduced with meals containing a high content of meat or ascorbic acid, which promote iron absorption”.

An extensive field trial in Jamaica is currently testing this new preparation for iron supplementation in pregnant women.

(Source: Based on “Gastric Delivery System for Iron Supplementation”. By Cook, J.D. et al. (1990). *The Lancet*, Vol. 335, 1136–1139)

### **Ghanian Woman Wins 1990 Africa Prize**

Esther Ocloo, an entrepreneur and co-founder of Women’s World Banking, has been named by the Hunger Project as winner of the 1990 Africa Prize for Leadership for the Sustainable End of Hunger. She received \$100,000 award, jointly with General Olusegun Obasanjo, former head of state of Nigeria and internationally respected statesman, writer and farmer. The Africa Award Ceremony was held in New York on September 27.

As the first woman to ever win the award, Dr. Ocloo’s work is regarded as critically important in ending hunger in Africa. The Hunger Project recognized Dr. Ocloo’s tireless efforts to empower African women, who have the primary responsibility for feeding Africa, who grow 80% of the food and use their incomes for feeding their families. She is the co-founder of Women’s World Banking, a worldwide organization which provides access to credit and promotes entrepreneurship among women all over the world. It provides economic opportunities much needed by women, particularly in Africa, in order to raise the standard of living for themselves and their families, and to become more productive and self-reliant.

In Africa about 30% of the total food production per year is thought to be lost as post-harvest waste. It is even estimated that if this waste, which occurs before produced foods can reach the market, can be avoided, Africa can probably feed itself. Training thousands in food-preserving technology on the request of the African Training and Research Centre for Women of the UN Economic Commission for Africa (ECA), in order to reduce post-harvest waste in food production is yet another illustration of Dr. Ocloo’s direct participation in efforts to increase food availability and ending hunger in Africa.

Mrs. Ocloo was the key founder and first woman president of the Federation of Ghana Industries. She has also been the first female Executive Chairperson of the Ghana National Food and Nutrition Board; is a member of the Ghana National Council on Women in Development; and a senior advisor on food processing industries. She has founded the International Federation of Business and Professional Women, an

organization devoted to empowering women in business and professions. She has also actively supported and served as director of the Opportunities Industrialization Centre in Accra which trains young underprivileged people for business employment. By founding or supporting many local, national and international organizations, she has worked to provide assistance at the grassroots level to enable the poor to work for a better life.

The Africa Prize was initiated in 1987 by the Hunger Project – an international, non-profit organization with activities in 37 countries – with the aim of promoting the achievements of African leaders on every level who are engaged in the struggle for Africa's economic viability.

(Source: The Hunger Project. One Madison Avenue, New York, 10010. Tel: 212-532 4255;  
Fax: 212-532 9785)

### **Cuban National Congress Puts Emphasis on Nutrition**

The Third National Congress of Hygiene and Epidemiology took place in Havana, Cuba from 24 to 27 October 1990. Nutrition received particular attention in this congress. Topics emphasized included: food and nutrition surveillance and its relation to environmental health; the need for research and training in food and nutrition surveillance; the regional network for the Americas and national experiences. The congress examined the experience in Peru where food and nutrition surveillance at the level of the microregions has been quite successful as a tool for basic planning at the local level. Also, the Cuban experience in surveillance – which is a well established and carefully implemented system taking into consideration food safety, consumption and biological utilization – was examined.

The congress also had a special section which examined the relation between food safety and tourism. This area of work is receiving more attention lately since tourism is a vital source of foreign currency for many of the participating countries. Although a national event, many participants came from other countries, including staff from WHO and the Pan American Health Organization (PAHO).

(Source: Dr. C.H. Daza, Coordinator, PAHO, 5 December 1990)

### **Cutting Costs through Improving Nutritional Status of Pregnant Women**

Nutrition and health interventions – now a routine operation in many parts of the world – do indeed make a difference not only to the well being of beneficiaries themselves but also towards lowering medical expenditures. Evaluation of a massive nutrition and health-related intervention in USA has convincingly revealed that the programme improves birth outcomes and is highly cost-effective. Substantial health benefits offered by the programme were evident since 1986. The primary objective of the recent evaluation by the Department of Agriculture was to translate those findings into money. This was done by determining the savings in medical costs for newborns and their mothers during the first 60 days after birth from participating in the Special Supplemental Food Programme for Women, Infant and Children (WIC).

The WIC Programme – authorized by Congress in 1972 – provides food supplementation, nutrition education, health care and social services referrals to low-income pregnant women, and to their infants and children up to age five, in order to improve their nutritional status and pregnancy outcome. The Programme has become one of the largest public health programmes for low income pregnant women and their children. It has grown from a \$750 million programme that served 2 million women and children in 1980 to an estimated \$2.1 billion programme serving 4.5 million in 1990.

Medicaid, a joint federal and state programme is the nation's primary medical-reimbursement programme for low income individuals. Since 1987, it has increased the income eligibility standards for pregnant women and children in order to qualify more of such women below the poverty level.

The basic analytical approach to measuring savings in Medicaid costs was to compare the medical costs of WIC participants and non participants. For accurate comparison of the costs, other characteristics of the two groups that might account for the observed medical cost differences were identified and taken into account. The cost-effectiveness analysis showed that the benefits of prenatal WIC participation exceeded the costs of providing WIC benefits. In fact for every dollar spent on the prenatal WIC programme, the associated savings in medical costs during the first 60 days after birth ranged from \$1.77 to \$3.13 for newborns and mothers combined and from \$2.84 to \$3.90 when only the savings in relation to newborns are considered.

In interpreting these findings it must be borne in mind that the estimated savings associated with prenatal WIC participation are independent of the effects of prenatal care on Medicaid costs. That is to say that these savings are in addition to the savings on Medicaid costs associated with adequate or intermediate levels of prenatal care. However, such estimated savings are not independent of any unmeasured characteristics that might also affect medical costs and pregnancy outcomes. To the extent that WIC participants are a self-selected group of women, the estimated savings due to WIC participation may overestimate the true savings. On the other hand, the adequacy of prenatal care is also likely to be related to any such underlying differences between WIC participants and non participants. Moreover, the analysis was able to adjust the estimated savings in costs associated with prenatal WIC participation for the adequacy of prenatal care.

Currently 19 USA states and the District of Columbia have the WIC programme operating for the low income pregnant mothers. Based on the results of these evaluations, the other 31 states would seem to be better off to follow through rather than staying out – both morally and financially.

(Sources: The Savings in Medicaid Costs for Newborns and their Mothers from Prenatal Participation in the WIC Program. United States Department of Agriculture. Food and Nutrition Service. Office of Analysis and Evaluation. Vol. 1; and the New York Times Article “WIC: It Saves Lives and Money”, 1 November 1990)

### **UNHCR and WFP issue guidelines on use of milk powder.**

Improper use of dried skim milk (DSM) has frequently been shown to impose risk to the recipients of food aid or feeding programmes as noted previously in SCN News (No. 4, p. 22). A policy statement proposed by UNHCR and discussed at a meeting organized by the ACC/SCN in April 1989 in Geneva, sets guidelines in order to regulate the distribution and use of DSM in refugee feeding programmes. This statement – reproduced here – is also recommended by the World Food Programme (WFP) to be followed in the case of all WFP-assisted refugee projects, whether approved as Emergency Operations or as Protracted Refugee Projects.

#### **POLICY OF THE UNHCR RELATED TO THE ACCEPTANCE, DISTRIBUTION AND USE OF MILK PRODUCTS<sup>1</sup> IN FEEDING PROGRAMMES IN REFUGEE SETTINGS**

1. UNHCR will accept, supply and distribute donations of milk products only if they can be used under strict control and in hygienic conditions, e.g. in a supervised environment for on-the-spot consumption.
2. UNHCR will accept, supply and distribute milk products only when received in a dry form. UNHCR will not accept liquid or semi-liquid products including evaporated or condensed milk.
3. UNHCR will accept, supply and distribute dried skim milk (DSM) only if it has been fortified with vitamin A.
4. UNHCR supports the principle that in general ration programmes protein sources such as pulses, meat or fish are preferred to dried skim milk. UNHCR notes that DSM pre-mixed centrally with cereal flour and sugar is useful for feeding young children especially if prepared with oil.
5. UNHCR will advocate the distribution of dried milk in a take-away form, only if it has been previously mixed with a suitable cereal flour, and only when culturally acceptable. The sole exception to this may be where milk forms an essential part of the traditional diet (e.g. nomadic populations) and can be used safely.
6. UNHCR will support the policy of the World Health Organization concerning safe and appropriate infant and young child feeding, in particular by protecting, promoting and supporting breast-feeding and encouraging the timely and correct use of complementary foods in refugee settings.
7. UNHCR will discourage the distribution and use of breast-milk substitutes in refugee settings. When such substitutes are absolutely necessary, they will be provided together with

clear instructions for safe mixing, and for feeding with a cup and a spoon.

8. UNHCR will take all possible steps to actively discourage the distribution and use of infant-feeding bottles and artificial teats in refugee settings.

9. UNHCR will advocate that when donations of DSM are supplied to refugee programmes, the specific donors will be approached for cash contributions to be specially earmarked for operational costs of projects to ensure the safe use of this commodity.

<sup>1</sup> Any non-fresh milk product such as powdered, evaporated, condensed, or otherwise modified milk including infant formula.

\* \* \*

Moreover, in order to assure the safe use of dried milk products in *all* types of WFP projects and operations, WFP has circulated the following guidelines to its country offices.

1. The WFP commodity list currently includes three types of dried milk products:

DSE-dried skim milk enriched with vitamin A;  
DSP-dried skim milk plain (not enriched with vitamin A);  
and DWM-dried whole milk which contains fat and vitamin A.

Country offices should be aware of the differences between these products.

2. It is important to note that DSE and DSP are not substitutes for fresh milk as the fat content has been removed. This commodity, therefore, should not be reconstituted as a beverage and consumed by itself, but should be consumed only with other foods.

3. The greatest danger in the use of dried milk products is their potential substitution for breast milk. This must be strictly guarded against in all situations. Dried milk products should not be reconstituted in feeding bottles for children of any age.

4. As vitamin A deficiency is an important public health problem in the majority of countries receiving WFP food aid, current WFP policy regarding the use of dried milk in non-dairy development projects is that it must contain vitamin A. DSE, rather than DSP, therefore, should be specified in all project documents and Plans of Operations and requested on RISIs.

5. In non-dairy development projects dried milk products should be used exclusively in on-site feeding situations, and even then only with the following stipulations: the food prepared with it is consumed on the spot under strictly supervised hygienic conditions, and nutrition education including demonstrations and instructions are provided on the appropriate use of this commodity.

6. Exceptions to the "on-site only" rule may be made in situations where milk is part of the traditional diet and assurance exists that the WFP-provided commodity will be safely used; i.e. never as a breast milk substitute;

only after boiling; and DSE only as an ingredient or with other foods, such as in tea or coffee, or as yoghurt with staple foods, and so forth.

7. Where the necessity for increasing dietary protein arises, blended foods can replace dried milk products.

(Source: Ms A. Berry-Koch, UNHCR; Ms J. Katona-Apte, World Food Programme)

## **The Protection, Promotion and Support of Breastfeeding**

### **Innocenti Declaration**

The Innocenti Declaration on the protection, promotion and support of breastfeeding (cited below) was produced and adopted by participants at the WHO/UNICEF policy-makers' meeting on "Breastfeeding in the 1990s: A Global Initiative" co-sponsored by the United States Agency for International Development (USAID) and the Swedish International Development Authority (SIDA), held at the Spedale degli Innocenti, Florence, Italy, on 30 July – 1 August 1990 (see SCN News No. 5, p. 36). The Declaration follows.

### **RECOGNISING that**

Breastfeeding is a unique process that:

- \* provides ideal nutrition for infants and contributes to their healthy growth and development;
- \* reduces incidence and severity of infectious diseases, thereby lowering infant morbidity and mortality;
- \* contributes to women's health by reducing the risk of breast and ovarian cancer, and by increasing the spacing between pregnancies;
- \* provides social and economic benefits to the family and the nation;
- \* provides most women with a sense of satisfaction when successfully carried out; and that

Recent research has found that:

- \* these benefits increase with increased exclusiveness<sup>1</sup> of breastfeeding during the first six months of life, and thereafter with increased duration of breastfeeding with complementary foods, and
- \* programme interventions can result in positive changes in breastfeeding behaviour;

<sup>1</sup> Exclusive breastfeeding means that no other drink or food is given to the infant; the infant should feed frequently and for unrestricted periods.

### **WE THEREFORE DECLARE that**

As a global goal for optimal maternal and child health and nutrition, all women should be enabled to practise exclusive breastfeeding and all infants should be fed exclusively on breast milk from birth to 4–6 months of age. Thereafter, children should continue to be breastfed, while receiving appropriate and adequate complementary foods, for up to two years of age or beyond. This child-feeding ideal is to be achieved by creating an appropriate environment of awareness and support so that women can breastfeed in this manner.

Attainment of the goal requires, in many countries, the reinforcement of a "breastfeeding culture" and its vigorous defence against incursions of a "bottle-feeding culture." This requires commitment and advocacy for social mobilization, utilizing to the full the prestige and authority of acknowledged leaders of society in all walks of life.

Efforts should be made to increase women's confidence in their ability to breastfeed. Such empowerment involves the removal of constraints and influences that manipulate perceptions and behaviour towards breastfeeding, often by subtle and indirect means. This requires sensitivity, continued vigilance, and a responsive and comprehensive communications strategy involving all media and addressed to all levels of society. Furthermore, obstacles to breast-feeding within the health system, the workplace and the community must be eliminated.

Measures should be taken to ensure that women are adequately nourished for their optimal health and that of their families. Furthermore, ensuring that all women also have access to family planning information and services allows them to sustain breastfeeding and avoid shortened birth intervals that may compromise their health and nutritional status, and that of their children.

All governments should develop national breastfeeding policies and set appropriate national targets for the 1990s. They should establish a national system for monitoring the attainment of their targets, and they should develop indicators such as the prevalence of exclusively breast fed infants at discharge from maternity services, and the prevalence of exclusively breastfed infants at four months of age.

National authorities are further urged to integrate their breastfeeding policies into their overall health and development policies. In so doing they should reinforce all actions that protect, promote and support breastfeeding within complementary programmes such as prenatal and perinatal care, nutrition, family planning services, and prevention and treatment of common maternal and childhood diseases. All healthcare staff should be trained in the skills necessary to implement these breastfeeding policies.

Further information may be obtained from UNICEF, Nutrition Cluster (H-8F), 3 United Nations Plaza, New York, N.Y. 10017.

(Source: UNICEF, August 1990)

## **Recent & forthcoming meetings**

### **First European Conference on Food and Nutrition Policy, Budapest, 1–5 October, 1990**

This conference was organized by the World Health Organization's Regional Office for Europe, in collaboration with the Hungarian Ministry of Welfare, and was co-sponsored by FAO and other international and national bodies. It was held to discuss the development of food and nutrition policies that explicitly take account of health.

A modern food and nutrition policy is not only designed to ensure an adequate supply of food at reasonable prices. It also has to consider the health consequences of changes in the amount and type of food consumed, ensure that healthy foods are available, and help populations make wise choices in using them. The conference discussed in detail experiences of countries where such policies already exist. Delegates from eastern and central Europe highlighted the great difficulties their countries were experiencing in supplying populations with a sufficient variety of food.

Although Europe is regarded as developed, there are still pockets of poverty and frank undernutrition where food is scarce and access to a necessary variety of food is unsatisfactory. At the same time, there are significant problems of over-consumption in other parts of Europe. It is because the resultant nutrition-related health problems concern the great majority of the population that WHO strongly advocates the development of broad national food and nutrition policies.

In their conclusions, delegates voiced serious concern that access to food, in terms of both quantity and quality, were still important major problems, notably in countries currently undergoing major changes. They stressed the need for coordinated efforts between countries and between international organizations to help remedy the situation, and they called upon WHO and FAO to support further work in the field of food and nutrition policies. A number of participants saw the development of such policies as the logical consequence of WHO'S strategy of Health for All, which the Region's thirty-two Member States had adopted in 1984.

(Source: Dr Benbouzid, Nutrition Unit, WHO, Geneva)

### **Safer Food and Water for Pakistan**

In an Inter-regional Seminar on Health Education in Food Safety held 23 September 1990 in Islamabad, Pakistan, the need to initiate intensive health education was stressed. The Senate Chairman Mr. Wasim Sajjad, emphasizing the significance of safe food and water termed it "the most important need of the developing countries". Speaking at the inauguration of the seminar at the National Institute of Health, he said that in a developing country like Pakistan the issue of food safety becomes more pronounced because contaminated and adulterated food and water is a serious threat to life. Statistically speaking, in Pakistan about 250,000 children under five years of age die every year due to diarrhoea, and about 60% of people face malnutrition, he said. Mr. Wasim stressed that Government would make all efforts to make the food safety programme an essential component of the national health care system. He expressed the hope that those attending the seminar would be able to evolve workable recommendations to tackle the complex issue of food safety, which will, however, require international collaboration. The workshop was organized by the Pakistan

National Institute of Health and Ministry of Health with WHO, and attended by representatives from many countries and WHO regional offices.

(Source: The Pakistan Times, 24 September 1990)

### **International Conference on Nutrition**

A 'framework' paper for the forthcoming International Conference on Nutrition, entitled "Meeting the Nutrition Challenge" was issued by FAO and WHO in October 1990. This paper – available from the Conference Secretariat (see below) – covers the nature and dimensions of nutrition problems; principal factors affecting nutritional status; and approaches to improving nutrition. The approaches described address household food security, infectious disease, healthy diets and lifestyles, micronutrient deficiencies, caring capacity, and nutrition in development policies.

A joint FAO/WHO Secretariat has been established at FAO in Rome. Information on the Conference and invitations are being sent out through official channels of communication. The address of the joint ICN Secretariat is: FAO, Via delle Terme di Caracalla, 00100 Rome, Italy.

### **Environment Conference Preparations.**

The **United Nations Conference on Environment and Development** (UNCED) will be held in Rio de Janeiro, Brazil, in June 1992 (1–12).

States will be represented at the level of Head of State or Government, and arrangements for the broad participation of non-governmental organizations especially from developing countries, have been made.

Maurice Strong has been appointed Secretary-General of the Conference – he had the same role in the 1972 UN Conference on the Human Environment, and was the first Executive Director of UNEP.

In calling for this conference in December, 1989, the UN General Assembly stressed the need to find integrated strategies that would prevent further degradation of the environment and promote sustainable, environmentally-sound development in every part of the world.

The issues to be addressed by the Conference will be organized in six principal components.

1. An "Earth Charter" or declaration of basic principles for the conduct of nations and peoples in respect of environment and development.
2. Agreements on specific legal measures, e.g. conventions for the protection of the atmosphere and biological diversity which would be negotiated prior to the Conference and signed or agreed to at the Conference.
3. An agenda for action, "Agenda 21", establishing the agreed work programme of the international community for the period beyond 1992 and into the 21st century with respect to the issues to be addressed by the Conference, with priorities, targets, cost estimates, modalities and assignment of responsibilities, plus the means to implement this agenda; i.e.
4. New and additional financial resources.
5. Transfer of technology.
6. Strengthening of institutional capacities and processes.

A Conference Secretariat has been set up in Geneva, and offices established in New York and Nairobi. A Preparatory Committee is overseeing arrangements. It has created two working groups to study air, land and water resources. Working Group I deals with protection of the atmosphere, protection and management of land resources, conservation of biological diversity and environmentally-sound biotechnologies. Working Group II is to concentrate on protection of the oceans, seas and coastal areas, protection of the quality and supply of freshwater resources and environmentally sound management of toxic chemicals and wastes. A third working group is to be set up to deal with legal, institutional and related matters.



Special measures are being undertaken to facilitate and support participation by developing countries in preparation for the Conference. A Voluntary Fund has been set up to support participation by developing country representatives in meetings of the Preparatory Committee and its working groups. In addition, extra-budgetary funding is being sought by the Secretariat to support the substantive contributions from developing country experts and institutions to the preparatory work.

The UNCED Secretariat has set up a global Electronic Information Network to provide all interested parties with access to information on the preparations for the Conference. This system is accessible through networks such as TCN and ECONET.

\* \* \*

**WHO** has established a **Commission on Health and Environment** which coordinates with UNCED, chaired by Simone Veil (France). It is assisted by four technical panels, on: energy; food and agriculture; industry; and urbanization.

Panel reports are expected in mid-1991. The Commission's report, based on these, will be transmitted to the World Health Assembly in early 1992, and will then constitute a major contribution to UNCED, and form the basis for WHO'S 'global strategy for environmental health'.

For information on UNCED please apply to: UNCED, Route de Florissant 160, PO Box 80 CH – 1231 CONCHES, Switzerland. Tel: (00 41 22) 789 16 76

(Sources: UNCED documentation; WHO Executive Board Report, Jan 1991)

### **Postgraduate Community Nutrition Training Programme for SE Asia**

The newly structured SEAMEO-TROPMED (South East Asian Ministries of Education Organization Tropical Medicine and Public Health) Community Nutrition Training Programme is implemented by several faculties of the University of Indonesia. The objective of the training programme is to direct personnel of the region responsible for the management and supervision of community nutrition activities (projects/programmes/training/research) towards the improvement of the nutritional situation at the district to regional level.

Three degree programmes and two non-degree ones are provided. Degree programmes will lead to a) Master of Applied Human Nutrition (15 months), b) Master of Science in Applied Human Nutrition (2 years), and c) Doctor of Applied Human Nutrition (3-4 years). The non-degree programmes include: Advanced Training Programme in Management of Community Nutrition (6 months) and Field Research Programme for students of an academic programme at another institution (6 months to 2 years).

The TROPMED Center maintains several important professional links with Indonesian institutions, as well as with international institutions working in the South East Asian region, in North America and Europe. SEAMEO assists the Center in promoting links that enhance the quality of the training programmes. SEAMEO Community Nutrition Training Programme receives technical and advisory support from the Ministry for Economic Cooperation of the Federal Republic of Germany, through the German Agency for Technical Cooperation (GTZ), with supplementary support from the Canadian Government. In selecting research proposals, emphasis is placed on the applicability and adaptability of research to local needs and requirements in the field of epidemiology, management and communication.

For further information on the facilities available at the SEAMEO-TROPMED Center Indonesia and to obtain application forms, please contact: The Directorate of the SEAMEO-TROPMED Center Indonesia, University of Indonesia, 6, Salemba Raya, Jakarta 10430. Indonesia. Tel: 021-330205 and Fax: 021-3106986.

### **Dutch Government Supports SCN News**

The Sub-Committee on Nutrition decided in 1989 that the Secretariat should seek additional funding for a number of the SCN's programme activities. One of these is the regular production of SCN News. So we applied to the Dutch government for support. We are extremely pleased to report that in mid-1990 the Dutch government agreed to provide funds for one (of the two) annual issues of SCN

News, for the next five years. So this publication – present distribution 5000, and rising – now has a more assured future. We are most grateful to the Dutch Government – and to their representative at the SCN, Ms

Elly Leemhuisde Regt, for helping this along.

### **SCN's Programme for reporting on the world nutrition situation – support from SIDA, IDRC & FAO; SCN – IFPRI link**

The SCN has begun a five year programme to continue reporting on the world nutrition situation. This follows publication of the First Report on the World Nutrition Situation in 1987, the Supplement in 1988, and the 'Update' report in 1989 (see SCN News Nos 2 & 4). Funding support for the first 2–3 years of this programme is being provided by SIDA (Sweden), IDRC (Canada) and FAO. We have appointed Dr Marito Garcia as Senior Project Officer, to be responsible day-to-day for the programme for reporting on the world nutrition situation. The first output aimed for is a report in trends in the six most populous countries *not* included in the 1989 'Update' report: Brazil, Egypt, India, Mexico, Nigeria, Pakistan. These results, with those from 1989, will give direct estimates of nutritional trends for a majority of the populations of developing countries. At the same time, work is continuing – with Dr M Lotfi – on compiling information on women's nutritional status. Reporting on the '6-country study' and on women's nutrition are intended in 1991. These will contribute, with other work, to a Second Report on the World Nutrition Situation in 1992.

This programme, starting in December 1990, is being done in collaboration with the International Food Policy Research Institute (IFPRI), based in Washington DC. Marito Garcia, as SCN Staff, is jointly a Research Fellow in IFPRI, in the Food Consumption and Nutrition Policy Programme, headed by Joachim von Braun. A memo of understanding was signed between Drs von Braun and Mason (SCN) in November 1990. This arrangement has many advantages for the programme, particularly in bringing in IFPRI's extensive experience and renowned expertise in this area.

### **Increased Priority for Nutrition at World Bank**

World Bank President, Barber Conable, at the 1990 Annual Meetings, said that the Bank was rapidly increasing its lending for nutrition. "We have intensified our support," he said, "for efficient food production and for targeted nutrition programs to replace costly general food subsidies." Better nutrition "directly addresses the basic causes and worst consequences of poverty... better health and nutrition raise peoples' productivity and their ability to learn." He cited nutrition as one of the indicators that could be used to measure progress in reducing poverty.

Japanese Executive Director Masaki Shiratori has added his voice, with a strong plea for more nutrition projects by the Bank. "Nutrition of children deserves our utmost attention," he said, noting that "the Bank has been relatively silent on this subject." He would like to see "more regular activities in this sector," so that the Bank would have a more balanced lending program.

### **Refugee Nutrition Crisis – Symposium Planned**

Severe nutrition problems among refugees have been causing increasing concern, as highlighted previously in SCN News. The Refugee Studies Programme in Oxford is planning an international symposium to highlight the problem and explore solutions. The meeting is planned for 17–20 March 1991, in Oxford. The following is taken from their announcement of the symposium, entitled "Responding to the Nutrition Problem among Refugees: the Need for New Approaches".

The number of refugees who are dependent on external food aid for prolonged periods has increased dramatically in the past decade. At the same time global food and cash resources are dwindling.

Deaths and much suffering among refugees are often attributed to slow and inadequate response from the international community and, at times, poor organization. Starvation and nutrient deficiency diseases have been associated with the quality and quantity of food provided to refugees. The extent of, and reasons for, such deficiencies in relief must be more widely recognized and better understood if they are not to recur. Areas requiring particular attention and analysis include: nutritional needs and donor food baskets; co-ordination of international food relief assistance; the improvement of evaluation, communication and problem solving; and the roles and responsibilities of international organizations, donor governments and non-governmental organizations.

Protein-energy malnutrition regularly occurs in refugee populations – particularly in children under the age of five years – and there have been regular outbreaks of scurvy (caused by vitamin C deficiency) and pellagra (caused by niacin deficiency), sometimes on an epidemic scale. The unacceptably high rate of malnutrition among refugees in the developing countries, has long been a concern of operational agencies, academics

and other professionals involved with refugees and has been regularly articulated by them over the years. Though less frequently, this problem has also drawn media attention. Nonetheless it is a problem which still remains largely unsolved.

The reasons for the worsening malnutrition among refugees are complex, and are not simply the result of a shortage of resources. Problems arise because of misconceptions among decision-makers about nutritional issues, shortcomings in the division of responsibility, failures of co-ordination and a lack of accountability within the international system, and the inadequate collection and use of information.

*Nutritional quantity and quality* It is widely believed that international food aid supplied to refugees is adequate in quantity and quality to meet nutritional requirements, and decisions about the supply of food aid rations are made on that basis. In fact, such rations are sometimes inadequate in quantity (i.e. dietary energy) and, where rations are composed only of foods from western intervention stocks, generally inadequate in quality – being deficient in their content of vitamin C, vitamin A, iron, and a range of other nutrients.

Evidence shows that nutritional problems are least where refugees trade or exchange portions of their rations to obtain a more balanced diet, or supplement them from paid work, gathering or agriculture. It is where refugees lack such opportunities and must therefore subsist on their distributed ration that nutrition problems arise. These problems are most serious in Africa where populations are most dependent on distributed food aid and where rations are generally the smallest. Consideration of these issues plays no part in current international decision-making and there is clearly a need for the re-examination of food allocation.

*Division of responsibility* The roles and responsibilities of agencies within the international refugee system are poorly defined. The host government is responsible for the welfare of refugees, but generally lacks the material and sometimes the technical resources to fulfil the obligations which this entails without external assistance.

*Lack of co-ordination and accountability* Food and financial assistance from donor countries may be channeled through UNHCR, WFP or voluntary agencies, or given bilaterally. Voluntary agencies vary widely in expertise and in numerical presence from refugee situation to refugee situation. Where it occurs at all, co-ordination is conducted by the host government or through informal efforts. Even where co-ordination is attempted, there is no system for ensuring that adequate rations are in fact supplied, nor is there any system of international accountability when they are not.

*Information* A specific organizational issue is the lack of an agreed system for the collection, flow and use of information. Information on food supply and nutritional status is collected by agencies, but there is currently no formal system by which this information may be introduced into donor/UN decision-making processes. Where nutritional conditions are poor, voluntary agencies have on occasion used the media as the only effective route of communication. There is a clear need to develop a system to ensure that information of an agreed type and quality is regularly collected, introduced and used in policy debate.

The **objective** of the Symposium is to establish the dimensions of the nutrition-related problems of refugees in developing countries, with a focus on Africa where the problems have the most serious consequences. On the basis of a review of the existing system of food (and other service) provision, and of the current international system of responsibilities, the Symposium will seek to recommend practical and solution-oriented proposals to alleviate the problems identified in refugee relief programmes.

The Symposium will attempt to establish the dimensions of nutrition-related welfare problems of refugees in developing countries. The object will be to uncover the reasons why this crisis has occurred and to develop possible approaches to solutions. The Symposium should lead to a clear statement of the problem and its roots.

A series of case studies has been commissioned for presentation at the Symposium. Issues to be addressed in these case studies will include the following.

- the nutrition-mortality link
- general ration failures, vitamin deficiencies and public health inadequacies
- the potential for rapid stabilisation of emergency situations through timely aid; the problem of the patchy response of aid

- agency roles and responsibilities; the lack of clarity of agency mandates
- problems faced by vulnerable groups
- how camp conditions create nutritional diseases even with fairly good rations
- the problem of registration and why confrontational relations develop between donors, agencies and host governments
- refugees' dietary responses and their own resourcefulness
- the impact of repatriation on the provision of rations
- the potential for institutional capacity to monitor and respond to new situations.

The Symposium preparation is being coordinated a Steering Committee convened by the Refugee Studies Programme, University of Oxford and including the following organizations; Department of Human Nutrition, London School of Hygiene and Tropical Medicine; International Rescue Committee (USA); Médecins Sans Frontières (USA, Belgium, France, The Netherlands); Oxfam (UK); Save the Children Fund (UK); the Office of the United Nations High Commissioner for Refugees; World Food Programme; the ACC/SCN has attended in an observer capacity.

Since the timing of the Symposium is subject to world events, those interested should contact, for further information, Refugee Studies Programme, Queen Elizabeth House, University of Oxford, 21 St Giles, Oxford OX1 3LA. Fax: (0865) 270729 or 270721

#### **Conference on Food Standards, Chemicals in Food and Food Trade, Rome, 18–27 March, 1991.**

Protection of the health and well-being of all consumers and the removal of unnecessary technical barriers to trade in food are important elements in expanding world agricultural production and in ensuring world food security. All countries need to assure that national food supplies are safe, of good quality, and available in adequate amounts at affordable prices. There have been major changes at the national level over recent years in the attitudes of many governments to food standards and other means of regulating and promoting the production of good quality and safe foods.

An intergovernmental conference on this topic will be held jointly by FAO/WHO in cooperation with GATT from 18–27 March, 1991 in Rome. Member countries of FAO and WHO and observers from international organizations concerned have been invited to attend. The conference – conducted in English, French and Spanish – will address besides food standards the topic of chemicals in foods and associated consumer concerns. The main aim would be to evaluate the work and outputs of the joint FAO/WHO Expert Committee on Food Additives (JECFA), and the joint FAO/WHO Meeting on Pesticide Residues (JMPR) as well as other *ad hoc* expert groups, to assess how they are being used by FAO and WHO member States and the Codex Alimentarius Commission (CAC). Questions which need to be discussed and resolved include technological justification as a part of evaluation; approaches used in assessing veterinary drug residues in foods; and practical methods of estimating intake of additives, pesticide and veterinary drug residues, or contaminants in foods.

Another theme of the conference will be food import/export control problems. While the need for protection of the consumer is now well recognized, the complexity of food import controls and the wide range of certification and other requirements of some food importing countries are creating difficulties for food exporting countries. A global meeting of representatives of national import and export food control authorities is, therefore, necessary to discuss the various means which would maintain the protection of the consumer while, at the same time, harmonizing, standardizing and where possible simplifying the food import requirements of importing countries.

More information from R.J. Dawson, Senior Officer, Food Quality and Consumer Protection Group, Food Quality and Standards Service, Food Policy and Nutrition Division. FAO, Via delle Terme di Caracalla, 00100, Rome. Tel: 0039657971; Telex: 610181 FAO 1; Fax: 57973152.

#### **Symposium on Food and Nutrition in the Tropical Forest**

An international scientific symposium is being organized by UNESCO and the CNRS (Centre National de la Recherche Scientifique, France), on the topic of Food and Nutrition in the Tropical Forest: Biocultural Interactions and Applications to Development. The symposium will be held at UNESCO House in Paris from 10–13 September 1991, in English and French with simultaneous translation. An international scientific advisory group is being formed to cooperate with UNESCO and CNRS in the organization of the symposium.

A range of biocultural themes will be addressed by 100 to 150 specialists involved in research and management related to food and nutrition in tropical forest environments. Current understanding and recent advances in respect to food and nutrition in tropical forest environments will be reviewed. The symposium will aim at identifying possible applications of such knowledge to development projects and processes in the humid forested zones of Africa, South and Central America, Asia and Australia. It is hoped to bring together existing information within a comparative perspective, with a view to producing, besides a main book, a range of syntheses for distribution to planners concerned with resource management and cultural development issues in humid tropics.

For more information please contact Dr. C.M. Hladik, Laboratoire d'Ecologie du Museum, 4, Avenue du Petit Chateau, 91800 Brunoy, France.

(Source: Dr. S. Van der Vynckt, ED/STE, UNESCO, France)

### **Asian Workshop on Nutrition in the Metropolitan Area**

The IUNS Committee "Urbanization and Nutrition", the Malaysian Society of Nutrition, South East Asian Ministries of Education Organization Tropical Medicine and Public Health (SEAMEO-TROPMED), and the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) will organize from 11 to 14 September, 1991 in Kuala Lumpur, Malaysia, a pre-conference workshop entitled "Nutrition in the Metropolitan Areas", on behalf of the Sixth Asian Congress of Nutrition. It is the objective of the Workshop to stimulate nutritional projects and programmes in research and intervention in the metropolitan areas of Asia. Information on this workshop can be requested from SEAMEO-TROPMED, University of Indonesia, 6, Salemba Raya, Jakarta 10430, Indonesia, or from the organizers of the Sixth Asian Congress of Nutrition. Tel: 021-330205; Fax: 021-3106986.

(Source: Prof. Asri Rasad, National Representative, SEAMEO-TROPMED Center, Indonesia)

### **Micronutrients and Health – Second annual conference**

This conference – the second in an annual series on Micronutrients and Health – to be held 25–26 March 1991, at the AFRC Institute of Food Research, Norwich, UK, discusses the analytical problems associated with the determination of trace elements in the context of their nutritional and other roles. It aims to bring together food analysts and technologists, nutritionists, biochemists, dietitians and the medical profession. The programme has been designed so that scientists concerned with the biological effects of trace elements can both appreciate the current limitations of the analytical methodology, and understand how these may be overcome in the future. The analyst should gain a comprehensive understanding of modern developments in this area. This diversity of participants should lead to stimulating discussion centred on the presentations from speakers of international repute.

Further information: Kay Russell, Elsevier Seminars, Mayfield House, 256 Banbury Road, Oxford OX2 7DH, UK. Telephone: 44 (0)865 512242 Fax: 44 (0)865 310981

(The conference fee is £287.50)

### **Iodine Deficiency in Europe A Continuing Concern**

Apparently iodine deficiency continues to be a problem in at least 12 European countries, occasionally involving cretinism. Iodine intake is still on the borderline or clearly deficient in several European countries. For this reason, Iodine Deficiency in Europe will be the topic of a workshop to be held in Brussels, from 25 to 28 of April 1992. National and international organizations and agencies, including ICCIDD, WHO (Headquarters and European region) and UNICEF will sponsor the workshop.

The goal of the workshop is to promote action to normalize iodine intake in the Western and Eastern European countries. The scientific objectives of the workshop are: to review the factors involved in thyroid growth; to discuss the methodology of evaluation of IDD in industrialized countries; to update the evaluation of

iodine nutrition and goitre in Western and Eastern Europe; to evaluate the consequences of iodine nutrition on foetuses and newborn and pregnant women; to compare the European situation with the United States, Canada, Japan and Australia; to discuss the implications of the European situation in relation to nuclear hazards and to discuss and stimulate the possible prophylactic and therapeutic approaches in Europe. There will be state-of-the-art lectures and reports on the national situation in each European country by invited speakers, poster presentations by other participants, and time for discussions in round-table.

The deadline for receipt of abstracts in Brussels is December 1991 and for registration is March 1992.

For further information please contact Dr. F. Delange, M.D., Dept. of Radioisotopes, Hospital Saint-Pierre, Rue-Haute 322, B-1000 Brussels, Belgium.

### **Meetings on Food Crisis in 1991/2**

Some of the meetings announced in the International Geographical Union Study Group Newsletter (see source), in the areas of populations and refugees food crisis are the following:

International Workshop on Population Movements, Food Crisis and Community Response. January 1991, Centre for the Study of Administration of Relief, New Delhi.

International Symposium: Responding to the Nutrition Crisis of Refugees, March 1991. Refugees Studies Programme, University of Oxford. (see previous article).

XVII Pacific Science Congress, Honolulu, Session on "Famine: Process, Vulnerability, Coping Strategies, Policy", Honolulu, Hawaii, May/June 1991.

Fourth Annual Hunger Research Briefing and Exchange, World Hunger Program, Brown University, Providence, USA. April 1991. (see below)

(Source: Famine Research and Food Production Systems, International Geographical Union Study Group, Newsletter No. 3, December 1990)

### **Overcoming Hunger in the 1990s**

The theme of this year's Annual Hunger Research Briefing and Exchange, organized by Brown University, is "Implementing the Bellagio Declaration: Ending Half of the World's Hunger by the Year 2000". The Bellagio Declaration is an international call for action that stems from a meeting of 23 planners, practitioners, opinion leaders, and scientists, held in Bellagio, Italy, in November 1989 (see also Programme News section under WFC).

The meeting will focus on the four major goals of the Bellagio Declaration, with the aim of developing a consensus on implementing strategies. These achievable goals for overcoming hunger in the 1990s were identified as 1) to eliminate deaths from famine, 2) to end hunger in half of the poorest households, 3) to cut malnutrition in half for mothers and small children and 4) to eradicate iodine and vitamin A deficiencies. (See also articulation of goals in Programme News section of this issue under WFC.)

The Briefing – designed to encourage dialogue among researchers and practitioners concerned with alleviating hunger – will be held at Brown University in Providence, Rhode Island, on April 3–5, 1991, in conjunction with the awards ceremony for the *1990–91 Alan Shawn Feinstein Awards for the Prevention of World Hunger*. It is cosponsored by the Alan Shawn Feinstein World Hunger Programme and Interaction, the American Council for Voluntary International Action. The meeting will be supplemented with an extensive exhibit of publications and a notebook of abstracts of recently completed ongoing research and project reports.

For more information please contact: Briefing Coordinator, World Hunger Program, Box 1831. Brown University, Providence, Rhode Island, 02912, USA. Tel: 401–863 2700, Fax: 401–863 2192

(Source: Fourth Annual Hunger Research Briefing and Exchange, Preliminary Announcement Flyer, December 1990)

## PLUS News from International Union of Nutritional Sciences (IUNS)

We are pleased to have agreed with IUNS to regularly include information on IUNS in SCN News. This being the first time, we give some general background on IUNS and its activities. In future issues we plan to provide updates on this.

**The International Union of Nutritional Sciences (IUNS)** was elected in 1968 to membership of the International Council of Scientific Unions (ICSU), which is a non-governmental organization, formed in 1931 to promote international scientific activity in the different branches of science and their application for the benefit of humanity. It is composed of twenty scientific member unions, one of which is the International Union of Nutritional Sciences.

The *objectives* of IUNS are: to promote international cooperation in the scientific study of nutrition and its application; to encourage research and the exchange of scientific information in the nutritional sciences.

IUNS has sponsored fourteen International Congresses of Nutrition, the most recent having been held in Seoul, Republic of Korea, in August 1989.

The main scientific work of IUNS is done by its commissions, committees and working groups on special topics. There are five commissions, 43 committees and five working groups.

IUNS has special consultative status with FAO, WHO, and the United Nations Children's Fund, is an associate member of the Council for International Organizations of Medical Sciences, and has signed a Memorandum of Understanding with the United Nations University. Close cooperation exists with UNESCO and with various ICSU bodies, and with the International Union of Food Science and Technology. IUNS and ACC/SCN have a reciprocal arrangement to attend each others' meetings.

At present, IUNS has 64 National Adhering Bodies. The present officers are: President, J.E. Dutra De Oliveira (Brazil); President-Elect, A. Valyasevi (Thailand); Vice-Presidents, A.A. Rerat (France), A.S. Truswell (Australia); B.A. Underwood (USA); Treasurer, E. Menden (FRG); Immediate Past-President, M.K. Gabr (Egypt); Secretary General, J.G.A.J. Hautvast (Netherlands).

The *Directory 1989-1991 of the International Union of Nutritional Sciences* is available free of charge at the following address:

IUNS Secretariat  
Miss Riekie Janssen, Executive Secretary  
c/o Department of Human Nutrition  
Agricultural University  
P.O. Box 8129  
6700 EV Wageningen  
The Netherlands Fax: 31-8370-83342

The International Union of Nutritional Sciences is through its committees deeply involved in both scientific and policy issues with regard to nutritional sciences. Here we list current committees. Readers interested in a particular topic can contact the Chairperson (name given after committee title) – the way to do this is to write to the IUNS secretariat, as given above, requesting the Directory, where the address can be found. For the period 1989-1991/93 the following committees are established.

*Commission I:* Responsible Vice-President: Barbara A. Underwood

I/1: The Nutritional Aspects of Food Standards. A.L. Forbes (USA). I/2: Biological Role of Different Fatty Acids in Human Nutrition. Joyce Beare-Rogers (Canada). I/3: Nutrition and Urbanization. R. Gross (FRG). I/4: Infant and Pre-School Child Nutrition Policy and Socio-economic Change. Marina F. Rea (Brazil). I/5: References of Growth and Physical Development. R. Trowbridge (USA). I/6: Assessment of Population Nutrition Status and Programme Evaluation for Developing Countries. L.F. Fajardo (Colombia). I/7: Nutrition Requirements in Pregnancy and Lactation. Janet C. King (USA). I/8: Nutrition and Development. Margaret R. Biswas (UK). I/9: Household Food Handling. B. Phithakpol (Thailand). I/10: Food and Nutrition in Africa. T.N. Maletnlema (Tanzania). I/11: Functional Consequences of Vitamin Deficiencies. K. Pietrzik (FRG). I/12: Nutrition in Schools of Home Science. R. Devadas (India). I/13: Nutrition and Aids. Chairperson to be decided. I/14:

Nutrition Education and Training of Nurses and Auxiliary Health Workers. E.F. Patrice Jelliffe (USA). Liaison IVACG: B.A. Underwood (USA). Liaison INACG: T. Morck (USA)

*Commission II:* Responsible Vice-President: A.S. Truswell

II/1: Nutritional Terminology. F. Weber (Switzerland). II/2: Dictionary. C. Leitzmann (FRG). II/3: Dietary Recommendations for Populations and Individuals. A. Bruce (Sweden). II/4: Techniques for Measuring the Value of Foods for Man. D.A.T. Southgate (UK). II/5: Drugs and Nutrition. J.N. Hathcock (USA). II/6: Nutrition and Anthropology. Harriet V. Kuhnlein (Canada) and Isabel Nieves (Guatemala). II/7: National Nutritional Surveillance. Lenore Kohlmeier (FRG). II/8: Nutrition and Ageing. M.L. Wahlqvist (Australia). II/9: Mental Development and Behaviour. E. Pollitt (USA). II/10: Nutrition and Cardiovascular diseases. Chairperson to be decided. II/11 Nutrition and Obesity. Chairperson to be decided. II/12 Nutrition and Immunity. R.K. Chandra (Canada). II/13 Nutrition and Cancer. J.H. Cummings (UK). II/14 Nutrition Training in Schools of Medicine, Dentistry and Public Health. J.E. dos Santos (Brazil). II/15: Advanced Degrees in Nutrition Science. S. Berger (Poland). II/16: Nutritional Significance of Colostrum. D.B. Jelliffe (USA). Liaison Officer ICDA: A.S. Truswell (Australia). Liaison Officer ICCIDD: B.S. Hetzel (Australia)

*Commission III:* Responsible Vice-President: A.A. Rerat

III/1: Animal Models in Human Nutrition Research. A.C. Beynen (Netherlands). III/2: Food, Nutrition and Biotechnology. J.F. Diehl (FRG). III/3: Food Gardening for Improvement of Nutrition. Vera Ninez (Peru). III/4: Nutrition and Food Science in Schools of Agriculture and Veterinary Science. M. Vanbelle (Belgium). III/5: Nutrition and the Production of Fish. C.Y. Cho (Canada). III/6: Nutrition of Pigs. M.W.A. Versteegen (Netherlands). III/7: Nutrition of Poultry. Z. Nitsan (Israel). III/8: Nutrition of Ruminants. D. Sauvant (France). III/9: Influence of Drying and Smoking on the Nutritional and Functional Properties of Fish. P. Doe (Australia). III/10: Nutritional Consequences of Modern Trends in Plant Production. C. Costes (France). III/11: Nutritional Consequences of Modern Trends in Animal Production. W.G. Pond (USA). III/12: Pollution and Nutrition. S. Maletto (Italy).

#### Forthcoming congresses co-sponsored by IUNS.

FANS: Sixth Asian Congress of Nutrition, Kuala Lumpur, Malaysia, 16–20 Sept. 1991.

SLAN: Congress will be held in Puerto Rico, 22–25 Sept., 1991.

FENS: Next FENS congress in Athens, Greece, May 26–28, 1991.

ISCN: International Symposium on Clinical Nutrition in Heidelberg (Germany), 2–4 October, 1991.

**Recent IUNS Reports.** These reports can be requested from the IUNS secretariat – the procedure is to write to IUNS who will quote you a price; then you can order from them if you wish.

IUNS Workshop on IUNS and the Food Processing Industry, Amsterdam, The Netherlands, 21 February 1986. *European Journal of Clinical Nutrition* (1989), **43**, 733–736.

IUNS Workshop on Fostering Nutrition Among Countries, San Diego, USA, 26 April 1987. *Food and Nutrition Bulletin*, **11** (3), September 1989, 58–63.

*Report Fourth Workshop on Nutritional Quality and Labelling in Food Standards and Guidelines.* IUNS Committee 1/2 on Nutritional Aspects of Food Standards, January 9–11, 1989, Taxco, Mexico, 27 pp, xeroxed.

*Report Meeting IUNS Committee II/12 on Nutrition and Physical Performance,* Prague, Czechoslovakia, 1989, 5 pp, xeroxed.

*The State of Food and Nutrition in Africa 1970s–1980s.* IUNS Working Group II/3 on Food and Nutrition in Africa, 1989, 116 pp, xeroxed.

*Guidelines for Training Nurses and Midwives as Lactation Counsellors.* (1989) Ed. E.F. Patrice Jelliffe, Chairperson IV/6. This publication has been made possible thanks to assistance of UNICEF. ISBN 92 806



0036, 134 pp.

*Proceedings International Symposium dedicated to the 640th Anniversary of Charles University: Nutrition, Metabolism and Physical Exercise.* Jana Parizkova, ed., IUNS Committee II/12, 1989, 305 pp. Published by Universitas Carolina Pragensis. ISBN no. 80-7066-155-0.

*Proceedings XIVth International Congress of Nutrition, Seoul, Korea 1989: New Era! Global Harmony Through Nutrition.* Volume I: Keynote lecture, Plenary lectures, Symposium lectures. Kim Wha Young, Lee Yang Cha, Leed Ki Yull, Ju Jin Soon, Kim Sook He eds., 1989, 1052 pp. Order should be made to: Kim Sook He, c/o Dept. of Foods and Nutrition, Ewha Womans University, Seoul 120-750 Korea.

*Proceedings XIVth International Congress of Nutrition, Seoul, Korea 1989: New Era! Global Harmony Through Nutrition.* Volume II: Workshops. Kim Wha Young, Lee Yang Cha, Lee Ki Yull, Ju Jin Soon, Kim Sook He eds., 1989 345 pp. Order should be made to: Kim Sook He, c/o Dept. of Foods and Nutrition, Ewha Womans University, Seoul 120-750 Korea.

*Special Issue of The Korean Journal of Nutrition*, published by Bimonthly by the Korean Nutrition Society: The 14th International Congress of Nutrition, 22 (5), 1989, 327-417.

*Directory of IUNS 1989-1991*, 120 pp. See above.

*Dietary Studies in Europe: 1.* Dr. Lenore Kohlmeier, ed. IUNS Committee II/6 on Nutritional Surveillance. To be published by Smith-Gordon, UK. ISBN No. 185463 0466.

*Nutrition Surveillance as the Backbone of National Nutrition Policy.* Recommendations of the IUNS Committee II/6, Dr. Lenore Kohmeier, chairperson, pp. 26. To be published.

***Provisional Scientific Program for Fifteenth International Congress of Nutrition, Adelaide, South Australia, September 26 to October 1, 1993.***

The following elements of the Program for XV Congress were proposed by the Program Committee on 26 September 1990 and, after some amendment, were endorsed by the Executive Committee on 28 September 1990 at the Fairmont Resort, Leura, New South Wales.

**2. MAJOR THEMES**

2.1 Nutrition policies and programs, national and international. Policies and objectives, debt and finance, trade, technology, sustainable agriculture, resources, population growth, urbanization, surveillance, regional problems, health, specific nutrients].

2.2 Nutrition and the environment. Environment and food production, impact on sustainable agriculture, implications of the Greenhouse effect, Geophysical-/Biophysical program and world nutrition, toxic residues, oceanic pollution].

2.3 Nutrition through the life cycle. Pregnancy, lactation, infant, child and adolescent, aged].

2.4 Prevention of chronic disease. Obesity, cancer, cardiovascular disease, hypertension, osteoporosis, diabetes].

**3. MINOR THEMES**

3.1 Nutrition and nutritional anthropology of aboriginal people. Nutrition and disease, nutrition and growth, indigenous foods, cultural effects on nutrition, nutritional anthropology, paleonutrition].

3.2 Cell biology and molecular biology of essential nutrients.

3.3 Nutrition and performance. Athletic, behavioural, cognitive].

**4. SINGLE SYMPOSIA**

- 4.1 Digestion of fibre in ruminants and non-ruminants.
- 4.2 Comparative nutrition including marsupials.
- 4.3 Nutrition of marine organisms, implications for humans.
- 4.4 Body composition – new approaches
- 4.5 Genetic sensitivity to nutrients
- 4.6 AIDS and nutrition
- 4.7 Nutritional treatment of chronic disease
- 4.8 Alternative and unorthodox dietary regimes
- 4.9 Nutritional consequences of substances of recreation and abuse
- 4.10 Antioxidants
- 4.11 Food hazards, food additives
- 4.12 Microbiological pathogens in food
- 4.13 Simulated foods, their impact on nutrition

## **5. COLLOQUIA**

- 5.1 Regulation of appetite
- 5.2 Sensitivity to food
- 5.3 Nutrient effects in the gastrointestinal tract
- 5.4 Childhood nutrition and adult chronic disease
- 5.5 Diet and pancreatic cancer
- 5.6 Oligosaccharides
- 5.7 Food colours, including carotenoids
- 5.8 Food flavours and appetite
- 5.9 Food labelling
- 5.10 Nutritional assessment
- 5.11 New methods for measuring metabolic rate
- 5.12 Measurement of complex carbohydrate
- 5.13 Vitamin A and Xerophthalmia
- 5.14 Fetal growth retardation

## **6. WORKSHOPS**

- 6.1 Nutrient data bases
- 6.2 Nutritional terminology
- 6.3 Food habits of the elderly
- 6.4 Food irradiation
- 6.5 Slimming diets
- 6.6 Clinical nutrition programs
- 6.7 Nutrition education for physicians
- 6.8 Nutrition education standards
- 6.9 Interaction of drugs and nutrients
- 6.10 Recommended dietary allowance
- 6.11 Safe ranges for trace elements in food
- 6.12 Nutrition and skin health
- 6.13 Cytokines

Further information can be obtained from

R M Smith, Secretary General, XV IUNS Congress of Nutrition, PO Box 10041, Gouger Street, ADELAIDE, South Australia 5000. Tel. 61-8-224-1800 Fax. 61-8-224-1841 Telex. 82242

### **Letter to IUNS Members from the IUNS President, Prof Dutra-de-Oliveira**

This is my President's letter regarding some 1990 activities and the 1991 plans.

1990 was a very special year because it gave us a new hope for the world with the opening of East Europe. Now, the perspective of a Gulf War is very dramatic for all of us. Let us pray for better and peaceful days, let us hope for a better understanding among all men and let us believe that Nutrition can be a link uniting mankind.

### **IUNS 1990 Activities**

One of our main 1990 objectives was to increase IUNS and Nutrition visibility. IUNS cannot be restricted to the work of its Commissions and Committees and the patronage of the International Nutrition Congress.

As IUNS President I was invited to the WHO General Assembly in Geneva, where Nutrition Research was one of the subjects discussed. IUNS was present at the 3 preparatory meetings for the International Conference on Nutrition to be held in Rome at the end of 1992 and sponsored by FAO/WHO. We also attended nutrition meetings in Austria and Portugal.

Nutrition is still lacking a clear identity. Many times it has been considered a tool for other areas. I really believe we will be able to give Nutrition its place in the scientific world, as an area founded on sound basic and applied research. I acknowledge here the efforts of Vernon Young, the AIN President, fighting for a better recognition of nutrition or nutritional sciences in the States.

### **Who is Who in the World Nutrition**

A Directory with a list of Nutrition Specialists seems to be a must in the area. Who are the people trained and working in nutrition in different countries? What are they doing? What about their publications? This is important for people in the area, for Governments, for the United Nations Organizations. Initial work on these lines was started by Manuel Amador, from Cuba, in relation to Latin America including: 1 – the names of people working in Nutrition, 2 – their areas of work and so on.

### **IUNS recognition of Nutrition Centres**

During many years, several nutrition professionals have been trained in their own countries and abroad at well known nutrition centers of the advanced countries. How many of them are back in their countries and have a reasonable set up to carry on research and training?

We want to hear your opinion on having some local Centres recognized by IUNS to stimulate and further support their activities. Which parameters would be reasonable to evaluate the local group and provide the recognition? Stewart Truswell has drafted an initial proposal on this subject.

### **IUNS Fellows**

It is our hope to identify and distinguish Senior Nutrition Scientists who enhanced nutrition research and/or performed outstanding services in different countries in an effort to bring out names and persons who have contributed to our science in different countries. The recognition of them could occur every 4 years during our International Congresses. Vinodini Reddy is helping us on this subject.

### **Committees**

These have been the traditional IUNS bodies promoting research, information and cooperation among nutritionists. The 3 Vice Presidents are in charge of them, trying to stimulate their work. We hope for more international participation in this IUNS activity and an increase in quality and productivity.

### **Adhering Bodies**

Although there was a low feedback to our call for participation from the Adhering Bodies, we are still looking forward to advice, suggestions and recommendations from them. Increasing the number of Adhering Bodies is also one of our main goals. Each one of the Council Members is in charge of a region. Please let them know about suitable country nutrition societies in your area.

### **International and Regional Meetings**

Council Members were present in several scientific meetings in 1990. This activity is considered one of our priorities. If invited, IUNS will send a Representative to your Meeting in 1991.

### **International Congress of Nutrition**

As it is known, Australia is the host to our International Congress, September 1993.

Besides the traditional format of Congresses, it has been proposed to hold a small number of tutorial courses, before or after the meeting, that would give a better opportunity to young scientists to receive specific training

and to meet colleagues from other countries. Other suggestions for parallel activities are welcome. The Australian organizers are working hard and the program is well advanced. More input from the Adhering and Affiliated Bodies is called for.

Address re Congress: XV International Congress of Nutrition, The Secretariat, CSIRO – Division of Human Nutrition, Kinpore Avenue, Adelaide, South Australia 5000, AUSTRALIA.

Address of Prof Dutra–de–Oliveira: Faculdade de Medicina, 14.049 Ribeirao Preto, SP – Brazil.

## **PROGRAMME NEWS – Update on progress around the world**

### **AUSTRALIA**

#### **Nutrition Improvement in Vietnam**

The Australian Government through its Australian International Development Assistance Bureau (AIDAB) has approved a grant of US\$1.1 million to FAO to undertake a nutrition project in Vietnam. The project is a combined nutrition agriculture programme which will focus on nutrition improvement of the population with special reference to vitamin A deficiency. The three–year project will commence in January 1991. The immediate objectives of the programme are as follows.

1. Identification of dietary deficiencies in qualitative and quantitative terms in selected provinces, with the National Institute of Nutrition as the main responsible organization.
2. Identification and propagation of most suitable species and varieties of horticultural crops to be grown in home – gardens so as to correct the identified nutritional problems, with the Ministry of Agriculture and Food (MOAF) as the main responsible organization.
3. Promotion of horticultural crops production with growers, with MOAF as the main responsible organization.
4. Promotion of the distribution and the consumption of foods to achieve dietary adequacy and prevent deficiency diseases, including vitamin A deficiency, with the National Institute of Nutrition as the main responsible organization.

\* \* \*

#### **Australian Food Composition Tables**

Since 1981, the Australian Government through the Department of Community Services and Health, has been funding a major food analytical programme to update the national nutrition reference on the nutrient composition of Australian foods. A series of volumes under the title of *Composition of Foods*, have recently been published providing detailed nutrient data on some 1400 foods. The food groups included in the volumes are –

- Volume 1 – Meats, fruit and vegetables, snack and take–away foods.
- Volume 2 – Cereals and cereal products.
- Volume 3 – Milk and milk products, eggs and fish.
- Volume 4 – Fats and oils, processed meat, fruit and vegetables.
- Volume 5 – Nuts and legumes, beverages and miscellaneous foods (to be published in December 1990).

A computerized data base on the Australian food composition tables is also available, and is marketed as the NUT–TAB series with data released on floppy diskettes with an instructional manual. The published series are made available in a loose leaf format (one food to one page) to facilitate inclusion of additional foods and update on already published foods. Data appendices are included for carbohydrate, fatty acid, organic acid and amino acid content of foods. These are updated as appropriate in each successive volume of the published series.

For further details on the Australian Food Composition Tables contact Mrs. Ruth English, Chief Nutritionist, Commonwealth Department of Community Services and Health, P.O. Box 9848, Canberra, ACT 2601, Australia.

## **CANADA**

### **Canada to Fight Nutritional Deficiencies**

The Canadian Government is determined to fight vitamin A and iodine deficiency disorders that affect millions of children in the Third World annually. The new initiative was announced, on October 16th, the World Food Day, by the Minister for External Relations, Monique Landry.

The nutrition initiative, to which the Canadian International Development Agency (CIDA) will contribute \$5 million over a three-year period, will be implemented through two channels. First, the resources will be provided to multilateral agencies already active in the field of nutrition, such as UNICEF and WHO, and to Canadian non-governmental organizations. Secondly, assistance will be given to developing countries to design and implement programmes to ensure intake of appropriate dietary levels of vitamin A and iodine by their populations.

For further information, contact: Isabelle Hundon, Special Assistance: Communications, Office of the Minister. Hull, Canada. Tel: 819-994 6161. Or Paule Parent, Public Affairs Branch, CIDA. Hull, Canada. Tel: 819-9536060.

(Source: Ministry of External Relations and International Development, Canada, communicated by Dr S. Rabeneck, CIDA)

## **FAO**

### **Update on FAO's Nutrition Country Profiles**

As noted in previous issues of SCN News (nos 2 & 3) FAO has initiated since 1986 development of nutrition country profiles in response to the ever-increasing requests for current information on the food and nutrition situation of member countries. The profiles are published regularly and updated routinely. So far the profiles are completed for 90 out of 123 developing countries.

Nutrition country profiles are based on information prepared at the country level by nationals or national nutrition institutions, using the most recent information available. The information is then reviewed and put into the standard format by FAO in Rome. Related information is added from the FAO Food and Agricultural Information System (AGROSTAT), World Health Organization, UN population statistics and other referenced sources.

The profiles provide a concise overview in about 15 to 20 pages of the food and nutrition situation of a country. Brief explanatory texts and supporting data on the most relevant nutrition items are also included. Where possible, trends are shown, as well as differences between regions within countries. Supplementary information is included on a limited number of related topics, such as agricultural production and food availability, national economic events, population changes, access to services, and literacy levels.

Nutrition country profiles can aid governments and institutions to identify disadvantaged areas within a country, and in national, sectoral and project planning. They can be a useful teaching tool in nutrition and agriculture and can improve the capability of national institutions to represent food and nutrition information in the context of related events.

All profiles will soon be available on the FAO Agricultural Information Centre (WAICENT) for users with access to international computing networks. Copies of any of the profiles completed to date may also be obtained in print or diskette form by writing to the Food Policy and Nutrition Division, FAO, Via delle Terme di Caracalla, Rome, Italy.

(Source: ESN, FAO, Rome)

## **ICCIDD**

### **Eliminating IDD**

The virtual elimination of iodine deficiency disorders (IDD) has been included within the Plan of Action adopted by the recent World Summit for Children at the United Nations, New York on 30 September 1990.

The IDD Task Force for Africa had its fourth meeting at Dar-es-Salaam (28 February–2 March 1990). This followed the Annual ICCIDD (International Council for Control of Iodine Deficiency Disorders) Board Meeting and was attended by representatives of five Anglophone countries. Particular emphasis was placed on the development of human resources. Two management training workshops (one Anglophone, one Francophone) have been organized for early 1991.

The Regional IDD Working Group for S.E. Asia held a meeting in Delhi (9–12 October 1990) at which good progress was reported by representatives of 6 countries. For the first time Mongolia reported recent goiter surveys indicating a significant problem. Other regional groups reviewed progress in the Middle East (Tehran 5–9 August) and in China (Beijing, 19–20 October).

(Source: Dr. Basil S. Hetzel, Executive Director, ICCIDD, CSIRO Division of Human Nutrition, Kintore Avenue, Adelaide 5000, Australia)

\* \* \*

### **International Training and Support Programme for IDD Control**

UNICEF has funded and ICCIDD has endorsed a project entitled “International Programme for the Control of Iodine Deficiency Disorders (IPCID)” which will be implemented beginning in January 1991 by the Emory University School of Public Health, and the Centres for Disease Control (CDC), Atlanta, U.S.

The goal of this programme is to offer the necessary consultative support to assist countries to develop the technical and scientific independence necessary to manage an effective IDD control programme. Ideally, countries will continue to participate in regional and global IDD control activities organized through ICCIDD and other international organizations. Host countries are invited to participate in this project at a cost of approximately \$150,000, which covers all costs related to laboratory implementation and reagents for its first year of operation, training of three host country scientists, travel, expenses for all training and up to three workshops.

(Source: Dr. G.F. Maberly, Programme Director, IPCID, Emory University School of Public Health, Atlanta, Georgia, 30329 USA. Tel: 1-404-727 8720; Fax: 1-404-727 8737)

## **IDECG**

### **Long-term Effects of Early Nutrition**

The International Dietary Energy Consultative Group (IDECG) convened a workshop on “Improved Protein–Energy Intakes in Early Childhood and Human Capital Formation: The Guatemalan Oriented Study” at the Rockefeller Foundation Conference Centre in Bellagio, Italy from July 30 to August 3, 1990. Additional financial support was provided from USAID. The workshop reviewed in depth the long-term results of an INCAP (Institute of Nutrition of Central America and Panama) intervention study from 1969 to 1989. In this study a nutritious supplement was provided to pregnant mothers and their preschool children in two villages. Another two villages provided comparative data. It was demonstrated that fifteen years later the children who received the nutritious supplement were about two centimeters taller, had a higher physical capacity, and performed significantly better on behavioural tests including the Guatemalan National Achievement Test. These recent findings will give new impetus to programmes for the prevention of malnutrition in the preschool child.

The proceedings of the 1989 IDECG workshop on “Activity, Energy Expenditure and Energy Requirements of Infants and Children”, held in Cambridge, Massachusetts, were published in November jointly with the Nestle Foundation (see Publication section of this issues).

(Source and more information from Dr. N.S. Scrimshaw, Food, Nutrition and Human Development Programme, Harvard Centre for Population Studies, Nine Bow Street, Cambridge, MA 02138, USA. Tel: 617-495-0417; Fax: 617-495 5418)

## **IFPRI**

## Research Thrusts of IFPRI's Food Consumption and Nutrition Policy Program

The activities in the Food Consumption and Nutrition Policy Program at IFPRI seek to contribute to the knowledge and understanding of how public policies affect real incomes, food consumption, and the nutrition of low-income households and individuals within these, in order to assist in policy formulation and implementation.

In *Pakistan*, a study is currently under way on household-level food security and the effects of government policies, including price and subsidy policies. This is based on a longitudinal survey of 1,200 households in rural areas. In this research, IFPRI has been exploring the means by which households respond to short-term shocks in income. With 10–15 percent of total incomes coming from pensions and remittances and another 40 percent from non-farm activities, these rural households are shown to be integrated into the larger economy. Nevertheless, droughts and floods have greatly affected earnings of many of the households. Preliminary evidence indicates that household expenditures are cushioned from such fluctuations by savings and readily available consumption credit.

A new project examining cost-effective ways of implementing a rural food ration in *Bangladesh* was initiated in 1989. Effective targeting and nutritional improvement are key policy objectives, as well as developing an ability to respond to crises in food entitlements.

Studies on the effects of commercialization of smallholder agriculture have been completed in six countries cutting across different types of commodities, sectoral structures, and infrastructure situations: (1) shift from maize to sugar-cane in the *Philippines*, (2) introduction of export vegetable production in *Guatemala*, (3) shift from traditional swamp rice to high-yielding irrigated rice in *The Gambia*, (4) expansion of tea and potato production in *Rwanda*, (5) a follow-up study in *Kenya* on shift from maize to sugarcane, and (6) a similar study performed by HIID in *Malawi*.

Studies on the commercialization of agriculture in *The Gambia*, *Guatemala*, and *Kenya* examined the linkages among cash crop production, household income, food consumption, and health and nutritional status. Results indicate that income-generating schemes such as commercialization make a major contribution to alleviating the hunger problem. However, increased household income alone is insufficient to solve the malnutrition problem in women and preschoolers. Agricultural policies and programs must be combined with health and nutrition activities in order to bring about a significant reduction in malnutrition in the short term.

IFPRI studies on the effects of technological change in agriculture suggests that when the nutritional situation did not improve in areas where agricultural technology had improved, there was a deterioration in intra-household factors, particularly affecting women. For example, in areas in *Zambia* where households substantially adopted improved agricultural technologies, there was little improvement in nutrition and health status. Investigation revealed that work loads increased by 50 percent during peak work periods, whereas calorie consumption increased by only 30 percent in the study households. In addition it was found that women's work loads were continuing to increase while their economic roles as decision makers were declining. These factors negated the positive effects of improved quality and diversity of food intake and improvements in sanitation resulting from higher incomes. This suggests that for net improvements to occur, alleviating the negative outcomes of intermediate factors must be considered.

Even in resource-poor countries, famines are the result of national and international policy failures – that is, failures to give priority to the planning, implementation, and management of famine prevention. IFPRI's ongoing research for improved famine prevention policy aims to help correct such failures. During the 1980s, severe famines were largely confined to *Africa*. *Sudan*, and *Ethiopia* were two of the major problem cases. In 1989 famine conditions began emerging again in large parts of both countries. Famine deaths in *Ethiopia* between 1983 and 1985 have been estimated at more than 1 million, those in western *Sudan* at about 200,000 in 1984/85, and those in the war-stricken southern provinces at 200,000 in the second half of the 1980s.

In both these countries, continuing military conflicts were important contributing causes of famine. However, drought and other unfavorable weather conditions remain a chief trigger of famine crisis when public preparedness is lacking. IFPRI results indicate that a 10 percent decline in long-term average rainfall results in an 8.4 percent drop in total cereal production in *Ethiopia* and a 5.0 percent drop in *Sudan*. Responses are larger for individual crops concentrated in drought-prone regions. For sorghum, for example, the figures are 16 percent in *Ethiopia* and 7 percent in *Sudan*.

In the research area of 'poverty alleviation', IFPRI's research has sought to identify employment and income sources of the malnourished poor, to identify dynamics of poverty "below the line", and to arrive at policy priorities for effective integration of the poor into a productive growth and development process in different types of regions and countries. These issues were investigated in *Kenya, Rwanda, The Gambia, Burkina Faso, Zambia, India, the Philippines, Sri Lanka, Brazil, and Guatemala*. Reports on this research are expected in 1991.

(Source: IFPRI)

## SIDA

### SIDA's Support for Nutrition in Developing Countries

A great deal of attention has been given by the Swedish International Development Agency (SIDA) to breastfeeding in connection with the WHO/UNICEF global initiative for the 1990s (see SCN News No. 5 p. 36). At a meeting in Italy for senior policy makers, 30 July–1 August 1990, many of the participants expressed continued concern about promotion of breast–milk substitutes and frustration that so little is being done to support countries in developing, adopting, monitoring and enforcing codes of marketing. To help with this, SIDA has met with the Netherlands Ministry of Development Cooperation to discuss how both agencies, jointly with WHO, can provide increasing support in this area. Country case studies are planned, along with an international meeting in the Netherlands – a ten–year follow–up on the International Code of Marketing of Breast–Milk Substitutes. SIDA has supported for a decade one of the central offices of the International Baby Food Action Network, located in Geneva.

SIDA along with the Netherlands Ministry of Development Cooperation and the Commonwealth Secretariat, continues to support various regional nutrition activities in Eastern, Central and Southern Africa (ECSA). This includes a six–week course for mid–level nutritionists in the region. Based on the recommendations of a Dutch/Swedish evaluation, the fifth course (in 1991) is going to be offered only to trainers. A needs assessment for courses at this level has been done in the region and a training manual based on the course is being published both with Dutch support. Both Tanzania and Zimbabwe are developing plans for conducting training at mid–level locally. SIDA support was also provided to WHO (AFRO) for a regional consultative meeting to develop practical approaches to anaemia control in pregnancy; and to the ACC/SCN for its programme for reporting on the world nutrition situation (see "News and Views").

Regarding "direct nutrition support", bilaterally within the health sector, SIDA is now in its final three–year agreement period for institutional–building support to both the Tanzania Food and Nutrition Centre (TFNC), and the National Nutrition Unit in Zimbabwe. It is also in the final three–year support to the National Nutrition Surveillance Programme in Zambia. All three have been a part of health sector support and have lasted about a decade (17 years in the case of TFNC). Continued support to a limited number of national–level projects may be considered for TFNC in the future. Support to some other nutrition work within the health sector will be considered in the case of Zambia.

Regarding direct nutrition support within the agricultural sector, the work in cooperation with FAO on nutrition and food security within the field of forestry (see SCN News No. 3, p. 25–6) continues to expand. Also, since 1983, SIDA has supported an effort to institutionalize nutrition concerns within the area of farming systems research in Zambia. The Zambian Government has recently recognized the need for this by reorienting a government post along these lines.

IDD control, breastfeeding promotion, and community gardening with one or more specific nutrition–related goals (reduction of young–child malnutrition; school feeding; or reduction of vitamin A or iron deficiency) are important areas supported by SIDA in both Zimbabwe and Tanzania. Work related to national food and nutrition policies has been supported in those countries, as well as in Zambia. Two leading staff at TFNC have begun studies towards a PhD degree at Uppsala University with SIDA support, one on IDD and the other on breastfeeding. Furthermore, a Zimbabwean has begun a Master degree research on IDD also at Uppsala University with SIDA support. These are, however, part of large–scale projects and long–term institutional cooperation and not a routine type of support provided by SIDA.

SIDA continues to provide funds for the purchase of vitamin A capsules via UNICEF for the National Blindness Prevention Programme in Bangladesh. In addition, support is provided to a Sri Lanka–based NGO, Worldview International Foundation, for a communication and school garden approach towards increasing dietary intakes of vitamin A in Gaibandah District where the prevalence of xerophthalmia is high. It is hoped that this more sustainable approach will gradually replace universal vitamin A capsule distribution.



(Source and for more information please contact: Dr. Ted Greiner, International Child Health Unit, Department of Pediatrics, University of Uppsala, S-75185 Uppsala, Sweden. Tel: 46-18 665937. Fax: 46-18 515380)

## **UNFPA**

### **Goals for 1990 Decade**

A recent statement by the Executive Director of the United Nations Population Fund (UNFPA) highlighted the following objectives for the decade of 1990.

- 1) Make family planning a development priority, ranked alongside major economic investments, and with an allocation of not less than one percent of GNP in the countries concerned
- 2) Extend family planning services to 500 million women
- 3) Ensure that all women pay at least one visit to a health care facility during pregnancy
- 4) Reduce maternal mortality by at least 50 per cent especially in those countries where such mortality is very high (higher than 100 maternal deaths per 100,000 births)
- 5) Reduce infant mortality to 50 per 1000 live births – especially in those countries where infant mortality is high
- 6) Expand girls' enrolment in primary school to at least 75 per cent. In countries where girls' enrolment is particularly low, ensure that the ratio of girls to boys in primary school is at least 4:5
- 7) Expand girls' enrolment in secondary school to at least 60 per cent. In countries where girls' enrolment is particularly low, ensure that the ratio of girls to boys in secondary school is at least 3:5
- 8) Combat women's illiteracy so that at least 70 per cent are able to read and write.

## **UNICEF**

### **Monitoring Progress Towards Child-related Development Goals for 1990s**

The World Declaration on the Survival, Protection and Development of Children was adopted as a result of the Summit for Children held at United Nations Headquarters in New York on 29-30 September 1990. The Declaration of the World Summit calls for promoting ratification and implementation of the Convention on the Rights of the Child adopted by the United Nations General Assembly in 1989. For effective implementation of the proposed Plan of Action, concerted cooperation will be required at levels of international community and individual countries.

As a specialized leading agency for children's welfare and well-being, UNICEF is requested to prepare a consolidated analysis of the plans and actions implemented, globally and at individual country levels. This will be done through the close collaboration with the concerned agencies and other United Nations organs. The General Assembly of the United Nations, through the Economic and Social Council, will be fully informed of the progress made on child-related development and any additional action required during the 1990 decade.

(Source: World Declaration and Plan of Action. World Summit for Children, United Nations, New York, 30 September 1990)

\* \* \*

### **Staff Training on the New Nutrition Strategy**

The Executive Board of UNICEF approved in April this Year a new nutrition strategy for UNICEF. As this strategy introduced a number of new concepts, training of UNICEF field-staff was deemed necessary. A training package was therefore developed by the Nutrition Section and the Training Section. The training

package consists of a Coordinator's Guide and a Participants' Manual. The training is divided into eleven sessions, consisting of:

1. Global Perspective
2. The problem of malnutrition
3. The Triple A approach
4. The conceptual framework
5. Lessons from previous or existing nutrition oriented programmes
6. Some useful definitions and methods in nutrition Assessment, Analysis and Action.
7. Triple-A at the national level
8. Triple-A at the district level
9. Triple-A at the community level
10. Affordability, sustainability and replicability
11. PIDB aspects (programme/project coding)

This package was first field-tested in Embu District, Kenya, in December 1989, with 20 participants from UNICEF in Ethiopia, Kenya and Tanzania. After revision, a training workshop was arranged for Asia in Los Banos, Philippines, April 1990, and for anglophone Africa in Zanzibar, October 1990. Training for francophone Africa (Niger) and Latin America (Ecuador) will be arranged early in 1991. The training takes ten full days, including a one day visit to a community. The first round of training concentrates on staff working in some 25 countries selected for priority support in nutrition.

By the end of the training, participants will be able to:

- understand the general nature of the problem of malnutrition and to assist in the identification of the specific causes of malnutrition in a particular society
- understand and use the new UNICEF strategy on nutrition
- use some of the more important techniques in assessing and analyzing the problem of malnutrition
- find information about technical and other details that may be required for nutrition-oriented programme preparation
- in collaboration with the Government, prepare a nutrition-oriented programme in the format required by UNICEF.

The training workshops have also been used to identify and prepare future resource people within UNICEF. Before becoming a resource person, he or she must go through the workshop first as a participant. This has proven very useful in extending a network of UNICEF staff fully conversant with the new UNICEF strategy on nutrition.

(Source: UNICEF, November 1990. Strategy for Improved Nutrition of Children and Women in Developing Countries, a UNICEF Policy Review, 1990, 1, and UNICEF Nutrition Strategy Training Package: Nutrition in Child Survival, Development and Protection, Participants' Manual; and Co-ordinator's Guide, available from Dr U. Jonsson, UNICEF, 3 U.N. Plaza, New York 10017, USA.)

## **UNHCR**

### **Pellagra Outbreak Among Mozambican Refugees in Malawi**

The United Nations High Commissioner for Refugees (UNHCR) health advisors have reported 16,200 cases of pellagra – from March to September 1990 – among the 800,000 Mozambican refugees in Malawi. The disease has been primarily noted among camp dwellers who are more dependent on external food rations donated by the international community, and less so among the spontaneously integrated populations. Among camp dwellers, some 5% of the total population have been affected. This illustrates the dependency which displaced populations have on food rations and supports the proposal for fortification of all emergency and food aid. Médecins sans Frontières and their collaborative organization (Epicentre), have collected epidemiological information in order to confirm the outbreak and the impact of the collective response.

The deficiency disease pellagra is due to insufficient quantities of the B-vitamin niacin or tryptophan (which is metabolized to niacin) in the food aid ration; insufficient quantities of groundnuts and beans are distributed with the maize-based diet. Outbreaks occur at a time when the food and cash resources of the main food channelling organizations WFP and UNHCR are severely restricted. In response to the outbreak an unprecedented collaborative effort has been initiated among non-governmental organizations (NGOs) and the UN to both prevent and treat new pellagra cases, showing the essential pro-active role which the NGOs can play to ensure timely and efficient response to dramatic problems in feeding programmes.

As a *short-term* measure, millions of niacin and B-complex tablets have been purchased by Médecins sans Frontières, France, Save the Children Fund, UK and UNHCR, and an overall prophylactic supplementation programme has been initiated. Likewise all three organizations have purchased more than 3000 MT of groundnuts, and distribution commenced in August 1990 to affected populations.

For *long-term* solutions, Save the Children Fund will be donating fortification equipment and funding the necessary expertise to locally fortify maize meal with B-vitamins, which the Government of Malawi, UNHCR and WFP will support as an ongoing preventive measure.

(Source: A. Berry-Koch, Nutritionist, Programme and Technical Support Section, UNHCR, Geneva. November, 1990)

## UNU

### International Food Intake Directory (INFID)

The United Nations University (UNU) is continuing to compile a directory of dietary intake data from developing countries which also have disease-specific morbidity and mortality data. The compilations are intended to facilitate epidemiological analysis of the relationship between diet and chronic diseases. They should prove useful to professionals within the country for the analysis of dietary trends and the development of dietary guidelines and other educational materials.

This project is designated INFID, to stand for International Food Intake Directory. More data exist than can be obtained by computerized literature searches or abstract journals. For instance, data published in local journals, reports of government ministries, or information which simply has never been published at all cannot be traced in these ways. Lack of awareness or access to these data is a serious handicap to epidemiological analysis as well as national nutrition and food policy formulation. Any institution or individual prepared to take responsibility within a country for collaborating in this effort should contact Dr. Nevin S. Scrimshaw, Director, UNU International Food and Nutrition Programme, Harvard Centre for population Studies, 9 Bow St. Cambridge, MA 02138, USA.

\* \* \*

### Rapid Assessment Procedures (RAP) for Nutrition and Health Related Programmes

The rapid Assessment Procedure (RAP) guidelines have been widely adapted for use in planning, evaluating, or improving a wide variety of programmes including nutrition and primary health care, community health needs, water improvement projects, diarrhoeal disease, respiratory infections, leprosy, epilepsy, immunization, nutrition surveillance, food aid, food supplementation, AIDS related behaviour, dietary habits of the elderly, motherhood practices, and emergency relief. The experiences in the broad use of this methodology were reported and discussed at a conference at PAHO Headquarters in Washington, DC, USA, November 12-15, 1990, convened by UNU in cooperation with UNICEF, WHO, IDRC, and several voluntary agencies. The proceedings of this conference should be available in 1991 from the UNU, International Food, Nutrition and Development Programme, 9 Bow Street, Cambridge, MA, 02138 USA.

The publication "Rapid Assessment Procedures for Nutrition and Primary Health Care; Anthropological Approaches to Improving Programme Effectiveness" by Susan C.M. Scrimshaw and Elena Hurtado in English is now in its second printing and is available from the Latin American Centre, University of California, Los Angeles, CA, 90024-1447 USA for \$8.95 plus postage. Editions in Spanish, French and Portuguese are now also available for the same price. A 16 minute descriptive video in either PAL or VHS, can be obtained from Dr. N. S. Scrimshaw, Director, UNU (address as cited above) for \$10 plus postage.

RAP Training Workshops were held in Portuguese in Sao Paulo, Brazil from 20 to 29 August 1990 and in English in Nairobi, Kenya in September, 17-22, 1990, which focused on the study of AIDS-related behaviour.

A workshop was held in Cairo, Egypt, October 13–17, 1990, funded by the Ford Foundation, on family planning included a training unit on RAP.

Training Workshops in French are planned for Brazzaville, Congo, and Bobo–Dioulasso, Burkina Faso in early March 1991. Anyone interested in participating should contact either Dr. Jean–Claude Dillon, Institute National Agronomique, Paris–Grignon 78850, Thiverval–Grignon, France, or the local UNICEF Office in their country.

A Training Workshop in Spanish is being planned for Santiago, Chile, in the second quarter of 1991. Interested individuals should contact either Dr. Nevin S. Scrimshaw (at address quoted below) or the local UNICEF Office in their country.

(Source: Dr. N.S. Scrimshaw, Food, Nutrition and Human Development Programme, Harvard Centre for Population Studies. Nine Bow St, Cambridge, MA 02138, USA. Fax: 617–495 54418)

## UN System

### Action at International Level

The World Summit for Children, held from 29 to 30 September, 1990 in New York, released a World Declaration on the Survival, Protection and Development of Children and a Plan of Action for its implementation. This was signed and adopted by over 70 Heads of States plus senior Ministers of 80 others. Concerted national and international co–operation will be required for effective implementation of this Declaration. Action at the community and national levels is of critical importance in meeting the goals and aspirations for children and development. However, many developing countries, particularly the least developed and the most indebted ones, will need substantial *international co–operation* to enable them to participate effectively in the world–wide effort for child survival, protection and development. Accordingly, the following specific actions are proposed to create an enabling international environment for the implementation of this plan of action.

(i) All international development agencies – multilateral, bilateral and non–governmental – are urged to examine how they can contribute to the achievement of the goals and strategies enunciated in the Declaration and this Plan of Action as part of more general attention to human development in the 1990s. They are requested to report their plans and programmes to their respective governing bodies before the end of 1991 and periodically thereafter;

(ii) All regional institutions, including regional political and economic organizations, are requested to include consideration of the Declaration and this Plan of Action on the agenda of their meetings, including at the highest political level, with a view to developing agreements for mutual collaboration for implementation and ongoing monitoring;

(iii) Full co–operation and collaboration of all relevant United Nations agencies and organs as well as other international institutions are requested in ensuring the achievement of the goals and objectives of the national plans envisaged in the World Summit Declaration and Plan of Action. The governing bodies of all concerned agencies are requested to ensure that within their mandates the fullest possible support is given by these agencies for the achievement of these goals;

(iv) The assistance of the United Nations is requested to institute appropriate mechanisms for monitoring the implementation of this Plan of Action, using existing expertise of the relevant United Nations statistical offices, the specialized agencies, UNICEF and other United Nations organs. Furthermore, the Secretary–General of the United Nations is requested to arrange for a mid–decade review, at all appropriate levels, of the progress being made towards implementing the commitments of the Declaration and Plan of Action;

(v) As the world's lead agency for children, the United Nations Children's Fund is requested to prepare, in close collaboration with the relevant specialized agencies and other United Nations organs, a consolidated analysis of the plans and actions undertaken by individual countries and the international community in support of the child–related development goals for the 1990s. The governing bodies of the relevant specialized agencies and United Nations organs are requested to include a periodic review of the implementation of the Declaration

and this Plan of Action at their regular sessions and to keep the General Assembly of the United Nations, through the Economic and Social Council, fully informed of progress to date and additional action required during the decade ahead.

The goals enunciated in the Declaration and this Plan of Action (see box in “News & Views”) are ambitious and the commitments required to implement them will demand consistent and extraordinary effort on the part of all concerned. Fortunately, the necessary knowledge and techniques for reaching most goals already exist. The financial resources required are modest in relation to the great achievements that beckon. And the most essential factor – the provision to families of the information and services necessary to protect their children – is now within reach in every country and for virtually every community. There is no cause which merits a higher priority than the protection and development of children, on whom the survival, stability and advancement of all nations – and, indeed, of human civilization – depends. Full implementation of the Declaration and this Plan of Action must therefore be accorded a high priority for national action and international co-operation.

(Source: World Declaration and Plan of Action on the Survival, Protection and Development of Children, United Nations, New York, 30 September 1990)

## **USAID**

### **Child Survival in Developing Countries**

Since 1985, the United States Agency for International Development (USAID) has joined a global push to improve the prospects for survival for the children of the developing world by dramatically expanding its efforts in this direction. The focus of the programme has been on inexpensive yet effective technologies to improve infant and child health, such as immunization; oral rehydration therapy; reducing high risk births, respiratory infections and other diseases; breastfeeding promotion and combatting malnutrition. USAID has long recognized the importance of improved nutrition to reduce infant and child morbidity and mortality, and has long supported agriculture and other programmes aimed at improving overall availability of foods, and nutritional status. Efforts have mainly been focussed to breastfeeding promotion; improved infant and child feeding practices; growth monitoring and promotion; vitamin A and other interventions to address major micronutrient deficiencies; as well as supplemental feeding of young children, pregnant and lactating mothers in order to reach those at greatest risk.

From 1985 to 1989, a total of US\$848 million from various funding accounts has supported child survival efforts in over 60 countries. According to Dr. N.W. Jerome, the Director of the Office of Nutrition, USAID, “...USAID provided more than \$200 million for activities directed to enhance the prospects for the health and nutrition of young in 60 countries around the world” in 1989 alone. The Fifth Report to Congress on the USAID Child Survival Programme states that in 1989, 15% of the funds supported nutrition activities, including promotion of breastfeeding and improved weaning practices, growth monitoring and vitamin A activities.

In 1989, 127 USAID-assisted projects in 40 countries reported some activity supporting proper weaning and child feeding practices. The Dietary Management of Diarrhoea project also addresses proper feeding to be continued during this critical period. A new vitamin A field support project has been initiated in 1989. Currently vitamin A activities are under way in 24 countries through 64 projects. USAID has also supported activities in several countries to combat iron and iodine deficiencies. Research projects have provided valuable data on the epidemiology of risk factors associated with respiratory infections in 12 countries with the Agency’s support.

USAID is committed to continuing its contribution to child survival programmes in order to promote the health and survival of the children in developing countries.

(Source: Child Survival, A Fifth Report to Congress on the USAID Program. USAID, Washington, D.C. 1990)

\* \* \*

### **SUSTAIN in the Service of Food Industry**

SUSTAIN (Sharing United States Technology to Aid in the Improvement of Nutrition) is a US private food industry initiative with the aim of upgrading the food processing industries in developing countries. Sponsored by USAID, this project utilizes the scientific knowledge and technical expertise of the U.S. food industry to

solve food processing problems in developing countries with the goal of improving the quality, safety and nutritional value of locally grown and processed foods as well as increasing the quantity and affordability of these foods.

SUSTAIN has demonstrated that the U.S. private food industry is willing and able to share its expertise with the agribusiness community in developing countries. Its success has in fact reinforced the commitment of the Office of Nutrition to the growth of local food industries as a means of combatting hunger and malnutrition and promoting development.

The way in which the programme works is described in the SUSTAIN flyer as follows:

“A.I.D. missions and trade associations in developing countries publicize SUSTAIN’s goals and activities. Executives of U S companies with technical expertise and overall knowledge of the food industry serve as the SUSTAIN Board of Directors providing guidance and overseeing activities.

“Food related companies in developing countries submit their request to SUSTAIN either through the A.I.D. mission or a designated organization in their country. If no liaison has been established within a country requests may be sent directly to SUSTAIN or to A.I.D.’s Office of Nutrition. In practice, the company making the request prepares a clear and concise description of its problems. SUSTAIN then identifies an appropriate US company which has the required expertise to respond. SUSTAIN and the US company decide whether available information can solve the problem, or if a consultant should be sent. Information is provided at no cost. If a consultant is sent, the US companies responding to the request will provide the person to undertake the assignment. The consultant’s salary will continue to be paid by the company. SUSTAIN will provide international travel, brief the consultant etc. The local company will arrange and provide accommodation, per diem, and any in–country travel in local currency.

“Requests are diverse. Help may be needed to solve processing problems, to identify equipment needs and sources of new and used equipment, to train personnel in the use of equipment and new technologies, to find new uses for indigenous commodities, to establish or improve quality assurance procedures, to control insects and rodents in food processing plants, and to improve plant layout and materials handling.”

So far 165 requests for technical assistance have been received from companies and organizations in 26 countries.

For more information please contact: The Manager, SUSTAIN, National Cooperative Business Association, 1401 New York Avenue, N.W.; Suite 1100, Washington, D.C. 20005–2160. USA

(Source: SUSTAIN, 1989 Annual Report. USAID Flyer)

\* \* \*

### **Breastfeeding Strategy Within USAID**

A “Breastfeeding for Child Survival Strategy” has recently been developed to guide expansion of the USAID’s activities related to breastfeeding promotion. The strategy seeks to foster breastfeeding by creating an environment of awareness and support for those women who choose to breastfeed their babies. The more specific goal of this strategy is to increase the percentage of infants who are i) breastfed within one hour of birth; ii) exclusively breastfed from birth through 4–6 months of age; iii) fed appropriate complementary foods in addition to breast milk by the end of sixth month; and iv) breastfed for one year or longer.

The breastfeeding component of existing programmes, including those to enhance child survival (see above), will be significantly strengthened to carry out the activities related to this strategy. Centrally funded projects that disseminate information and provide technical assistance and training on breastfeeding practices will also be used to achieve the goal of this strategy. USAID missions are encouraged to develop country–specific strategies and programmes. Based on an examination of USAID’s experience over the past decade as well as an analysis of potentially fruitful new directions the following approaches will receive priority attention.

- i) Enhanced dialogue with policy makers – USAID will intensify its search for more opportunities to involve national leaders and policy makers in promoting breastfeeding.
- ii) Increased international collaboration with WHO, UNICEF and other agencies.

- iii) Further quantification of economic and health benefits from breast-feeding – a comprehensive review of current research on the costs and savings of breastfeeding in the developing world to estimate breastfeeding's economic value under various settings.
- iv) Training of health care professionals and associated reform of hospital procedures as one of the most tested and cost-effective ways to encourage appropriate breast-feeding practices throughout the health care system will be highlighted.
- v) Community-based activities that emphasize primary health care, training of traditional health providers and community self-help will be strengthened in order to reach those who do not have regular contact with a formal health care system.
- vi) Maternal nutrition – USAID will support maternal health and nutrition, partly through its new MotherCare Project, for promotion of successful breastfeeding.

(Source: Breastfeeding: A Report on A.I.D. Programs. May 1990. USAID, Washington. D.C. 20523)

\* \* \*

### **Vitamin A Field Support Project (VITAL)**

The VITAL project was established by USAID to provide technical support to its missions, bureaus, offices and host country institutions and individuals to address two overriding objectives of the Science and Technology Office of Nutrition's Vitamin A for Health Project: i) assess the prevalence of vitamin A deficiency among young children of the developing world; and ii) develop and implement viable cost-effective programmes to overcome the problem.

The VITAL project provides valuable information resources to those working in the area of vitamin A, as part of its information gathering and dissemination strategy. These resources include a database of consultants with expertise in a broad spectrum of appropriate fields, including nutrition, programme design, implementation and management, evaluation and data analysis, vitamin A interventions, education and medicine. A Vitamin A library is being created focussing on programmatic materials, including reports on vitamin A intervention strategies, such as supplementation, fortification, home and community gardening and social marketing/education.

More information from Robert Pratt, Project Director, Vitamin A Field Support Project, 1601 North Kent Street, Suite 1016, Arlington, VA 22209. Tel: (703)8410652. Fax: (703) 841-1597.

(Source: VITAL NEWS, Vol. 1 No. 1, Spring 1990)

## **WFC**

### **Policies and Programmes to Reduce Global Hunger and Malnutrition – Cairo Declaration**

The sixteenth session of the World Food Council (WFC) was held in Bangkok, Thailand from 21 to 24 May 1990. The session reviewed the progress made in the implementation of the Cairo Declaration, which was adopted by WFC at its fifteenth ministerial session in 1989. The session also discussed new steps for pragmatic action to meet the growing challenges to fight hunger and malnutrition in the 1990s. At Cairo, the Council members had agreed to make every effort to achieve, in the 1990s, four broad hunger-alleviation goals:

- i) the elimination of starvation and death caused by famine;
- ii) a substantial reduction of malnutrition and mortality among young children;
- iii) a tangible reduction in chronic hunger; and
- iv) the elimination of major nutritional-deficiency diseases.

The policy review suggests that most countries have yet to set specific goals and targets in these four areas. The Council members called on them to do so urgently.

By adopting the Cairo Declaration, the member nations of the WFC committed themselves to put into place effective policies and programmes to reduce hunger and malnutrition in their countries and at the global level.

As a step in that direction, policies were evaluated, and the findings of regional consultation reviews held in San Jose, Cairo, Bangkok and Paris between December 1989 and March 1990 were noted. The results from these consultations revealed a growing convergence in the perception of policy priorities among countries. There is now greater concern to make the improvement of the human condition a central objective of development, as stressed at WFC sessions at Beijing and Nicosia in 1987 and 1988.

To seize the historic opportunity that seems to be provided in 1990s, the members of the WFC agreed to work together towards the common objective with an increased sense of urgency and have identified practical steps to ensure that this decade's opportunity will not be lost.

Given the growing convergence of perceptions of objectives and the means to meet them, the Council members can now move towards accelerated and more effective collaboration among themselves and with all interested countries to implement identified priority activities within the Cairo Declaration's policy framework for the 1990s. In doing so, continuing support of multilateral agencies and non-governmental organizations is also required.

(Source: Report of the World Food Council on the work of its sixteenth session, 21–24 Supplement No. 19. United Nations, New York)

## **WFP**

### **WFP Participation in Global Initiative on Breastfeeding**

During the last ten years, there has been an increase in scientific evidence confirming the crucial importance of breastfeeding, particularly exclusive breastfeeding. Medical experts recognize that the most suitable food for all infants is breastmilk and that breast-feeding can continue for as long as mother and young child wish.

WFP can be a participant in initiatives supporting breastfeeding for the 1990s (see "Innocenti Declaration" in News and Views). Food aided projects can be instrumental in promoting breastfeeding. Food aid organizations such as WFP have policies and guidelines regarding the use of milk products in their projects (see also News and Views). WFP recommends strict adherence to these guidelines. Some of the recommendations in this context are the following.

- Breastmilk substitutes are not to be recommended for children under six months of age.
- Food aided supplementary feeding projects should not interfere with exclusive breastfeeding. Only children over six months of age are to be targeted to consume weaning foods, which have to be culturally and physiologically appropriate. Whenever possible, growth monitoring and nutrition education should accompany child health projects.
- Pregnant and lactating women benefit from supplementary feeding, as it results in increased birth weight, builds up resources for lactation, and supports the mother while nursing. Food aid commodities can be efficiently programmed for supplementary feeding.
- Most poor women in developing countries work in the informal sector, without any maternity benefits. These women cannot forego an income while nursing. Food aid can function as an income transfer to compensate women for the opportunity cost of breastfeeding.
- Health professionals as well as mothers in many countries may have to be motivated to participate in breastfeeding. Food aid can be used to improve both attendance and the quality of services at primary health care centers that emphasize breast-feeding.
- Many food-for-work projects employ women who are nursing mothers. They need facilities (e.g. shelter and supervision for the infants), as well as time to continue breastfeeding. Food aid resources can be used to provide the necessary conditions and encouragement for women who are breastfeeding (e.g. through the use of food or generated funds for shelter and supervision and to compensate for time spent nursing).

(Source: World Food Programme, August 1990)

## **WHO**



## WHO Collaborating Centres for Nutrition

As part of an inter-institutional collaborative network, WHO Collaborating Centres are formed with the aim of supporting regional or global resources in terms of services, information, research and training in order to improve human health and wellbeing.

The collaborating centres for nutrition are the following.

- WHO Collaborating Centre for Research and Training in Nutritional Immunology for Health Promotion, St. Johns, Canada; (to conduct collaborative research in the general area of nutrition and immunocompetence). Prof. Ranjit K. Chandra, Division of Paediatric Immunology and Immunology Laboratory, Janeway Child Health Centre, Memorial University of Newfoundland, St. Johns.
- Danish Catering Centre, National Food Agency, Soborg, Denmark; (advocacy of the importance of mass catering in nutrition policy implementation) Dr Orla Zinck.
- Institute of Social Medicine and Epidemiology of the Federal Health Office, Berlin, Germany; (focal point and reference centre for nutritional epidemiology problems). Dr Lenore Arab-Kohlmeier, Department of Epidemiology of Health Risks (DDI).
- Department of Nutrition and Biochemistry, Athens School of Public Health, Athens, Greece; (dietary surveillance: the application of simple technologies to get information about dietary patterns and their relationship to dietary requirements). Professor T Thomaidis.
- WHO Collaborating Centre for Identification, Development and Propagation of Methods for Control of Nutritional Blindness and Anaemia, Bogor, Indonesia; (to collaborate in the development of surveillance system and measures for the control of nutritional blindness and anaemia). Dr Darwin Karyadi, Nutrition Research and Development Centre, Bogor, Indonesia.
- Istituto Nazionale della Nutrizione, Rome, Italy; (focal point for research on nutrition in the elderly). Professor Anna Ferro-Luzzi, Unit of Human Nutrition.
- Department of Human Nutrition, Agricultural University, Wageningen, the Netherlands; (to work towards the improvement of the standard of advanced training in nutrition in Europe and selected countries in other regions; a research component will be part of this programme). Professor J G A J Hautvast.
- Institute for Nutrition Research, University of Oslo, Norway; (to test new approaches to nutrition education in accordance with WHO methodology problem based learning; community based education), Dr Wenche B Eide.
- National Food and Nutrition Institute, Warszawa, Poland; (study of nutrition policy formulation and implementation in Poland, and Central and Eastern Europe). Professor Wiktor B Szostak.
- Institute of Regional Problems of Nutrition of USSR, Academy of Medical Sciences, Alma-Ata, USSR; (development of methodology for determining nutritional needs and assessing the nutritional status of individuals under different environmental and physiological conditions. Interchange of experiences on the above and related subjects with other interested institutions and workers). Professor T S Sharmanov.

WHO intends to strengthen its network of collaborating centres world wide in order to respond to the needs in nutrition research and higher training in food and nutrition particularly in relation to health.

(Source and for more information please contact Dr. E. Helsing, WHO Regional Office for Europe, Copenhagen; or Dr. D. Benbouzid, Nutrition Unit, WHO Headquarters, Avenue Appia, 1211 Geneva 27, Switzerland).

## The World Bank

### Operations in Nutrition

Support to nutrition projects and operations continues as one of the World Bank's recently intensified activities. Some current examples are the following.

A \$100 million loan proposed to help finance the *Venezuela* Social Development and Nutrition Project is probably the best example the Bank has to date of "adjustment with a human face". In this project substantial resources that had been inefficiently used for generalized subsidies will be transferred to targeted nutrition programmes. Among other things, nutrition grants will be provided for school children, nutrition supplements and growth monitoring through health facilities. Moreover, a community pre-school day care programme with nutrition and social stimulation will be included in the project to free mothers to pursue additional opportunities for employment which will subsequently benefit household nutrition.

In *Mexico* help is provided in designing, implementing and evaluating a pilot nutrition project, together with enforcing the capacity of institutions responsible for nutrition. Development of nutrition programmes and projects for financing by domestic and external agencies will also be supported. This \$17 million project is the Bank's first Nutrition Technical Assistance Loan, and would run parallel to a new Agriculture Sector Adjustment Loan, which includes development of a food consumption and nutrition strategy. Also an earlier reported Basic Health Care Project, containing considerable nutrition delivery through the Mexican health system has been negotiated.

An Economic and Social Fund credit with nutrition as one of the largest areas of attention is under consideration for *Haiti*. The project would provide food supplementation through day-care centres and NGO health posts. Nutrition support is planned for *Argentina*, *Ecuador* and *Honduras*, among the other Latin American countries, while in *Brazil* nutrition sector work is near completion.

A new project featuring nutrition is proposed for *Morocco*, to the value of \$20 million. This is expected to include both employment training fund and support for the implementation of better food and nutrition programmes.

A \$50 million loan is under consideration in order to finance a nutrition project for *Pakistan*. In addition, growth monitoring and nutrition education will be part of a Family Health Project in Sind and Frontier Provinces.

In *Egypt* an earlier planned Social Fund Project, with a sizable nutrition component, had to be transferred to stress an emergency employment programme for returnees from the Gulf area.

The World Bank is becoming involved with nutrition-related issues in East European countries e.g. *Poland* and *Hungary*, as well as in *the Soviet Union*. In Hungary a nutrition education component may be included in a Bank-financed health project.

Preparations are under way for nutrition projects in the *Philippines*, *India*, *Sri Lanka*, *Indonesia* and *Malaysia*. The project planned for Malaysia will help to improve food safety, as there is increasing dependence on processed foods while food quality safeguards have not caught up with the marked change in eating habits.

A \$5 million nutrition component is included in a new *Zimbabwe* Health Project proposal. As a part of a new project for *Zaire*, \$2 million is allocated to fight iodine deficiency, among other nutrition activities. A \$1.3 million nutrition education component is included in a food security project for *Cameroon*. Nutrition support is also stressed in projects designed for *Burundi*, *Chad*, *Madagascar*, and *Togo*.

An Agriculture Adjustment Operation in *Kenya*, is an example of how nutrition issues are increasingly being built into these types of projects. A \$75 million credit is under negotiation, and the government is to complete a food security/nutrition strategy and adopt an action plan to pursue it.

In *Ghana*, nutrition support is provided to road workers, mostly women, in form of an on-site meal plus iron supplementation to increase their productivity and vitality. Nutrition education is provided to promote the use of their additional earned income in nutritionally beneficial ways. In *Malawi*, community-based activities like growth monitoring combined with nutrition education will be undertaken in some 2000 villages. Upon careful evaluation of such nutrition-related community activities, it is hoped to launch a nationwide programme in the country. The relationship of nutrition to AIDS is included in a study the Bank is undertaking in *Uganda*. And in *Ethiopia*, a recent food security mission has given recommendations on the ways to achieve self-targeting, to abolish subsidies on foods used mainly by the higher income households in order to produce more of a composite flour (a mixture of maize and wheat) for the benefit of the lower income groups. Getting greater efficiencies in the marketing chain, particularly reduced cost of handling and processing are among other points emphasized by the mission.

(Source: The World Bank, November 1990)

\* \* \*

Materials for Programme News were assembled and edited by M. Lotfi.

## PUBLICATIONS

### “Conducting Small-Scale Nutrition Surveys a Field Manual”

by Food Policy and Nutrition Division, FAO Rome 1990



Consistent with its objective to promote the integration of nutrition considerations into agriculture and rural development projects, FAO recently published a manual for conducting small scale nutrition surveys. The dearth of practical and user friendly nutrition survey manuals makes the publication of this FAO manual a most welcome development particularly for field planners, nutritionists and nutrition advocates. The main appeal of the manual is perhaps its style which is written in non-technical language (despite the rather technical nature of the topic), thus making it accessible for easy use in the field even by those with no experience in household surveys.

The manual provides clear definitions with respect to the recommendations on planning of the survey, the selection of survey content and variables that are likely to be important, preparation of the questionnaire, the collection, processing and presentation of results. The examples drawn to illustrate specific cases or problem areas reflect the experience of those involved in the preparation of this manual in a variety of country situations. FAO devoted considerable resources towards field testing the methods in six countries and the experience from these case studies provided insights into actual survey situations in real project settings.

Technological advances in the use of personal computers for processing surveys, are perhaps under-emphasized in this manual. Towards the end of the decade of the 80's countries in the developing world have increasingly relied on personal computers to handle the processing of information. If an analyst decides to include food consumption data in the survey, the size of data that will be analyzed cannot be handled efficiently without access to computer. One practical reason for a speedy turn-around time is that the results must be communicated to project planners at an early stage of the planning cycle. It is quite safe to say that in the 90's most of the users of this manual, who are likely to be government programme planners and nutritionists in the ministries of agriculture, health, or planning, will have access to personal computers in their departments; and therefore, it would do well for the users to address the format of the questionnaires with computerization in mind.

This manual is most useful where it is used in the conduct of project specific nutrition surveys which are designed as input into the preparation of agricultural and rural development projects. Results from these surveys are intended to promote immediate action on the part of planners with respect to nutrition implication of alternative project designs. The manual is also useful reference for other kinds of nutrition surveys with the

inclusion of discussion of the basic survey principles and techniques.

Competing hypotheses of the likely impact of an agricultural project on nutrition will dictate the choice of survey content. The manual may err on the side of over-simplification. The analysis of food consumption and nutritional status cannot be easily reduced to simply comparing the nutritional status of target groups versus non-target groups, or of the 'nutritionally disadvantaged' versus those 'not nutritionally disadvantaged' groups. The field related to the commercialization of agriculture, for example, which is one of the main bulwarks of agricultural and rural development projects involves an understanding of changes in household allocation of resources and time resulting from external projects which ultimately impinge upon the nutrition of the vulnerable members within the household. Therefore the limitations as well as advantages of the type of data collection and analysis put forward in this manual should probably be recognized.

The manual should find wide use for those planning nutrition surveys in the field, and is a most useful contribution to practical efforts to provide relevant information for planning purposes.

Marito Garcia

### **“Children and the Environment”**

A joint UNICEF/UNEP publication (1990), 73p.

The 1990s will be the decade of most children. It should also be the decade when environmental sustainability becomes a necessary integral part of future development strategies, rather than the latest rhetoric. Accelerating population growth rates in many countries now coincide with the adverse environmental consequences of years of social sector cut-backs due to debt and short-term adjustments. Linkages between population growth, child welfare and the environment can result in virtuous cycles or vicious ones, depending on the choices made now.

This short book describes these linkages and sets out some challenges for the future. As Julius Nyerere said “The most powerful contraceptive is the knowledge that your children will survive”. Once infant mortality rates begin to fall, and the nutritional well-being of children improves, population growth will stabilise; numerous examples bear this out. Concerted efforts to expand the outreach and improve the quality of health care systems may result in improved child survival rates and reduced fertility. Sustainability brings children to the forefront of development and highlights the need for “inter-generational equity”. On this a recent UNU study has proposed three basic principles, which are worth quoting here:

- each generation must conserve the diversity of the natural and cultural resource base, so that it does not unduly restrict future generations' options. Each generation is entitled to diversity comparable to past generations;
- each generation must maintain the quality of the planet so that it is passed on in no worse condition than it was received. Each is entitled to inherit an Earth comparable to the Earth which sustained its forebears;
- each generation should provide its members with equal rights of access to the legacy from past generations<sup>1</sup>

<sup>1</sup> Weiss, E.B. (1989) *In Fairness to Future Generations*. UNU, Tokyo.

The Convention on the Rights of the Child of 1989 may provide a framework to monitor the adoption of such principles. Although linkages between children and the environment are not made explicit in the treaty, some of its provisions cannot be implemented without paying attention to the environment as an important determinant of child welfare.

The second chapter tracks the different environmental threats to a child's health throughout its growth, from the womb to adolescence. Before birth, the foetus is susceptible to a variety of pollutants, whether industrial, agricultural, or those chosen by the mother e.g. alcohol or tobacco. AIDS is a new threat. Perinatal transmission of HIV is placing a tremendous strain on the health care facilities of many poor African countries. After birth, the child may be protected to some degree by the mother's breast milk, but becomes increasingly at risk from the malnutrition-infection complex as complementary foods become necessary. Respiratory

diseases may be precipitated by indoor and outdoor pollution. In cities, atmospheric lead concentrations can adversely affect intelligence and behaviour even before clinical symptoms are manifested. Young children are a readily exploitable and cheap labour force in many poor countries; often subject to a wide variety of pollutants in the work environment. Street children and those at war are at particular risk.

Child development and environmental protection are emphasised throughout as being mutually inclusive goals, and overall development will need to build on these two platforms to ensure its sustainability. The 1989 Convention on the Rights of the Child and the forthcoming global conference on the environment in Brazil in 1992 are two crucial opportunities for bringing this thinking into the mainstream.

S.R.G.

### **“Food and Nutrition in the African Rain Forest”**

UNESCO

The rain forest covers the equatorial and tropical climatic zones of central Africa, from the Congo basin to Cameroon, including Gabon and the southern part of the Central African Republic. In this very complex environment, plant and animal species show a great deal of variation. As an outcome of this, feeding strategies among populations occupying these areas are as diverse. These are pleasantly shown and discussed in a recent English edition of *Food and Nutrition in the African Rain Forest*, published with financial backing of the French Ministry of Cooperation and Development under UNESCO sponsorship.

The information provided in this edition is based on selected data from the research team in food anthropology “*Anthropologie Alimentaire Differentielle*” (CNRS, Paris). In these studies before biological aspects of nutritional anthropology are investigated, a quantitative approach has been used by measuring both the natural and cultivated resources of foods, and by weighing actual food consumed in order to allow comparisons between and within studied populations. The study subjects were also interviewed on their food preferences. By combining the biological and anthropological aspects of food consumption and nutrition, using similar population samples, new insights are provided into interpretation and analysis of various feeding strategies of African forest people. Of special interest is the finding that even in the rain forest where food availability and production are assumed to be reliable and homogeneous, seasonal variations in diet appear to play a primary role. It is also emphasized that unlike some urban areas of the tropics protein deficiencies are not an important problem in this environment.

The book edited by C.M. Hladik, S. Bahuchet and I. de Garine and published in 1990, is formatted along the following topics. The rain forest and the hunter–gatherers; Cultivating the forest; Food processing and consumption; Physiological and biomedical aspects of food surveys; and Socio–cultural aspects of food and nutrition.

For more information and to order a copy at 60 French Francs (about US\$11), please contact the Librairie de l’UNESCO. 7, Place de Fontenoy. 75700 Paris.

M.L.

### **“Food Security in Developing Countries”**

IDS Bulletin (July 1990)  
Vol. 21, No. 3

While we have rarely reviewed journals as such in the past, this bulletin merits inclusion as it provides a useful collection of current views on food security issues and options, at a time when the concept is increasingly being utilised by governments and development agencies. It comprises nine papers presented at a workshop held in April 1989 at the Institute of Development Studies in Sussex, U.K. Following an overview, the bulletin is divided into two main sections. The first deals with themes in food security and includes case studies from Ethiopia, Sudan and Indonesia, following initial discussion of the relationship between nutrition and food security. The second section is devoted to agency views of the subject, those of the World Bank, European Community, Food and Agriculture Organisation, and the U.K.’s Overseas Development Administration. It thus makes explicit (for these organisations at least) what had hitherto been assumed as the meaning of “food security” – a fundamental step in removing the confusion that has surrounded the subject and one that paves

the way for realistic options for action.

In the opening paper, Simon Maxwell offers a definition of food security and outlines the scope of future policy. Five issues are highlighted as being particularly important for the 1990s: the meaning and measurement of food insecurity, structural reform of food systems, improved targeting in sub-Saharan Africa, the future of food aid and the strengthening of rural and urban safety nets. Philip Payne goes on to consider different indicators of malnutrition, their relation to food security concerns and their value and role in assessing overall food and health situations of populations.

Food security analysis and planning has in the past been bedeviled by excessive ideologising at the expense of pragmatism. The need for a more focused case-by-case approach is well demonstrated in the first section of the bulletin where the problems facing countries such as Ethiopia and Sudan are compared with those of Indonesia. The Ethiopian National Food and Nutrition Strategy aims to increase food production through a conservation-based strategy in the face of demographic and environmental pressures. In Darfur in Western Sudan, food security has been approached through the targeting of interventions geared to reducing vulnerability and sustaining livelihoods. This goes further than protecting current income and consumption levels, and can be made geographically specific, administratively self-targeting and supportive of community-based mechanisms. While food security planning has particular relevance and priority in these two countries, in Asia the twin goals of self-sufficiency in staple foods and their equitable distribution have been approached through price policies and selected market interventions. Indonesia's BULOG agency provides one example. It uses floor producer prices and ceiling consumer prices to buy or sell rice as required to stabilise prices. Recent problems with unstable prices, it is suggested, may be ironed out by permitting rice imports at the margin to balance the domestic market. Increased resources for rice R and D and improved efficacy of input use may also be necessary to maintain self-sufficiency. While these are all legitimate food security concerns, the nature, severity and magnitude of problems clearly differ between countries.

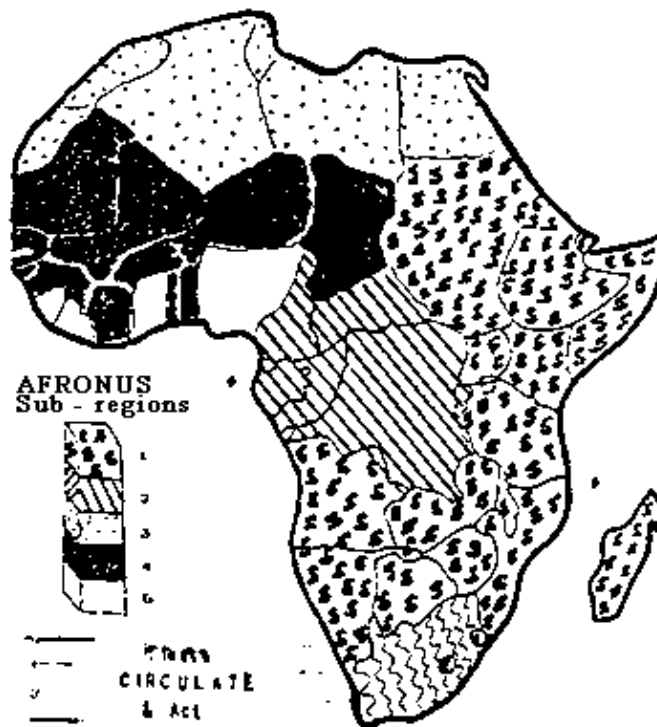
The final section reveals agency views on food insecurity and the type of actions to address it in developing countries. In the World Bank construct, elements of action plans include the macroeconomy, the microeconomy (households), food availability, food consumption and market intermediation. The strong relationship between food insecurity and poverty is emphasised by most agencies. The World Bank believes poverty can be mapped through defining the food insecure, while ODA locates food security concerns within a broader set of poverty issues. ODA stress the danger of donor resources being diverted from successful poverty-alleviation efforts to food security programmes if the problems are viewed as being separate. FAO considers practical aspects and proposes a methodology for formulating national food security programmes. Using a multi-criteria table as a basic tool for assessing projects, this approach addresses common issues, while allowing flexibility for determining specific policies in relation to a country's political, socio-economic and environmental conditions.

Taken as a whole, the bulletin is a valuable documentation of experiences with food security programmes in the 1980s. It highlights the range of possible interventions, offers elements of successful initiatives and illustrates well the nuts-and-bolts issues as they apply to several countries. This move from generality to specifics in particular is refreshing and should now be built on.

To obtain a copy please contact: The Institute of Development Studies, University of Sussex, Brighton BN1 9RE, United Kingdom.

S.R.G.

**African Council of Food and Nutrition Sciences (A.F.R.O.N.U.S.)**



Copyright © 1988, African Council of Food and Nutrition Sciences, Harare, Zimbabwe. All Rights Reserved. Printed in Zimbabwe.

**AFRICAN COUNCIL OF FOOD & NUTRITION SCIENCES – A.F.R.O.N.U.S.**

The first Report of the African Council of Food and Nutrition Sciences (A.F.R.O.N.U.S.) has been published following its formation by the Third Africa Food and Nutrition Congress, which was held in Zimbabwe from 5 to 8, September 1988. The Council – a continent-wide organization of workers in all areas of food and nutrition in every African country – aims at initiating and coordinating activities in the field of food and nutrition in Africa. This publication is the compilation of Special Committee Reports by the Secretary General, including Resolutions and Recommendations adopted at the Food and Nutrition Congress. Also included is information on food and nutrition policy and planning in Africa; training and workforce development for food and nutrition in Africa; a list of Food and Nutrition Training and Research Institutions in Africa, with Cooperating institutions from other regions; and a list of contact persons and institutions throughout the region.

The report of the African Council of Food and Nutrition Sciences is planned to be produced every four years following the Food and Nutrition Congress.

For more information please contact: Dr. T.N. Maletnlema, AFRONUS General Secretary WHO Subregion III, P.O. Box 5160, Harare, Zimbabwe. Tel: 728991; Telex: 6221 WHOSRO ZW.

M.L.

**“Community Nutrition Research. Making it Rapid, Responsive and Relevant.”**

Edited by Jenny Cervinkas and Richard H. Young. IDRC, Canada.

The International Development Research Center (IDRC) of Canada should be commended for having organized and sponsored a workshop on community nutrition research at the 14th International Congress on Nutrition, held in Seoul, Korea, August 1989. It has also produced a succinct and informative report including presentations and discussions on a rather new approach to research in nutrition and other social disciplines that is worth reading.

Increasingly, biological, social and operational scientists have become interested in community based nutrition research to obtain information useful for programme formulation, implementation, and evaluation. The methods used have been adapted from farming systems and natural resource management programmes; – Rapid Rural Appraisal (RRA); others are based on anthropological information collection techniques with different objectives, among them, identifying people’s behavior with reference to specific conditions – Rapid Assessment Procedures (RAP); still others, examine community health care programmes.

A common denominator is that these methods are essentially qualitative, rapid and can be considered complementary to quantitative, structured, surveys when appropriate. Furthermore, both RRA and RAP are research–action oriented and serve as the bases for active and informed community participation for the solution of food and nutrition local problems, and other social issues.

There is a clear need for more case–studies that will improve the methodologies, define better the people’s role, improve the health and nutritional status of mothers and children and ensure continuity and sustainability of actions and outcomes. The IDRC Report on Community Nutrition Research is a valuable contribution to reach these objectives.

A. Horwitz.

### **“Low Cost Farming in the Humid Tropics An Illustrated Handbook”**



This small and easy–to–follow handbook is written to encourage the economical ways of increasing food supplies through low cost farming. As cited in the introductory section of the book “this handbook describes and illustrates proven farming techniques that will minimize or eliminate dependence on costly purchased inputs”. The book, written by Paul Sommers – a UNICEF Project Officer – is designed to guide families with an approach to increasing their daily food availability with the lowest cost to their budgets. Although it has first been published in 1983, those looking for low–cost ways of increasing food availability – particularly at household levels – may still find the approach of this hand–book useful.

To order a copy contact: Island Publishing House, Inc. Sta. Mesa P.O. Box 406, Metro Manila, Philippines. Tel: 474744, Telex: 0126 MERCOING PN.

M.L.

### **“Garden to Kitchen Newsletter”**

This is a quarterly publication of the UNICEF Pacific Regional Family Food Production and Nutrition Project (See SCN News No. 5, p. 45). It is written for Pacific Island field workers involved in community–based activities “sing examples from practical experiences. The aim is to suggest simple, practical and low cost solutions to many farm problems and to encourage healthy and nutritious eating practices based on locally grown foods and productions for all family members. Although it is mostly circulated in the Pacific, limited copies can be distributed outside the Pacific on request. Write to Family Food Production and Nutrition Project, UNICEF Pacific Operations, c/o UNDP, Private Mail Bag, Suva. Fiji. Tel: 300–439. Telex: FJ 2227.

M.L.

### **“Intra–household Resource Allocation”**

UNU Information on household dynamics influencing nutrition and health under poverty and crises are provided in this publication. Such information is necessary in order to avoid negative consequences of development programmes while promoting their positive effects. Published by the United Nations University as Food and Nutrition Bulletin Supplement 15, the book is based on a workshop held in October 1983 on



“Methods of Measuring Intra–household Resource Allocation”. The workshop was funded by the United States Agency for International Development (USAID) that focused on the practical application of methodologies from the disciplines of anthropology, economics, and psychology to the analysis of household resource distribution issues.

The first paper in this document stresses the need to include intra–household issues in designing development programmes to avoid their unanticipated negative effects. The main body of the book is a three–part study. Part one sets the background and considers different conceptual approaches to the subject. In Part two methodological approaches to measurement of intra–household food and health related behaviour are discussed by analyzing various ways for collecting necessary information. The measurement of key variables such as how household members allocate resources including time and food and how they respond or adapt to external economic and social changes or interventions are included in Part three. One approach to incorporating intra–household issues into the design and evaluation of development programmes is given in a table form in an appendix to the book.

This document is edited by Beatrice Lorge Rogers and Nina P. Schlossman. It provides required information and guidelines – in an applied manner – for drawing up appropriate policies to reduce malnutrition prevalence and its effects on social and economic development.

To get more information and to order a copy please write to the United Nations University Press, Toho Seimei Building, 15–1 Shibuya 2–chome, Shibuya–ku, Tokyo 150, Japan. Telex: J25442

M.L.

### **“Infant Feeding The Physiological Basis”**

WHO

As a supplement to volume 67 (1989) of the Bulletin of the World Health Organization this book reviews the physiological development of infants during the prenatal period and first year of life, and the implications for complementary feeding. Knowledge of the physiological basis of child development is necessary for suitable feeding practices particularly because nutritional requirements are determined by the degree of functional maturity. The physiological basis and nutritional aspects of pregnancy and lactation are described in length. Of particular interest is description of those *very rare* circumstances in which the infants can not or should not be breast–fed. Other chapters deal with the recommended techniques for feeding and care for the low–birth–weight infant and effects of acute infection on the infant and child.

Two features of this publication to which many experts in this field have contributed make it particularly useful. Firstly that while it is published in English, a short French summary accompanies every chapter. Secondly is the addition of three annexes to the book. They include: check–list for evaluating the adequacy of support for breast–feeding in maternity hospitals, wards and clinics; studying the weaning process; and suggested further reading.

This supplementary edition of the WHO Bulletin published in 1990, is edited by James Akre, Technical Officer in the Nutrition Unit, Division of Family Health of WHO, Geneva. It would be useful for nutritionists, nurses and midwives as well as general practitioners, obstetricians and paediatricians and those in schools of public health.

To obtain a copy at SF 22.–contact WHO Distribution and Sales, 1211 Geneva 27, Switzerland.

M.L.

### **“Crucial Elements of Successful Community Nutrition Programmes”**

USAID

The proceedings of the Fifth International Conference of the International Nutrition Planners Forum (INPF) on “Crucial Elements of Successful Community Nutrition Programmes” is published under the same title. The conference was held just before the 14th International Nutrition Congress in Seoul, Korea in August 1989. It was sponsored by the Office of Nutrition, Bureau for Science and Technology, U.S. Agency for International Development under the auspices of the INPF.

The proceedings briefly discuss six major programmes from Bolivia, Brazil, India, Indonesia, Tanzania and Thailand plus another 7 case–studies which were presented in this conference. It brings together in a summarized manner the main issues related to these successful experiences and identifies common characteristics that contributed to their overall positive impacts. The aim was to highlight the elements considered to be necessary to be built into the nutrition intervention programmes under various settings for successful outcomes.

This publication is available in both French and English languages from the United States Agency for International Development, Bureau for Science and Technology, Office of Nutrition, Washington, D.C. 20523.

M.L.

### **“Iodine Deficiency Disorders A Strategy for Control in the Eastern Mediterranean Region”**

A priority area in the nutrition strategy of Eastern Mediterranean Regional Office (EMRO) of the World Health Organization is iodine deficiency disorders control. A recently constituted Working Group for Control of Iodine Deficiency Disorders endorsed a Regional strategy for the period 1990–99, published as World Health Organization Eastern Mediterranean Region Office Technical Publication No. 16.

The main objective of the strategy is to reduce the prevalence of IDD in all countries of the EMR, by the year 2000. Efforts have already been taken to assess the extent and magnitude of the problem by compiling available prevalence data from the Member countries. The Regional Office has, in 1990, published the regional control strategy for IDD in the EMR. The publication, edited by Dr. Kalyan Bagchi of the Nutrition Unit at EMRO, contains a Summary of IDD prevalences in the area, the types of available technical assistance for IDD control, and plan of action for country and intercountry activities in the preparatory and expansion stages of the IDD control strategy.

The publication is recommended to be used in conjunction with its companion document, EMRO Technical Publication No. 12, in order to get a thorough view of the problem in its entirety.

To get a copy contact: Eastern Mediterranean Regional Office, World Health Organization, Alexandria, Egypt.

M.L.

### **“The Doubly–Labelled Water Method for Measuring Energy Expenditure. Technical recommendations for use in humans.”**

A consensus report by the International Dietary Energy Consultancy Group working group; Ed. A.M. Prentice. IAEA, Vienna, 1990, pp 301.

The doubly labelled water (DLW) method was first used to measure energy expenditure in humans in the early 1980s, when the increase in precision of the necessary instrumentation reduced the amount of DLW required per subject to an almost affordable level<sup>1</sup>. The method was rightly hailed as a major advance in the assessment of human energy expenditure, as it is safe, simple for the subject and provides information on energy expenditure under free–living (as opposed to laboratory) conditions for periods of 10–21 days. The results should therefore reflect normal energy requirements of individuals and populations more closely than results obtained by the traditional more intrusive or restrictive methods.

<sup>1</sup> around £260 per 50 kg subject in 1991.

It appeared to many people that the DLW method would supersede all other methods for assessing energy requirements.

In the late 1980s, however, it became clear that there were a large number of possible sources of error and technical pitfalls in the method. The IDECG working group was convened in 1988 to allow the principle users of the method at that time to openly discuss alternative approaches to the use of the technique and calculation of results, and to provide recommendations for optimum use of the technique.

The report comprises 13 chapters which are without exception clear and constructive. All aspects of the technique are covered, from procedures for giving DLW to subjects, collection and preparation of urine Or saliva samples, analytical methods and calculation procedures with worked examples. Areas of current uncertainty are highlighted and the advantages and disadvantages of different approaches are discussed. The

report also advises on notation, supporting information, and presentation of results for publication. Seldom has a complex method been made so accessible to potential new users, and any workers in this field would be well-advised to study this report in detail.

The question remains, however, of who can and should use the technique. The report gives estimates of the impact on the DLW technique of factors such as random analytical error, isotopic fractionation, diet composition (especially the carbohydrate: fat content and alcohol intake), weight gain (especially during fat deposition), weight loss, changes in energy expenditure and changes in the water source for food or drink. Each of these factors can be shown to produce errors of 5% or less under most conditions, but it is pointed out that the different errors may be additive and that they are likely to be greatest under extreme physiological conditions such as those seen in tropical climates, during rapid growth, during heavy physical activity or in clinical situations. Results obtained therefore need extremely careful treatment of samples and data.

The other remaining problem is the high cost of the DLW itself<sup>1</sup>, the analytical equipment<sup>2</sup>, and of the necessary skilled technical personnel and equipment maintenance. For these reasons the potential for DLW studies in the 1990s is unlikely to expand enormously, and a comprehensive set of estimates of energy requirements of different populations based on the results of this method remains a future hope rather than an imminent prospect.

<sup>2</sup> around £80,000–£10,000 in 1991.

G. McNeill  
Rowett Research Inst., Scotland

### **“Making Adjustment Work for the Poor: A Framework for Policy Reform in Africa.”**

Published by The World Bank, Washington, 1990.

The damage that certain adjustment policies have caused to the welfare (including health and nutrition) of poor groups, is by now well known, but exactly what type of adjustment can “work for the poor”? The Social Dimensions of Adjustment (SDA) Program in Africa of the World Bank have looked hard at this and produced this useful study. The role for nutrition-relevant actions within such policies has also been outlined.

In the face of macro imbalances caused by domestic demand exceeding supply, countries differ with respect to how long they can postpone adjustment and protect social expenditures. In Africa, the room for manoeuvre is particularly limited; money markets are shallow and creditworthiness consequently low. In such a situation, adjustment cannot be postponed for long, although its inevitability should not preclude the careful choice of policy tools.

The study shows how the effect of macroeconomic changes on household welfare needs to be understood through a consideration of “meso” linkages – essentially markets and infrastructure. Markets may be formal or informal, while infrastructure is both economic (e.g. roads, irrigation) and social (health and education services). Adjustment offers an opportunity, once such linkages are understood, to set poor households on upward “income escalators”. A standard international trade model can be used to predict meso effects of adjustment policy.

In Africa, a critical determinant is likely to be the *infrastructure*, the deterioration of which has markedly slowed beneficial price signals to poor producers. In addition to meso linkages, welfare outcomes will be partially determined by the behavioural responses of household members. At the micro level, building a model that successfully incorporates such decision-making, with its inherent inefficiencies (e.g. gender bias) is seen by the Bank as a fundamental challenge. Relevant information at all levels is crucial. This will include national accounts and monetary data (macro), market data (meso) and household-level data (micro) on production, consumption and individual nutritional and health outcomes.

What type of adjustment benefits the poor? Firstly, a set of core expenditures should be determined. These can be *economic* geared to improving income-earning potential (e.g. extension and credit services, irrigation) as well as *social* (e.g. targeted food subsidies, integrated nutrition and health interventions, improved supply of basic educational materials). Secondly, monetary targets should be set for lending to the poor, particularly poor women, preferably with group collateral. Thirdly, as many African households produce tradable goods e.g. food, price rises through currency devaluation hold potential, although imperfect meso-level functioning

of markets needs specific attention if such signals are to be transmitted to poor producers. Poor urban groups will also need protection through appropriately targeted food subsidies. A more labour-intensive growth pattern may be pursued through shifting output towards exports and efficient import substitution. While this is likely to affect wage levels and employment favourably in the medium and long-term, adverse interim effects will need to be ameliorated through the use of, for example, public works schemes. Nutrition-relevant interventions, whether interim or longer term, hold promise, provided they can be shown to be appropriate, feasible and cost-effective.

The study concludes by stating that while there are real possibilities for protective adjustment, there are no easy answers. Both the analytical and empirical challenges raised by the plethora of macro-meso-micro interactions are formidable. The study's intent was to provide a tool for assessing adjustment policy options and likely impacts which, bearing in mind qualifications, it has achieved. One major qualifier is the heterogeneity of Sub-Saharan Africa; such a tool will need refining for different countries. Nonetheless, its basic principle of identifying macro-meso interactions, then dealing with meso-micro effects remains valid.

S.R.G.

### **“Food and Health: Data Sources for Nutrition Policy-Making in Europe”**

World Health Organization Regional Publications, European Series No. 34, forthcoming.

This includes the following topics: use of a nutrition information system; nutrition information system and data quality requirements; health impact monitoring; food balance sheets; household budget surveys; dietary surveys and the use of the results; problems and pitfalls of food-to-nutrient conversion; database requirements for calculations from food balance sheet data and household budget surveys; comparison of dietary data from different sources: some examples; and use and misuse of dietary recommendations to evaluate food intake.

To get more details and to order a copy write to Nutrition Unit, World Health Organization, Scherfigsvej 8, DK-2100 Copenhagen, Denmark.

### **“The Initiation of National Nutrition Policies A comparative study of Norway and Greece”**

WHO, Europe

National nutrition policies are beginning to be developed in many European countries as rather new dimensions to national health policies. Nutrition patterns of communities, determined themselves by many different factors, can be influenced by such policies in the interest of health and well-being. How these policies can have the desired impact and what are the conditions for their optimum effectiveness, are illustrated in this study.

This book published in 1990 and written by Dr. Elizabeth Helsing, Regional Officer for Nutrition in WHO'S Regional Office for Europe, attempts to answer these and other questions by comparing the development of nutrition policy in two contrasting countries of Europe, Norway and Greece.

To order a copy at 96 Dutch Guilders (packing and postage extra), write to STYX-Publications, Postbus 1344, 9701 BH Groningen, The Netherlands.

M.L.

### **“Community Nutritional Assessment with Special Reference to Less Technically Developed Countries”**

By Derrick B Jelliffe and E F Patrice Jelliffe. Oxford Medical Publications, Oxford University Press, Oxford (1989). 633 p.

This textbook is the successor of the now-classic “The Assessment of the Nutritional Status of the Community” by D. Jelliffe (WHO, 1966). Its strength lies particularly in the coverage of clinical and anthropometric assessment. In fact, it applies as much to individual assessment – the authors show some scepticism of population-based methods, and indeed statistics themselves (“it is notable that the seventeenth century term for what is now called ‘statistics’ was ‘political arithmetick’”). The detailed and authoritative treatment of basic methods of measurement and diagnosis, as well as interpretation by, for example,

biological groups, will be an essential source of reference for many nutritionists, health workers, and others.

J.M.

### **“Manual of Epidemiology for District Health Management”**

Edited by J P Vaughan and R H Morrow. World Health Organization, Geneva. (1989). 198 p.

This manual has been extensively field tested, and the product looks well worth it. It lays out clearly, with straightforward text, clear graphics, instructions and tables, much of what is needed for collecting and interpreting simple epidemiological information (including analysis by hand – as the authors say, up to 300 cases can usefully be handled *without* microcomputers). Chapters cover the principles and processes from survey design to data use for district health planning.

J.M.

### **“Activity, Energy Expenditure and Energy Requirements of Infants and Children”**

Edited by Beat Schürch & Nevin S Scrimshaw. International Dietary Energy Consultancy Group. Proceedings of an IDECG Workshop held in Cambridge Massachusetts, USA, November 14–17, 1989.

From the introduction: “The first workshop of the International Dietary Energy Consultancy Group (IDECG) focused on the consequences of chronic energy deficiency for adult individuals and societies. It also recommended that IDECG give priority to the examination of all aspects of the relation between energy intake and physical activity in children. The second IDECG workshop was convened for this purpose – (and is the subject of this book).

“The Committee responsible for the 1985 FAO/WHO/UNU report on energy and protein requirements defined energy requirements for adults as “the amount needed to maintain health, growth, and an appropriate level of physical activity”. The Committee maintained that a definition of energy requirements makes sense only if one specifies “what for?”, i.e., an appropriate or desirable level of physical activity and energy expenditure for the particular population group under consideration.

“The 1985 Committee... concluded that the necessary information was not available to base recommendations for the energy requirements of infants and children on estimates of energy expenditure. Instead it continued to do so on the basis of information on energy intakes of infants and children growing normally.

“With the development of the doubly-labelled water method and renewed interest in energy metabolism, a considerable amount of new information on children’s activities and energy expenditure has become available since then. The Steering Committee of IDECG therefore thought that it would also be useful and timely to reexamine the energy requirements of infants and children from the perspective of socio-cultural influences on their energy expenditure. This led to a consideration of possible effects in the other direction, the impact of involuntary restriction of dietary intake on activity and other aspects of behaviour”.

This book includes 18 original papers, and discussion on the implications for measurement, recommended intakes, prevention and treatment of under- and over-nutrition, and research.

This publication is available free of charge from the Secretariat of **I/D/E/C/G**, c/o Nestle Foundation, P.O. Box 581, 1001 Lausanne, Switzerland.

### **“Register of Development Activities of the United Nations System 1988”**

Compiled by the Advisory Committee for the Coordination of Information Systems (ACCIS). 916 p.

The Register contains over 20,000 economic and social development activities current in 1988. Thirty four United Nations bodies and organizations provided project data which includes information on: reporting organization, activity identifier, project title, funding source, type of activity, executing agency, project years, and expenditure data. The activities are organized by country and development sector. The 1988 edition also includes a subject index for easy access to projects in specific countries.

The 1988 Register costs \$40 US and can be obtained from: United Nations Sales and Publications, U.N., New York, NY 10017, USA or from: United Nations Sales and Publications, U.N., Palais des Nations, 1211 Geneva 10, Switzerland. As of early January 1991, the 1989 Registry is also available at a cost of \$42 US.

P.Y.

### **“The Impact of Development Policies on Health. A review of the literature.”**

By D E Cooper Weil, A P Alicbusan, J F Wilson, M R Reich and D J Bradley. World Health Organisation, Geneva, 1990.

This book is just out, and we have not had time to review it (we will try for SCN News No. 7). It looks very useful, and describes itself thus.

“This publication reviews the literature on the links between health conditions and development policies in five sectors – macroeconomics, agriculture, industry, energy, and housing. It identifies the immediate and underlying causes of ill–health in each sector and pinpoints major gaps in existing studies. In so doing, it provides a basis for future studies to examine linkages across sectors, assess sectoral connections that heighten health risks, and identify important areas for policy intervention.”

Obtainable from WHO: Price: Sw.fr. 31.–. Price in developing countries: Sw.fr. 21.70.

J.M.

### **“Diet, nutrition, and the prevention of chronic diseases”**

Report of a WHO Study Group on Diet, Nutrition and Prevention of Non–communicable Diseases Technical Report Series, 797, World Health Organization, Geneva 1991, SwFr 26.–

The WHO Study Group met in Geneva from 6–13 March 1989. The task of the Study Group was “to provide recommendations that would help to prevent the chronic diseases that were related to the newly emerging dietary changes in developing countries, and to help in reducing the impact of these diseases in developed countries.”

The Report of the Study Group described and analyzed the dietary patterns and the changes of the nutritional and health situation of countries, evaluated the possible consequences of the “affluent” diet, and examined the relationship between diet and chronic diseases. The Study Group called attention to the importance of the national food and nutrition policies as an important tool for achieving population–based dietary changes.

The Report is organized into 8 chapters and contains 6 appendices. The first chapter gives the introduction and overview of the background and diet–related diseases, and population perspective. Chapter 2 documents the deficiency diseases and the changes of patterns of diseases in relation to changes in diet in the developing parts of the world. Chapter 3 summarizes the relationships between diet and chronic diseases including the risk of food contaminants, additives, biotoxins, mycotoxins in relation to chronic diseases. One of the most interesting and important parts of the report is the two next chapters dealing with the role of nutrients, and dietary energy in the development of specific chronic diseases, and assessing the relationship of particular foods and diets to certain diseases (alcohol, diets high in plant foods). On the basis of the preceding considerations of the relationship of diet to chronic diseases of the non–deficiency type the report summarizes “nutrient goals”.

These population nutrient goals practically are parts of national nutrition policy, and “represents the population average intake that is judged to be consistent with maintenance of health in a population. Health in the population is, in this context, marked by a low prevalence of diet–related diseases in the population”. The integrated approach of this report is followed by the explanation and derivation of population goals.

Chapter 6 gives background of the food and nutrition policy and experiences of promotion of health diets from some developed countries. The chapter 7 summarizes the conclusions and chapter 8 discusses the recommendations. Recommendations are made for action by WHO and by national governments to encourage the implementation of the food and nutrition policy.



Source: Navid Lotfi (from bubblegum wrapper).

## UNITED NATIONS – ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION

### (ACC/SCN)

The ACC/SCN is the focal point for harmonizing the policies and activities in nutrition of the United Nations system. The Administrative Committee on Coordination (ACC), which is comprised of the heads of the UN Agencies, recommended the establishment of the Subcommittee 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, World Bank, IFAD, ILO, UN, UNDP, UNEP, UNESCO, UNFPA, UNHCR, UNICEF, UNRISD, UNU, WFC, WFP and WHO. 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 topics 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. Ten-year programmes to address two major deficiencies, vitamin A and iodine, have been launched.

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. As decided by the Subcommittee, initiatives are taken to promote coordinated activities – inter-agency programmes, meetings, publications – aimed at reducing malnutrition, primarily in developing countries.

Printed in England by The Lavenham Press Ltd., Lavenham, Suffolk.

