SCN News, Number 07

Table of Contents

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UNITED NATIONS **NATIONS UNIES**

ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION

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

SUPPLEMENT
Some Options for Improving Nutrition in the 1990s

Reviewing experience of policies and programmes, and grouping nutrition issues, leads to identifying options as building blocks for future action. This brief results from the ACC/SCN's Ad Hoc Group Meeting on Policies to Alleviate Underconsumption and Malnutrition in Deprived Areas, London, November 1990.

Recent ACC/SCN publications

Managing Successful Nutrition Programmes (in press)

Report based on ACC/SCN workshop held at IUNS meeting in Korea, August 1989. Includes reports on 17 large–scale nutrition programmes, and summary of discussions on targeting, staff issues, community participation, management information systems, sustainability and replicability.

Controlling Iron Deficiency (available)

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.

Nutrition–relevant Actions (in press)

Book developed from the original background paper for the ACC/SCN ad hoc group meeting on nutrition policy held in London in November 1990. Proposes a framework for the analysis of policies and programmes affecting nutrition, before reviewing experiences during the 1980s in several countries, and moving on to consider options for improving nutrition in the 1990s. Complements and expands on Supplement to SCN News No. 7.

Nutrition and Population (due out 1992)

Report of the symposium on "Nutrition and Population" held at the 18th Session of the ACC/SCN in New York in February 1991. Includes papers on the linkages between family planning and nutrition programmes, reproductive stress and women's nutrition, and breastfeeding, fertility and population growth.

Copies of these publications can be obtained by writing to the ACC/SCN Secretariat. A charge of US$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
Phone: (41–22) 7910456

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

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

Only one issue of SCN News – this one, No. 7 – has been possible in 1991 due to funding constraints. We aim to resume two per year in 1992.

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

FEATURES

Refugees' Nutrition Crisis

Serious problems are experienced in meeting the nutritional needs of refugees. Why? Article draws on international symposium.

Their faces are familiar, but we seldom meet them. Refugees, trailing in endless lines, loaded with tatty bundles of remaining possessions, exhausted carrying bewildered children. We see them usually –in photos

and television pictures – as they become refugees, in crises like the Gulf. We lose sight of them soon, as attention shifts, and as they start their long stays in crowded camps. How long do they stay? They seem innumerable – do we realize that the total number of refugees if they were together would form a nation bigger than most of the countries in Africa? And much poorer than the poorest country in the world.

What happens to them? At their first introduction to us they obviously need water, food, shelter and medical help. Do we fully realize that many *continue* to starve, some beginning to get deficiency diseases, as they languish in camps neglected by world attention? Outbreaks of scurvy, beri–beri, pellagra, reminiscent of half a century ago and hardly seen since, have now actually reappeared as epidemics amongst refugee camp populations. The situation is a major failing of the world to cope – remembering that this continues *after* refugees have made it to some access to help; it happens in sight of refugee agencies, it happens while help could be at hand.

Why is there a nutritional crisis among refugees? Surely it should be possible to at least succour those who have made the perilous flight from war and drought seeking safety, food and shelter. Why? Increasing outrage among many with first hand experience of trying to organize relief – in voluntary agencies and the UN system, brought together by the Refugee Studies Programme in Oxford, UK – led to an international symposium entitled "Responding to the Nutrition Crisis Among Refugees: The Need for New Approaches" in March this year. This article draws on the report of the meeting and other recent articles (see sources and boxes).

At least 35 million people in the world have either fled their country as refugees, or been displaced internally due mainly to civil war. Of today's 15–20 million cross–border refugees, about 13 million are in Africa, southwest Asia and the Middle East, and their situation cannot be considered temporary. These numbers have at least doubled during the 1980s. The numbers themselves are not certain – that too is part of the problem.

If we include internally displaced people, the "refugee nation" of 30 to 40 million people would easily be the poorest in the world, ranking as a medium sized country. It has no natural resources, high population density, terrible health and nutrition, and little future – the prospects for development are grim.

Refugees suffer from the same type of diseases as other vulnerable groups in developing countries, only more so, being more vulnerable. Malnutrition, infectious disease and mental imbalances are some of the more common consequences of being uprooted. The main killers of refugees are measles and dehydration caused by diarrhoea – diarrhoea caused by infection with bacteria such as shigella, giardia, salmonella and amoeba – not cholera and typhoid. Underlying the risk of contracting these diseases is malnutrition. Refugees often receive food which is inadequate both in quantity and quality, and if this is prolonged, they not only starve but suffer from debilitating micro–nutrient deficiency diseases. Outbreaks of scurvy, pellagra, beri–beri and other deficiency diseases are now common. These are the symptoms of the nutritional crisis within refugees which not only persist but seems to be worsening.

The immediate cause of the nutritional crisis is simple and obvious. First, not enough food is getting to many refugees. Second, refugees may be largely dependent on the food provided by governments and donors, and be unable to use the diversity of foods that others do; the food rations provided may lack certain essential nutrients, so that after some time bodily reserves (often already low) are exhausted and deficiency diseases break out. Scurvy results from lack of fresh fruit and vegetables to provide vitamin C. Vitamin A deficiency has similar causes in lack of green leafy vegetables. Pellagra breaks out when the staple is maize – deficient in niacin – and the usual complementary sources such as ground nuts are unavailable. Beri–beri – a shadow of earlier times – comes with a polished rice diet lacking thiamine. Anaemia results from lack of iron, usually derived from animal products, and needing vitamin C for absorption. All these are easily prevented by a more diverse diet; and in some cases readily by fortification of rations.

STARVATION

Extract from Symposium Report (see below)

"Rations, malnutrition and death rates are closely related. Examining relief operations in Thailand (1979–80) and Sudan (1984–85), suggested that levels of childhood malnutrition and overall death rates tended to follow one another closely in each case, and a much slower drop in malnutrition and death rates in Sudan was noted in association with clearly inadequate ration levels. Indeed, malnutrition and death rates stayed high in Sudan for *eight* months after the refugee influx began. Significantly, the rapid fall in malnutrition and death rates in Thailand was associated with a ration of around 2500–2600 kilocalories per person per day,

while in Sudan the ration never reached 2000 kilocalories at any time in the first five months of the relief operation." *[Source: P. Nieburg, B. Person–Karell and M. Toole (Centers for Disease Control, Atlanta): "Malnutrition/mortality relationships among refugees"]*

"A more recent instance of damaging insufficiency of rations was highlighted in a study of relief to Somali refugees fleeing civil war to eastern Ethiopia. The largest refugee camp, 'Hartisheik A', was established in August 1988. Yet in early 1989, the level of acute protein–energy malnutrition (PEM) among children under five in the camp was actually *rising.* For the first five months of 1989, it was as high as 23%, with death rates at the camp also peaking at this time. For the first twelve months of the camp's existence, death rates were some 46 per 1000 – about double the normal rate for non–refugee populations in Ethiopia and Somalia. The ration distributed to refugees between February and May 1989 – when malnutrition and mortality were peaking – was only 1463 kilocalories per day, giving insufficient energy for health." *[Source: M. Toole: "Somalian refugees in Hartisheik Camp. Eastern Ethiopia"]*

"Another example of damaging insufficiency of rations was documented in Malawi. Mozambican refugees began to seek asylum in Malawi in late 1986, and in early 1987 a surveillance system was set up to monitor both the refugees' condition and relief efforts. Yet mortality peaked almost *twelve months later,* reaching nearly 10 per 1000 per month among children under five between December 1987 and February 1988. From April 1987 right through to August 1988, in the camp of Makhokwe (with 40,000 refugees), the ration was consistently below the recommended 1800 kilocalories per person per day. Indeed, in some months the rations was less than half this level. Notwithstanding these failings, death rates among Mozambican refugees in Malawi were still some 3–5 times below those observed in Thailand, Somalia, Uganda or Sudan. Epidemiologic surveillance contributed to this." *[Source: A. Moren et al. (Medecins Sans Frontières (MSF), Epicentre, UNHCR and the Malawi Ministry of Health): "Epidemiologic surveillance among Mozambican refugees in Malawi"]*

"In western Sudan in 1990, a nutritional crisis among refugees was avoided – but not thanks to the level of rations. Rations given to Chadian refugees in western Sudan in early 1990 were only a fraction of those recommended by a previous Food Assessment Mission, which had included representatives of the Sudanese Commission of Refugees, UNHCR and the World Food Programme. In one camp, at Mornei, between January and May 1990, refugees received only 31% of the sorghum that had been recommended, 23% of the oil, and no edible pulses. The refugees' own economic resourcefulness helped maintain nutritional status and health at satisfactory levels, despite these shortfalls." *[Source: H. Young: "A case study of the Chadian refugees in Western Sahara"]*

"Meanwhile in western Africa, there was grave insufficiency of rations among Mauritanian refugees in Senegal. In January 1990, UNHCR had stipulated that general rations be reduced to 1700 kilocalories per person per day, the basis for which decision was unclear. *In practice,* rations in the Matam area of Senegal (where there were some 27,000 refugees) averaged only 695 kilocalories per person per day between March and June 1990. Again, refugees' own resourcefulness protected them to some extent: they made use of significant income–earning opportunities, including cattle–smuggling. Many local people also shared their stocks of food with refugees. Even so, taking refugees in Matam area together with those in Dagana area, protein–energy malnutrition in May/June 1990 was recorded at 8.2% (less than 80% weight–for–height) – a significant level." *[Source: K. Ritmeijer (MSF Holland): "Refugees' food acquisition strategies: Mauretanian refugees in Senegal"]*

"In northwest Uganda, UNHCR was able to give refugees fleeing civil war in Sudan cereal rations sufficient for only 29.5 days and pulses for only 13.5 days – from June 1986. Some additional unknown quantities were distributed by the Lutheran World Federation. The next 151 days saw UNHCR – now the only organization distributing – able to provide only 15–17 days of cereal, 21 days of pulses and 19–22 days of cooking oil. These figures are those of UNHCR itself. *[Source: UNHCR/WFP: "The UN response to refugee food requirements"]*

DEFICIENCY DISEASES

"Refugee rations usually contain either insufficient vitamin A, or none at all. Outbreaks of xerophthalmia, a clear sign of severe vitamin A deficiency, have recently been reported among several groups of refugees, notably in Sudan in 1984–85, when already severely–malnourished refugees were fed a vitamin A–free diet. Since vitamin A requirements rise as the intake of calories rises, providing food without vitamin A to refugees whose malnutrition includes vitamin A deficiency is likely to *worsen* the deficiency, perhaps causing blindness. Vitamin A deficiency can have fatal consequences.

"A lack of vitamin B–1 (associated with a diet of processed rice) created a number of outbreaks of beri–beri in Cambodian refugee camps in Thailand in the early–1980s. Scurvy has been reported in refugee camps in the Horn of Africa, and linked with the absence of vitamin C in the normal refugee ration. Scurvy can be fatal if left untreated. Clinical scurvy was affecting between 1 and 2% of refugees in 'Hartisheik A' camp, Ethiopia in March 1989, attributed to a diet deficient in vitamin C." *[Sources: P. Nieburg et al: "Malnutrition/mortality relationships among refugees.": M. Toole: "Somalian refugees in Hartisheik Camp. Eastern Ethiopia"]*

"Another resurgent disease is pellagra. Common among the corn–eating communities of the American South in the 1930s and among Prisoners of War in the 1930s, it has now re–emerged as a major nutritional problem – notably among the Mozambican refugees in Malawi. There were two significant outbreaks of pellagra among these refugees in the period June 1989 to February 1990. The second was the largest ever documented among refugees in the past two decades. Both outbreaks followed a 5–6 month cessation in groundnut supplies, which had deprived refugees of a vital source of niacin, exposing them to pellagra. One remedy for this kind of situation is food fortification. A visit with SCF support in August 1990 found that food fortification – adding niacin, thiamin and riboflavin to maize flour – was technically feasible in refugee areas of Malawi." *[Sources: P. Malfait et al. (Epicentre, Medécins Sans Frontières, Institute National d'Agronomie and UNHCR): "Outbreak of pellagra among Mozambican refugees in 1990."; J. Henry and J. Seaman: "Fortification of refugee rations to alleviate nutritional deficiencies"]*

"Another medical problem related to rations is anaemia. Anaemia was observed to be a serious clinical problem in all 35 camps for Somali refugees in Ogaden, Ethiopia, in the winter of 1986/87. A serious outbreak of scurvy was seen at a number of the camps. Both outbreaks were linked with serious deficiencies in the rations – a lack of iron and folate (anaemia) and a lack of vitamin C (scurvy)." *[Source: B. Hassan and H. Mursal (Somali Ministry of Health): "Anaemia and scurvy in refugee camps in Somalia."]*

"A 1990 survey of Palestinian refugee camps in Gaza. West Bank, Jordan, Syria and Lebanon, showed that the prevalence of anaemia in non–pregnant women ranges from 23% (Jordan) to 44% (Gaza). Iron deficiency anaemia in children under three and their mothers, indeed, has not fallen in the last 20 years. High consumption of tea (interfering with iron absorption) and high fertility (increasing the strain on iron resources) have boosted people's iron needs. But with the sources of UNRWA flour having been diversified, flour provided to refugees is no longer fortified with iron. Dried milk given to refugees was also not fortified with iron, despite UNRWA pressure on food donors."/*Source: R. Cook (Director for Health for the UN Relief and Works Agency): "The evolution of the food and nutrition problems of the Palestinian refugees"]*

"Shortcomings in the provision of non–food items and services to refugees have been documented. Long delays occurred between detection of epidemics and remedial action among the Mozamibican refugees in Malawi in 1989, in particular a slowness in immunising against measles. Preventable infectious diseases here accounted for 70% of deaths of refugee children under five." *[Source: A. Moren et al: "Epidemiologic Surveillance among Mozambican Refugees in Malawi"]*

Extracted with minor editing from "Summary of Symposium Papers" by David Keen, in "Responding to the Nutrition Crisis Among Refugees: The Need for New Approaches". *Available from Refugees Studies Programme, University of Oxford, International Development Centre, Queen Elizabeth House, 21 St Giles, Oxford OX1 3LA, United Kingdom.*

Starvation and deficiency diseases lead to many preventable deaths in refugee populations – deaths not just in the first, often chaotic stages of an emergency, but continuing for months and years as refugees face chronic displacement and dislocation from normal life. Examples abound, some of which were put forward in papers at the Oxford symposium and are extracted in the boxes. And, we must remember, these affect *millions* of people, for *years;* and the situation is getting worse in terms of numbers.

What then is wrong? Who is actually responsible for avoidable nutrition–related deaths among refugees? This was the main starting point of the recent international symposium. The conclusion: a lack of accountability among organizations responsible for feeding refugees. When things go wrong, everyone blames everyone else, no–one accepts responsibility and mistakes are perpetuated. Host countries claim insufficient resources, UN agencies inadequate mandates, and NGOs a lack of coordination.

Underlying this is an important ethical issue of human rights, indeed potentially of international law. The principle (discussed in Oxford) is that refugees should have a *right* to assistance, not just a *hope* of charity.

Not Enough Food

The root cause of the problem is more organizational than technical. What should be done is widely agreed. How to get it done is the issue. Failures to effectively deliver food to refugee populations can be traced to inadequate information on which to base decisions or inadequate policies guiding such decisions, compounded by ill–defined operational roles and responsibilities. Food received may be inadequate because rations ordered were not enough or not sufficiently varied, delivery was hampered by logistical problems, or fair distribution within camps could not be achieved. Usually it is a combination of all these.

What needs to be done? Food adequate in quantity and quality, clean water, good latrines and shelter are what refugees, like anyone else, require. Expensive medical technologies like intravenous drips dispensed by Westerners may be attractive to the media, but are only required by a small minority. Far more people benefit from less–glamorous methods such as oral rehydration and immunization. As the article "International Disaster Relief Efforts: A Mixed Blessing?" in "News and Views" shows, local initiatives in such times of crisis are often more effective than outside intervention. This is not to say that outside help is not required, but it needs to be appropriate and sustained. Measles vaccination is an example of a simple, quick and extremely effective external intervention for reducing the death rates among refugees – though this requires 90–95% coverage of refugee children in crowded camps. Death rates from measles, where immunization was not carried out, or was too late, have been as high as one in three cases in Sudan in 1985.

Just as food is seen as an economic, not purely nutritional, resource by recipients, so should it be perceived by donors. Refugees should be viewed as being resourceful, not only dependent, and their ability to engage in self–sustaining economic activities maximized. Where their non–food needs (e.g. for fuel, water, shelter, clothes) are not met, they barter or sell rations. Often rations may be sold to acquire a more varied nutritionally–rich diet. This means that whole livelihoods, rather than simply calorie needs, need to be taken into account in an appropriate aid disbursement strategy, and such "informal monetiz–ation" permitted.

In many cases, providing people have access to markets it can be more efficient to sell the food aid and supply refugees with cash to buy it. Market access, transport systems and other factors affecting trade will determine whether this is a viable strategy.

Where food rations are provided, allocations should be based on need, rather than the immediately available resources of donors. The need should be determined by both macro– and micronutrient requirements, in the light of food acquisition strategies and physiological needs. In recent draft guidelines for calculating food rations for refugees, UNHCR and WFP stress the need for a food basket to be provided consisting of basic and complementary foods. Basic items include cereals, oil, and protein sources e.g. pulses, while complementary foods include meat or fish, vegetables, fruit, fortified cereal blends, sugar, condiments, salts, spices. Foodstuffs should be culturally acceptable and safe.

The total food intake from all sources (including external) should be no less than an absolute minimum of 1,900 kilocalories per day – as recommended at the ACC/SCN "Nutrition in Times of Disaster" conference in Geneva, September, 1988. This basic food ration may however be increased or decreased depending on prevailing circumstances of the population. Increased requirements may be indicated by a population's particular age/sex composition, nutritional and physiological status and energy output, while climatic variations and household–level food processing losses need also to be taken into account. Decreased requirements, on the other hand, may be indicated where a population has access to additional foods or opportunities for earning incomes or trading foods.

A correct dietary mix is all the more important, as micronutrient requirements will rise as calorie intake rises. In extreme cases, providing, for example, adequate energy in vitamin A deficient diets to populations already vitamin A deficient can hasten the onset of blindness in many people. Reliance on processed rice led to outbreaks of beri–beri among Cambodian refugees in Thailand in the early 1980s. In March 1989, clinical scurvy due to a lack of vitamin C affected 1–2% Somalian refugees in one Ethiopian camp. while as many as one in four of the 80,000 refugees in camps in Sudan in 1990 were showing scurvy symptoms at one time. In 1990, 18,000 Mozambican refugees in Malawi developed pellagra –which begins with skin rashes and diarrhoea and can lead to dementia and death. This was caused by a 5–6 month cessation of groundnut supplies, their main source of niacin, while the main staple was maize. The response to this outbreak was poor, although eventually a group of aid agencies identified and bought a supply of groundnuts from South Africa. Anaemia due to iron deficiency is also a very common and debilitating problem among refugees.

Where other options are not feasible for achieving an adequate micronutrient intake, food fortification can be considered. Following the Malawi pellagra outbreak, for example, fortification of maize with niacin, thiamine and riboflavine was subsequently found to be feasible. Selective feeding programmes are only warranted in emergency situations where rates of malnutrition are particularly high, or for specific target groups with special

needs.

Turkey–Iraq border/Iraqi refugees/Cicirca camp, Hakkari Privince/Shelter.

Malnutrition has health– as well as food–related causes. The high incidence of diarrhoeal diseases among refugees and associated high mortality rates, argues for priority to be attached to the provision of clean water. During 1989, Somalian refugees in Ethiopia received only 3–5 litres of water per person per day, compared with the 15–20 litres recommended by UNHCR. Sanitation and adequate shelter are also of obvious importance.

Simple data on mortality and morbidity collected regularly (initially once a week) and made available to local health workers is crucial for assessing the situation and responding. Anthropometric measures of undernutrition, if possible, should be routinely recorded. The risk of dying in refugee camps has been found to be linked to changes in the prevalence of undernutrition. If the indicator of undernutrition is the prevalence of the population wasted – below 80% of the WHO standard weight–for–height – on average for the general population in sub–Saharan Africa, less than 5% will be so classified. The mortality rate in refugee camps has been observed to double as wasting prevalences rise to between 5% and 10%, and more than quadruple with rises of between 10% and 20%. Recent reports *(reported in New Scientist, 3 August 1991)* from Kenya, for example, put the prevalence of wasting among Somalian refugees now at 29%.

What Next?

The Oxford symposium came forward with several recommendations regarding the organizational problem in making adequate food available to refugees. Some of these, taken from the report, are summarized here.

Appropriate information should also be regularly fed back from the camps to decision–makers. In fact, all channels of communication need to be opened –between UN field staff and headquarters, between UN agencies and NGOs, and between agencies and the host government. Refugees should be both consulted and informed. Agencies and governments should be made accountable, and health and nutrition–related data fed back so that donors can see the effects of their actions, and respond accordingly.

Governments should re–affirm the right to food as a basic human right, and establish new mechanisms for upholding such rights among refugees and displaced persons. Within the UN system, the coordinating role of UNHCR should be strengthened, and cooperation in international relief with competent NGOs, facilitated. Refugees should not be treated as a political tool, they should not be labelled and stereotyped, nor manipulated through the use of food. Both UNHCR and WFP need regular, predictable funding to cover each protracted refugee situation. This will require donor commitment to provide funds in advance without political strings. Where possible, programmes should be oriented to benefit both refugees and host populations in an

integrated fashion. Development initiatives such as improving the health infrastructure and supporting agricultural schemes in border zones, are investments now requiring higher priority by donors.

–S.R.G./J.B.M.

SOURCES

Responding to the Nutrition Crisis among Refugees: The Need for

New Approaches. Report of the International Symposium, Oxford, 17–20 March 1991 (available from the Refugee Studies Programme, International Development Centre, Queen Elizabeth House, 21, St

Giles, Oxford OX1 3LA, United Kingdom). *How Refugees Survive* by Phyllida Brown, *New Scientist,* **3,** August 1991, pp. 21–26.

ACC/SCN (1989) Report of the "Nutrition in Times of Disaster" Symposium, held in September, 1988, Geneva (mimeo; awaiting publication).

Draft *WFP/UNHCR Guidelines for Calculating Food Rations for Refugees.*

Breastfeeding, Birth Spacing, and Nutrition

> These are closely linked; support to breastfeeding can integrate programmes in nutrition and population.

Population growth has vital consequences for nutrition – ranging for instance from more mouths to feed from finite resources, to environmental degradation from intensive and inappropriate land use to meet nutritional needs. The food–people–resources balance, now and in the future, is a critical determinant of the quality of life. At the same time, programmes in family planning, health and nutrition are widely pursued to improve maternal and child health, with expected longer–term demographic effects.

The ACC/SCN decided to hold its annual symposium for 1991 on "Nutrition and Population". Following views of the SCN's Advisory Group on Nutrition, it was decided to focus on questions of direct relevance to programmes. This in turn came to concentrate on the triangle of breastfeeding, birth spacing, and infant nutrition and maternal health. The importance of macro–level issues of food–population–resources remain well–recognized, but such a crucial topic required more time and resources than were available. Considerations relating to programmes were felt to be more immediately applicable by the UN and donor agencies.

The Symposium on "Nutrition and Population" was hosted by UNFPA at their Headquarters in New York, in February this year. The Symposium was chaired by Ms K. Trone, Head of the UNFPA Regional Office for Latin America. Three papers were presented. Dr Sandra Huffman, Center to Prevent Childhood Malnutrition, Bethesda, presented a paper on "Nutrition and Family Planning Linkages: What More Can Be Done?" Issues on "Breastfeeding, Fertility and Population Growth" were introduced by Professor Roger Short, Monash University, Melbourne. The effects of repeated cycles of reproduction were discussed in a paper on "Reproductive Stress and Women's Nutrition", by Professor Reynaldo Martorell, (at the time of Stanford University and now at Cornell, USA) and Dr Kathleen Merchant (Cornell). The discussion on Dr Huffman's paper was by introduced Dr Charlotte Gardiner, Director of Maternal and Child Health, Ghana; for the paper by Martorell and Merchant, Professor Barry Popkin (North Carolina) introduced the discussion; Dr Solidad Diaz (Chile) introduced the comments on Dr Short's paper. A general discussion at the end of the Symposium

was led by Dr Miriam

Fig. 1

Labbok (Georgetown), Dr Beverley Winikoff (Population Council), and Dr Barry Edmonston (Urban Institute, Washington DC), who contributed to formulating the conclusions of the meeting, as discussed later. The Symposium papers, discussions and related literature form the basis for this article.

Breastfeeding, Birth Spacing and Nutrition

Breastfeeding exclusively for four to six months from birth is of well–known importance for infants' nutrition. Breastfeeding delays the return of fertility in the mother, thus contributing to longer birth intervals. Birth spacing allows continuation of breastfeeding for the child's benefit and has other advantages to mother and child. Better nutrition promotes infant and child survival, which in turn tends to increase birth intervals. And all these processes benefit the health and well–being of the mother. This triangle is illustrated in Figure 1.

The interactions are finely–tuned, developed as part of human evolution. They are worth understanding –some only recently worked out and still being researched – and are discussed in more detail below. The triangle in Figure 1 is elaborated in Figure 2.

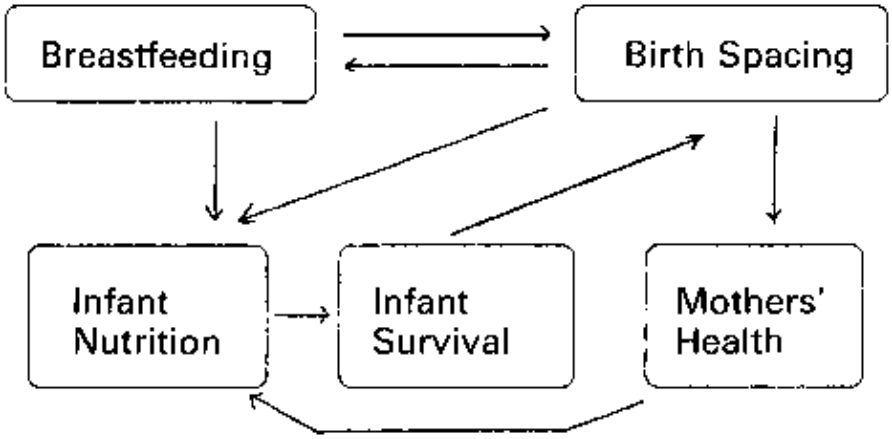
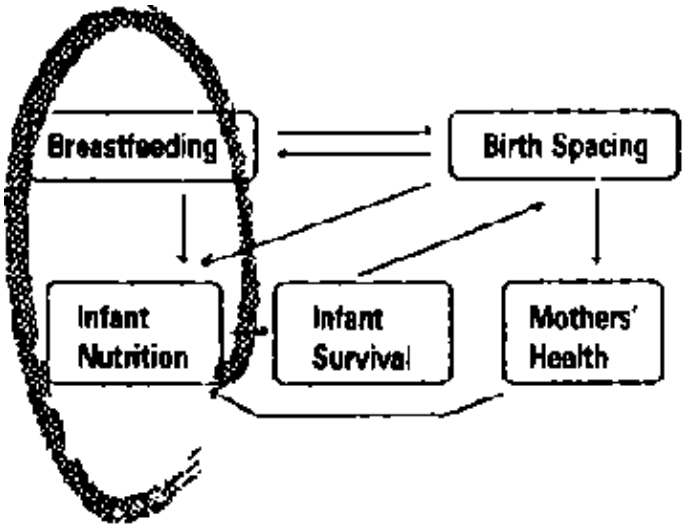


Fig. 2. Interactions of breastfeeding, birth spacing and nutrition.

A practical message emerged from the Symposium, at which the different disciplines present found (to their slight surprise) they were talking much the same language about the same conclusions from different starting points: support to breastfeeding should be part of population *and* nutrition *and* health programmes. Indeed these could be better integrated. As Dr Huffman pointed out "... instead of spending another 20 years justifying the link between family planning and nutrition activities, we may have more success if we start with an intervention that integrates both nutrition and population issues: breastfeeding promotion".

Breastfeeding for Infant Health and Nutrition

The benefits of breastfeeding are constantly becoming better understood. Breastfeeding reduces exposure to pathogens in the environment, gives protection by immunization, provides anti–bacterial and anti–viral substances, and supplies the correct mix and density of nutrients; it also has very little direct cost. Bottle feeding, which is the usual alternative in early life, tends to be contaminated, non–ideal in terms of nutrients, and not affordable to many families in poor societies.



The newborn infant's needs and the mother's ability to provide for them, not only to nourish but to protect[1], are closely linked. A continuity has evolved to bridge the gap between the safety of the womb and the shock of post–natal life, when the gut suddenly replaces the placenta as an interface with the world. The immature infant gut is adapted to the nutrition and protection of breast milk. Antibodies from colostrum and breast milk protect the gut and provide some immunity against other infections. Antibiotic activity in breast milk proteins is being shown to be selective against precisely certain of the harmful bacteria that cause infantile diarrhoea. The protein of breast milk is tailor–made to the infant's needs, and is quite innocuous unlike many non–human proteins. The hazards of sudden exposure of the fragile gut to foreign materials is now being realized. The gut matures in the first few months – the recommendation for 4 – 6 months' exclusive breastfeeding is no accident. "It is still true to say that the artificial feeding of our infants has been the largest uncontrolled clinical experiment in human history[2]."

[1.] For a recent review see: *"Infant Feeding: the Physiological Basis".* Suppl. to *Bull. WHO* **67,** 1989, edited by J. Akre; reviewed in *SCN News* No. 6 pp. 56–57.

[2]. Minchin, M. *Birth* **14,** 25–34 (1987).

Data collected during the 1970s by the World Fertility Survey show an overall historical decline in breast–feeding both in terms of its initiation and duration. In fact, a steady decrease had been observed by the early twentieth century. In Sweden, reduction in the rate of babies being exclusively breastfed at 2 months from 85% in 1944 to only 35% by 1970 was one example of this continued downward trend. Similar statistics are available for other developed and some urban areas of developing countries through the WHO Collaborative Study (Contemporary Patterns of Breastfeeding, WHO, 1981[3]). This changing pattern of infant feeding has been attributed to "the demands of modern life" and industrialization, as alternative means of feeding became available to public. According to Dr Short at the SCN Symposium "with the advent of Industrial Revolution, the artificial feeding of infants with paps and gruels became commonplace throughout Europe, and this was given an added boost by the growing availability of cow's and goat's milk and the development of feeding bottles with rubber teats". But breastfeeding decline and increased use of artificial feeding did not immediately result in population increase. "The potential upsurge in fertility that this increase in artificial feeding might have created" in Dr Short's view "was largely counteracted by the staggering increase in infant mortality resulting from these practices". He notes that, for example, in London during the late 18th century almost 50% of children had died by the age of 2, and in Dublin during the same period artificial feeding resulted in the death of 99.6% of over 10,000 children admitted to the Foundling Hospital, mainly as a result of diarrhoea. In Dr Short's opinion by improving formulation and hygienic aspects of artificial feeding, mortality in most developed countries decreased, but left a high potential for fertility in women who had abandoned breastfeeding.

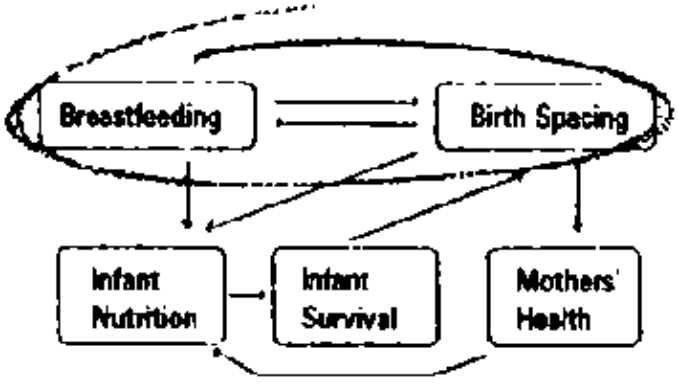
[3]. WHO (1981). *Contemporary Patterns of Breast–Feeding.* Report on the WHO Collaborative Study on Breast–feeding.

But is breastfeeding decline an inevitable result of modernization? The WHO Collaborative Study while confirming earlier results on breastfeeding's declining trend (particularly in cities and urban slums), found some notable exceptions. Thanks to efforts to encourage breastfeeding through health services, education and supportive measures to mothers, the number of Swedish mothers initiating breastfeeding actually increased in 1976 to 93%, and 50% were still breastfeeding at 4 months although with regular supplements. This and other examples from Australia, Eastern Europe, Scandinavia and the USA shows that the decline in breastfeeding is *not* an unavoidable result of industrialization if the necessary measures for its promotion and support are taken. In most cases, breastfeeding decline accompanied the society's modernization, as noted by Berg and Brems[4], "at a time when breastfeeding was not advocated in either medical or patient education".

[4]. Berg, A. and Brems, S. (1989). *A Case for Promoting Breastfeeding in Projects to Limit Fertility. World Bank Technical Paper No. 102,* The World Bank.

Breastfeeding and Birth Spacing

Breastfeeding directly contributes to increased birth intervals by tending to reduce the resumption of fertility in the mother. This is more pronounced with exclusive breastfeeding. It is related to "lactational amenorrhoea", and has led to new recommendations for decisions by individuals on family planning. The SCN Symposium stressed that lactational amenorrhoea is particularly relevant to providing an opportunity in the first months after birth for counselling women on modern family planning methods, *and that it is complementary to these not a substitute.*



A major step forward was recently taken when an international group of experts met in Bellagio, Italy, in August 1988 to review the evidence for the contribution of breastfeeding to family planning. The conclusion:

"Breastfeeding provides more than 98% protection from another pregnancy in the first six months post partum, if the mother is fully or nearly fully breastfeeding and has not experienced vaginal bleeding after the 56th day post partum". Recent research by Dr Short and associates on a well nourished group of Australian women breastfeeding their babies examined the probability of becoming pregnant over a 24 month period after the birth. This showed that if modern contraception was adopted only after lactational amenorrhoea ceased, the cumulative probability of becoming pregnant over the 24 month period would have been only 13%[5].

[5.] Short, R.V., Lewis, P.R., Renfree, M.B. and Shaw, G. The contraceptive effects of extended periods of lactational amenorrhoea: beyond the Bellagio Consensus. *The Lancet,* Vol. 337 (8743), 23 March 1991, pp. 715–717.

Lactation delays the resumption of fertility by physiological (neuroendocrine) mechanisms. Briefly, suckling at the breast affects hormone secretion that maintains the production of milk (prolactin) and, probably through other pathways, depresses the hormone levels necessary for fertility (inhibiting ovulation and producing amenorrhoea). The frequency of suckling is important, increasing milk synthesis and secretion and decreasing chances of fertility. An inhibitory peptide is secreted by the mammary alveoli to stop further milk synthesis if the alveoli are not emptied regularly. This, as Dr Short puts it, makes the breast a "supply meets demand organ", and explains why exclusive, and not so much partial, breastfeeding has the potential to reduce fertility and increase birth intervals and child spacing. The six month period after birth is crucial both for mother and infant, and illustrates the closeness of the mother's and infant's needs.

The WHO Collaborative Study from 1976–78 indicated a consistent and close relationship between the duration of breastfeeding and the duration of post–partum amenorrhoea. About 85% of the total variability in the return of fertility could be attributed to reported differences in breastfeeding duration. The same conclusions were reached in many other studies, e.g. Bongaarts[6], who demonstrated that the duration of breastfeeding explains most of the variation in the duration of post–partum amenorrhoea. Another factor claimed to influence the length of lactational amenorrhoea has been the nutritional status of the mother, with shorter amenorrhoea period in better nourished women. Dr Short, however, reported that in their studies and those of some others, women in developed countries, on an optimal plane of nutrition, still achieve prolonged periods of lactational amenorrhoea.

[6.] Bongaarts, J. *et al.,* (1983). *Fertility, Biology and Behaviour: An Analysis of the Proximate Determinants.* New York: Academic Press. Bongaarts, J. and Menken, J. (1983). In: *Determinants of Fertility in Developing Countries,* Vol. 1 (eds Bulatao, R.A. and Lee, R.D.), Academic Press, pp. 26–70.

Such observations have been used to look at questions like the overall influence of breastfeeding practices on population growth, via its contraceptive effect; and the extent to which breastfeeding offsets contraceptive needs. It has been claimed that lactational amenorrhoea is the single most important variable among the proximate determinants of natural fertility[7]. A World Bank analysis[8] has pointed to the significant effect of breastfeeding in reducing the total possible number of births to a great majority of the couples in developing countries who do not use modern contraceptives. Projections by Family Health International show that a 25% reduction in breast–feeding duration in five African countries would increase total fertility rates by 12%, and that halving the duration of breastfeeding could mean a 26% rise. Corresponding figures for 12 Asian countries are 11% and 23 %[9]

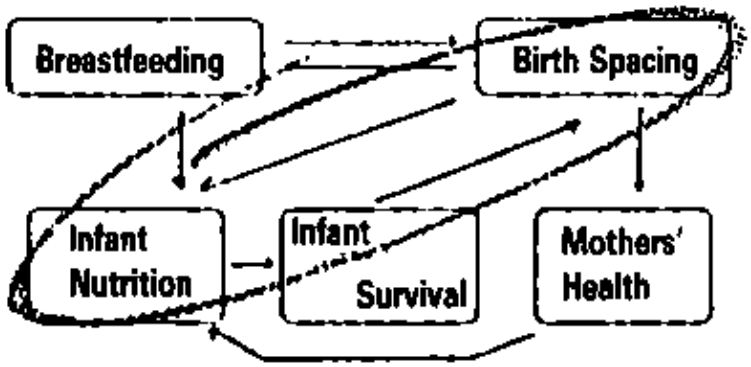
[7.] References in Note 6 above.
[8.] World Development Report, World Bank, 1984.
[9.] Cited by Berg and Brems, see Note 4 above.

A major step towards reducing the excessive fertility that is currently fuelling the population explosion, concluded Dr Short, would be to persuade both developing and developed countries to do their utmost to support and encourage prolonged breast–feeding. Breastfeeding, thus, in addition to its nutritional and health values needs to be promoted and supported as a child–spacing strategy. Longer birth intervals will reduce total numbers of children per women as well as benefiting both mothers and their children in the other ways described here.

Birth Spacing Benefits Child Nutrition

A delay of two years or more before its mother becomes pregnant again is important for the baby's welfare and indeed survival. One of the earliest observations of malnutrition was of kwashiorkor as the disease of the

displaced child – displaced by a new pregnancy. Short birth intervals have often since then been related to malnutrition. They are also related to infant and child mortality – although this operates in both directions, as discussed in the next section. Nonetheless, anything that prevents too–short birth intervals will benefit the youngest child – including family planning programmes directly, and as an additional indirect result of breastfeeding. As Dr Huffman pointed out in her paper, birth intervals of less than two years have frequently been associated with low birth weight, high infant mortality, growth retardation, high morbidity and inferior nutritional status.



The advantage to the child of adequate birth interval goes beyond maintenance of breastfeeding. The burdens of time and stress on the mother tell on her ability to nurture the family, and these are worsened by too–close pregnancies. Her health itself may suffer, as discussed later – a serious blow particularly to poor families with many children.

This stresses another way in which too–short birth intervals are disadvantageous – through family economics: more mouths to feed with the same resources, or probably less as the mother contributes in cash or kind into the family income. Part of the motivation for short birth intervals, ironically, may itself have an economic perspective, in ensuring for old age, encouraging rapid births to reach large desired family size. In a sense this contributes to a vicious circle, as more births will be wanted when mortality is high: reductions in child mortality are needed to motivate birth spacing.

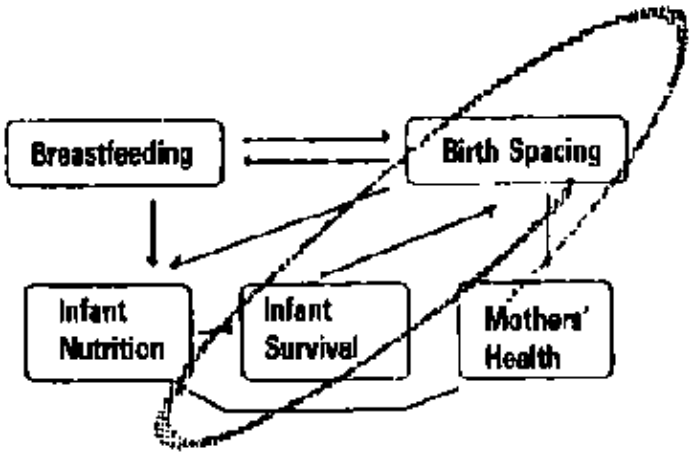
Short birth intervals thus are to no one's advantage: the future infant, the current infant, or the mother herself. "Adequate child spacing can mean the difference between complete recuperation of the mother and depletion of her physical resources. It can also mean the difference between adequate care of the preceding child, including its continued breast–feeding, and early abrupt weaning from the breast due to a new pregnancy and hence the deprivation of maternal attention"[10].

[10.] WHO/UNICEF (1981). *Infant and Young Child Feeding, Current Issues.* WHO, Geneva.

The health impact of family planning will clearly be greater if it has a specific effect on birth intervals. But a considerable number of the births prevented by family planning programmes are due to sterilization. "While family planning programmes have been more successful in reducing higher parity births, and terminating births through sterilization, they are not generally associated with increasing birth intervals" says Huffman. "Worldwide, over one third of effective modern contraceptive use is through sterilization. This, while preventing any further birth, is usually not associated with adequate birth intervals for the preceding pregnancies."

Child Survival Affects Birth Spacing

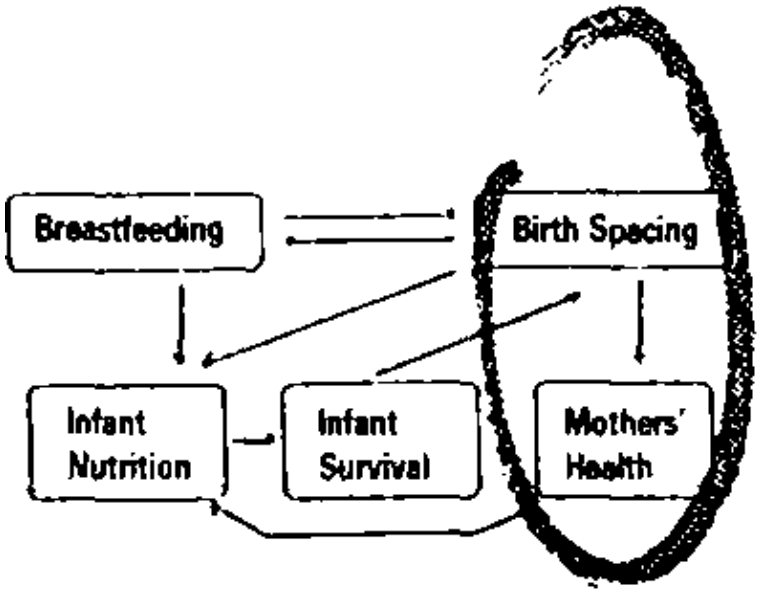
A feedback is shown in Figure 2 from infant/child nutrition, through child survival, to birth spacing. This is important in the long–run, as part of the motivation for smaller family size, hence eventually reduced population growth rates. The link of nutrition to survival or mortality is clear. The effect of child mortality on birth spacing can act in several ways. As implied earlier, the death of a breastfed infant will tend to lead biologically to resumption of fertility. But conscious decisions may be made to replace the child as soon as possible – perhaps before the mother has recovered from the previous pregnancy. This decision can be based on the family's desire to achieve a certain family size. Indeed the decision to have rapidly–succeeding pregnancies for this reason may be taken without experiencing a child–death in the family, if it is perceived that this risk is high, to insure against possible future deaths and reach the desired family size before the reproductive cycle of the family is complete. This, in turn, may well depend on the overall community perception of risk, influencing the family's decisions.



Here too, we are dealing with a cycle that can benefit from deliberate intervention to break. In this case, for example, promoting infant and child nutrition and survival can gradually establish more motivation for longer birth intervals, hence acceptance of family planning.

Mothers' Health and Nutrition

The consequences of frequent child bearing have been considered more often for the child than for the mother herself. Drs Martorell and Merchant gave evidence in their paper that spacing reproductive events is necessary for maternal recovery. Repeated reproductive cycles have been referred to as "maternal depletion syndrome", but they proposed avoiding this term and regarding effects of reproductive stress on women's health and nutritional status as a continuum. "The question is not whether or not maternal nutrition is affected by reproductive stress, but under what circumstances are effects noted and to what degree and in what aspects."



A substantial proportion of women in developing countries are lactating and pregnant *at the same time.* This situation – perhaps not widely appreciated – is clearly likely to increase the stress on women's health and nutrition. It is referred to as "overlap" by Martorell and Merchant, defined as two or more weeks of breastfeeding during pregnancy. The phenomenon has been reported to be common among women in a number of poor areas: 30% in Guatemala and Senegal, 40% in Indonesia, and as high as 70% in India (stressed by Dr Ramachandran[11] in a paper prepared for the meeting). Although lactation is generally associated with post partum amenorrhoea, partly because of prolonged breastfeeding in many developing countries, perhaps as many as one third of all pregnancies occur in lactating women. This observation clearly has important implications for both family planning and breastfeeding practices, but here we focus on the impact of this phenomenon on women's health and nutrition.

[11.] Ramachandran, P. (1991). *Nutrition and its Influence on Mother–Child Dyad.* Indian Council of Medical Research, New Delhi, India.

The effects of reproductive stress on mothers and infants were shown by Drs Martorell and Merchant using the data from an INCAP longitudinal study. They focused on women actively exposed to different degrees of reproductive stress by carefully studying the period of overlap. Overlap was found to occur in 50% of a sample of 504 pregnant women. Two extreme situations were compared: the "least stressed" women (those with a recuperative interval of more than six months) and the "most stressed" ones (those experiencing an overlap duration of more than three months). Despite higher consumption of food supplements available freely to all women, the "most stressed" group had lower fat reserves (more pronounced earlier in pregnancy), and gave birth to lighter infants when compared to the "least stressed" mothers. While the emphasis of the paper was on mothers themselves, their results showed that reproductive stress also adversely affects the infant. It is interesting to note the results of the National Institute of Nutrition, India, in which pregnant and lactating women were under even greater stress: while women were similarly facing overlap of different degrees, they were not supplemented and their food consumption, as usual in poor areas, was similar to non–pregnant subjects (NIN, 1984/85 Annual Report). In reporting the results of these studies Ramachandran concluded that irrespective of the duration of lactation and period of gestation, women who continued lactating during their pregnancy had lower body weights than their non–lactating pregnant counterparts. Here too, the differences were more marked in the small group of those working women becoming pregnant in the first 6 months of lactation. Their babies had also lower birth weights.

These results pointed to the fact that overlap should be prevented and birth intervals need to be adequate. Using the fertility–inhibiting effect of exclusive breast–feeding, later followed by other family planning methods, another pregnancy can be planned at a more appropriate time and with reasonable spacing.

Integrating Nutrition and Family Planning Activities

The mutual benefits of breastfeeding and family planning programmes mean that they will be more successful if they are integrated. Both nutritional support and birth spacing have impacts on mortality reduction and nutritional status improvements. Breastfeeding is now recognized as a child survival strategy. Keeping a child alive is associated with preventing another birth, since the death of an infant is usually followed by another pregnancy. Some reasons for integration are shown in Box 1.

Box 1
Why family planning programmes should promote breastfeeding –

• to increase birth spacing and decrease fertility rate;
• to use resources more efficiently;
• to reduce pressure on the family planning services;
• to reduce infant mortality rate through improved nutritional status thereby preventing another pregnancy;
• to use breastfeeding as a sound basis on which family planning strategy can be built;
• to decrease the need for supplying more contraceptives which will be required in the absence of breastfeeding;
• to increase programme coverage and effectiveness; and o to share breast/ceding programme resources towards achieving fertility limitation goals.

Why breastfeeding programmes should promote family planning –

• to avoid disruption in breastfeeding in a lactating woman who is no longer amenorrheic, due to another unwanted pregnancy;
• to decrease infant mortality rate associated with high fertility and decreased nutritional status;
• to avoid "overlap" of pregnancy and lactation and its adverse effects on mothers and infants' nutrition; and
• to share family planning resources towards achieving breastfeeding promotional goals.

Exclusive breastfeeding can be used to protect against conception in the early months after birth when lactation has induced amenorrhoea. Its contraceptive effect will however wane over time and therefore should not be regarded as a substitute to other family planning methods, but as a complement to them. Even with the gradual appearance of other contraceptive devices in the world market, exclusive breast–feeding has remained the only protection many women in developing countries have (whether due to non–accessibility or non–acceptability) against another untimely pregnancy. In 1975 it was stated that more births were averted in the third world countries by breastfeeding than by any modern method of contraception (Rosa[12]). But the fact is that many such women are not protected against pregnancy even when breastfeeding can no longer

prevent fertility. These will benefit most from integrated programmes where family planning and breastfeeding promotion are offered together. Family planning programmes can increase their coverage and thus effectiveness by including many women who do not want to use contraceptives until menses have resumed, if they encourage these women to exclusively breastfeed.

[12.] Rosa, F.W. (1975). Breastfeeding in Family Planning. *PAG Bulletin, 5,* 5–10.

Even if contraceptive supply and demand are not constrained – as in reality they often are – significant declines in breastfeeding may place greater pressure on family planning services than can, presently, be coped with. In this regard, breastfeeding can help to use scarce family planning resources more efficiently. But to achieve this effect, family planning programmes should take into account the local breast–feeding patterns and beliefs in order to promote and support breastfeeding, to achieve its maximum fertility–inhibiting effect. When the fertility regulating role of lactation is waning over time, or when more security is demanded, breastfeeding can be combined with other contraceptive methods that do not interfere with lactation. This needs to be accompanied by proper advice and encouragement. Nutrition programmes should similarly combine breastfeeding promotion with family planning messages, appropriate counselling and referrals. In other words, services devoted to maternal and child health should be in close coordination with family planning services.

Some examples given by Dr Huffman indicate that integration works well in practice. "In two breast–feeding promotion projects in Honduras and Guatemala, referrals are provided by breastfeeding counselors to family planning. In addition, exclusive breastfeeding is taught as a family planning method, with the signs of return of fertility taught to breast–feeding women... A recent study conducted in Honduras showed that combining the promotion of breastfeeding with the promotion of family planning can lead to increase in both... The project included the creation of combined breastfeeding and family planning clinics, along with training of health pro–fessionals and changes in hospital practices. Along with prenatal, postnatal and post–partum counselling, mothers received a discharge pack with pamphlets reinforcing messages of breastfeeding and family planning... Results of the project showed that exclusive breastfeeding at 3 months increased from 14% to 23% and use of modern methods of contraception increased from 54% to 68% at 6 months post–partum" with substantial increase in duration of amenorrhoea.

Among the World Bank projects in population, health and nutrition, according to Berg and Brems[13] "at least four projects have explicitly recognized the value of breastfeeding for birth spacing and four have made specific provision for data collection regarding breastfeeding prevalence, duration or practices". All these have promoted breastfeeding in some way. Yet it appears that there is considerable scope for enhancing both the number and extent of such activities.

[13]. See Note 4.

One successful linkage between family planning and nutrition over the last 10 years, in Dr Huffman's view, has been the Demographic Health Survey (DHS). Information on morbidity, mortality and nutritional status are added in recent reports of DHS. Among the reasons for inclusion of nutritional issues in the DHS, Dr Huffman explains, has been the need for more data on breastfeeding and amenorrhoea. She notes that when data on both family planning and nutrition needs are available within the same survey, then they are most likely to be used to affect population and nutrition policies.

Challenges Ahead

Reflecting on the important relations between breast–feeding, family planning and nutrition, the Symposium agreed a statement – subsequently endorsed by the ACC – as shown in Box 2. This emphasized the practical steps now needed – the challenges ahead.

How can programmes promoting breastfeeding and those encouraging the use of family planning be more complementary? Although an integrated approach has been stressed, breastfeeding has only infrequently been promoted in population projects. Because of political, religious or cultural sensitivities, nutrition programmes have often been hesitant to promote family planning use. Dr Huffman was of the view that in reality while most developing countries are now stressing the need to develop a more integrated approach "once at a clinic or community level, family planning services are still quite separate from nutrition and health activities, even though their impacts are mutually beneficial", and that few programmes link nutrition and family planning activities. It is no longer a lack of rationale, but programmatic and policy constraints that have continued to prevent more linkages between the two.

One important obstacle preventing more linkages is that the two programmes address different targets –"family planning programmes focus primarily on women while nutrition programmes focus principally on the child". Breastfeeding promotion naturally addresses both the mother and the child, and results in benefits for population and nutrition programmes. The conclusions of the Symposium emphasized four priorities for improving integration. An underlying issue is one of policy: the need for organizing different programmes to be mutually supportive notably in promoting breastfeeding. This would then lead to detailed aspects of implementation, such as providing similar message from different field workers, ensuring appropriate referrals during and after pregnancy, and so on. Importantly leading on from this, the training of health and family planning workers should take account of new efforts for integration. Getting more specific to breastfeeding (in the third point at the end of the statement in Box 2) the very real constraints to breastfeeding experienced in many countries need to be more widely recognized, and tackled. Within this, sensitivity is needed to the competing demands on women's time, including her need for income–earning work outside the home, which impinge on her choice of infant rearing practices, particularly breastfeeding. Finally, all this requires resources, not only for implementation, but also for research and gathering relevant information.

The Symposium thus emphasized the importance of training both health and family planning workers, before they can educate and encourage mothers to take full advantage of breastfeeding potentials. Training and retraining of the medical and health professionals in numerous fields is necessary to support breastfeeding, and to take into account the special needs of lactating women when offering them other contraceptives. In Indonesia, the National Family Planning Coordinating Board has launched a programme to train counsellors and family planning field workers to educate women about the nutritional and contraceptive benefits of breastfeeding. Education is key in promoting the use of breastfeeding for contraception. Research in this area in the Philippines has shown that through appropriate education programmes women can be encouraged to increase the duration and intensity of their breastfeeding behaviour. The participants in the SCN Symposium felt that it is only through training and education that women can make an informed choice, free from the negative influences of the mass media, advertisements and attitudes which may inadvertently raise barriers to breastfeeding. Policy makers, programme managers and health authorities should equally be informed to set priority to relevant policies and practices and to channel necessary resources. A supportive environment should be created in which breastfeeding can be continued and reinforced in harmony with other responsibilities in and out of household.

–M.L./J.B.M. NOTES

Box 2

NUTRITION AND POPULATION
(Statement from ACC/SCN Symposium)

"There are extensive concerns regarding the topic of nutrition and population. A deeper understanding of the dynamic inter–relationships between population growth, food production, environmental sustainability and urbanization will become increasingly important in the future. In this symposium, the primary focus was on nutrition and fertility.

" Breastfeeding provides one link between nutrition and family planning with mutually beneficial effects at the level of the individual mother and child. Exclusive breastfeeding for four to six months is advised. Lactational amenorrhoea, prolonged by breastfeeding, is of great benefit through increasing birth intervals. There is an opportunity at this time for counselling on modern family planning methods, in particular those deemed most appropriate for lactating women.

"At an individual level, the health and nutritional status of the mother (particularly the adolescent mother) is a fundamental concern, in terms of her nutritional resources, reproductive and productive roles and family planning needs. Increasing the length of birth intervals will reduce the likelihood of cumulative reproductive stress in the mother and improve her ability to benefit from birth spacing and maternal health through more adequate feeding and care practices.

"These are major reasons why family planning and nutrition services and information should be integrated. Programmatic considerations as to how to bring this about, in terms of policy formulation, programme planning, training and the support of community level initiatives present several challenges. These include the following:

• appropriate training of health and family planning workers; the motivation to support and counsel women should emerge from common goals;
• reconciling programmatic priorities of agencies that differ in their support for the concept and practice of integrated breastfeeding and family planning strategies;
• recognition of constraints on exclusive breastfeeding due to competing demands on women's time, misinformation and other factors, hence the need for appropriate programmatic support to enable women to practice breastfeeding;
• resource mobilization to provide relevant information, education and communications to promote the practice of breastfeeding and the adoption of contraceptives, including research on beliefs and obstacles to family planning and infant feeding."

Community–Based Development – From a Programme Towards a Movement

A consensus is emerging in development policy that the poor are key actors, and human development and poverty alleviation are priorities.

by Urban Jonsson, Senior Adviser (Nutrition) UNICEF, New York *(paper presented at XIV IVACG Meeting, Guayaquil, Ecuador, 18–21 June 1991)*

The Emergence of a New Development Paradigm

Community development programmes, like all development programmes, reflect the school of thought of governments and organizations involved in the programme. After decades of experimentation, human development and poverty alleviation are increasingly regarded as priorities for development. Recent reports from several agencies (UNDP 1990[1] and 1991[2], World Bank 1990[3], IFAD 1990[4], UNICEF 1990[5] and 1991[6], and ECA 1990[7]) reflect this new priority but they also show a consensus in overall development strategies. A new development paradigm is emerging. This new paradigm reflects two major changes in development thinking:

– A changing view of the role of poor people in poverty eradication and development.
– A much stronger emphasis on normative or moral arguments than before.

1. UNDP. 1990. *Human Development Report 1990.* New York: Oxford University Press.

2. UNDP. 1991. *Human Development Report 1991.* New York: Oxford University Press.

3. World Bank. 1990. *World Development Report 1990.* New York: Oxford University Press.

4. IFAD. 1990. *Report of the Brainstorming Meeting on the State of World Rural Poverty.* IFAD Rome, March 27–29 1990.

5. UNICEF. 1990. *The State of the World's Children Report.* New York: Oxford University Press.

6. UNICEF. 1991. *Strategy for Improved Nutrition of Children and Women in Developing Countries: A UNICEF Policy Review.* New York: UNICEF.

7. Economic Commission for Africa (ECA). 1990. *Rural Progress,* Vol. IX, No. 1. Addis Ababa: ECA.

The first change comes from a better understanding of the relationship between poverty eradication and economic growth. Instead of regarding economic growth as the pre–requisite for poverty reduction, poverty reduction is increasingly more regarded as a prerequisite for economic growth.

The second change comes from a renewed interest and commitment to human rights. The recent political detente between East and West, the enormous cost of defence and military expenditure, and the waste of

resources on non−important commodities have all contributed to a "global embarrassment". This is translated into global and national commitments to eradicate poverty and its most overt manifestations, such as hunger and malnutrition and preventable diseases. Such a commitment was clearly manifested in the World Summit for Children in September 1990 (see *SCN News* No. 6, p. 27). The rapid ratification of the Convention for the Rights of the Child is another expression of this new commitment.

Both changes have far−reaching implications for the design and implementation of community−based development programmes. The changing views on the role of poor people in poverty eradication and development have the following implications:

• Poor people are regarded as *key actors* in poverty eradication and development and are not seen as passive beneficiaries of commodities and services. Local people are the most capable of understanding the local situation and can judge what will work and what will not work. The majority of poor people know what is best for their own development, provided they have access to adequate resources, including information. o Poor people's *survival and coping strategies* need to be recognized and understood much better. The day−to−day situation for the poor is most often more diverse and complex than for the less poor. Frequent and often unpredictable changes in their physical, economic and social environment demand a constant adaptation, often involving great risks. The poorest, with the least resources, must adapt most often. Many of these coping strategies are very complex, but probably the most efficient strategies, given the scarce resources. The assistance to poverty reduction should therefore support the most efficient coping strategies already developed by the poor themselves. This requires understanding, patience and flexibility of the "outsider" who wants to assist.

• The context in which a community−based development programme is implemented changes in many ways during the period of implementation. Poor people's survival and coping strategies are *adaptive processes* in a continuously changing environment. An initial problem assessment and analysis can therefore only be a first approximation to an understanding of the problem. Poor people themselves use several information systems, both quantitative and qualitative, to evaluate, re−think and re−orient their strategies. This has been called "self−evaluation" or "reflection−in−action". (Drake, *et al.* 1980[8])

> [8.] Drake, William **D.,** Miller, Roy L., and Humphrey, Margaret, 1980. *Final Report: Analysis of Community−Level Nutrition Programmes.* Office of Nutrition, USAID and Community Systems Foundation, October 1980.

• The strengthening of existing efficient coping strategies and the development of new ones require *empowerment of poor people.* This means increased availability and control of human, economic and organizational resources by poor people. It means enlargement of choices of the poor. Social groups and gender disparities must be reduced in order to achieve a more equitable resource control. Knowledge and health are two important components for empowerment and self−reliance.

• *Community participation* is a means to empower, as well as a very important outcome of empowerment. Active participation requires that communities are involved in programme planning, implementation, monitoring and evaluation. This includes assessment of the problem, analysis of the causes of the problem and the decisions regarding appropriate actions. With true empowerment comes a more equal dialogue and partnership. Poor people will become more capable to articulate their demands on society as a whole. This includes the right to reject proposals from outside that do not benefit the people. The notion that "they" should be encouraged to participate with "us" should be replaced by "us" sharing a commitment and showing an attitude that allows "us" to participate with "them".

• Finally, the aspects of *sustainability, replicability and costs* have received increased attention during the last few years. Thirty years of development aid efforts have resulted in numerous examples of projects that could not be sustained because the requirements of resources for sustainability were far above the resources controlled by communities. In many cases the community has not felt any ownership of the programme. The poor have been pushed to become passive beneficiaries instead of active participants. Participation and empowerment are necessary for the establishment of a *community ownership of* a programme. Such an ownership, together with a minimum of resources, are necessary conditions for *sustainability.* Local ownership is best reflected in a preparedness to take risks and to contribute part of their own scarce resources to sustain and expand the programme. Cost−recovery should not be a condition from above, but if voluntary, cost−recovery is an expression of true self−reliance of the community.

The change in emphasis from primarily arguing that improved social conditions are "investments in human capital" that will pay off in higher productivity, better learning capacity, and so on, to a normative argument

saying that better social conditions are human rights, is reflected in the following new emphases in development thinking and policy:

• The most important change is the emphasis and unprecedented concurrences on *human development* goals for the 1990s, Several UN–agencies and NGOs participated in the definition of these goals (see *SCN News* No. 6, p. 27), which were adopted by the World Summit for Children and are included in the follow–up Plan of Action. Almost all of these goals can be derived from the Convention for the Rights of the Child. Governments and the international agencies have agreed to attain these goals by the year 2000 and have also agreed to establish national and international capabilities to monitor the gradual attainment of them.

• Some aspects of a cross–cutting nature have been brought up as necessary conditions for the attainment of these goals. *Reduction of disparities,* including *gender disparities,* is the most important one. This concern is not derived from any scientific analysis or argumentation. It is normative, as was the case, for example, in the anti–slavery campaign in the USA or in the struggle for women's voting rights in Europe.

• All these changes reflect a desire and a belief in the possibility of increased *democracy* in the world. Democracy includes empowerment, participation and self–reliance. What we see today is the beginning of a *global movement* for eradication of poverty in a world richer than ever before. The United Nations, once created for peace and human rights, must play a leading role in this movement.

Essential Aspects of Strategies for Community–Based Development Programmes

The emergence of a new development paradigm is primarily a result of learning from failures and successes. Learning from successes probably provides more useful knowledge than learning from mistakes. Below follows a list of aspects or components that have been identified as associated with successful community–based development programmes.

• There is no market for solutions if the problem is not appreciated. This is why, as a first step, political awareness of the problem and political commitment to solve the problem must be assured. *Advocacy* at all levels of society about the problem, including its effects on human development and its causes must be a first priority. Advocacy requires knowledge about the political economy of development problems and information about the problem. A minimum of problem awareness is required before any information can be obtained, which means that initial advocacy often has to start with incomplete information. The strong commitment to the attainment of the goals for the 1990s offers a new opportunity for strong advo– cacy. This is particularly true at national level, but the need to attain the goals can also be used at community level. "A strategic intent – a powerful, unifying vision that guides the entire strategy" should be created (The Hunger Project, 1991[9]). Long–term political commitment is usually a result of social pressure from below. For the community to exert such a pressure, it must be organized.

> [9.] The Hunger Project. 1991. *Planning–in–Action: An Innovative Approach to Human Development.* March 1991.

• Development and underdevelopment are results *of processes.* The context in which a community–based development programme is planned and implemented, therefore, normally changes during the course of implementation. It is almost impossible to prepare in detail a several–year intervention. Any strategy should therefore include a mechanism for modifying the interventions as time passes to accommodate changes required by the changing environment. Instead of promoting a "blue–print" or a pre–set "technical package", a method or an approach should be provided that enables the community to strengthen their own coping strategies or develop new ones.

• The focus should be on what the community is already doing. This requires a fundamental change in the attitudes of most government people and outside "experts". Priorities must be set by the poor people themselves, within the context of their available resources, including their time. External assistance should enhance their capability to assess their situation, analyse the problem and to choose among viable options. "Experts" should thus be replaced by advisers, who know how to listen and how to learn; they must be more culturally sensitive, and more holistic than sectoral; a "new professional" (Chambers 1983[10]).

> [10.] Chambers, Robert. 1983. *Rural Development: Putting the Last First.* London: Longman.

• The study of paradigms has shown that generally "you find what you look for" (Kuhn 1970[11]). If one does not think that poor people exercise very complex and efficient coping strategies, one would not try to identify them or study their complexity. There is thus a need to develop and use an explicit *conceptual framework* which

recognizes the multi−sectoral and multi−level nature of the causes of underdevelopment. Such a framework should not be a detailed model, but rather a set of the most important determinants and the key relationships among them. It should help the observer in "what to look for". In a given community it may often be possible to reduce the framework to include only the most important parameters of underdevelopment in that particular context. It may gradually be possible to develop a model. It is important that the conceptual framework recognizes the multi−sectoral nature of the problem of under− development and that it is easy to explain and communicate.

[11.] Kuhn, Thomas, 1970. *The Structure of Scientific Revolutions.* Chicago: The University of Chicago Press (2nd Edition).

• Coping strategies always include an *evaluation/monitoring* component. These need to be recognized, understood and strengthened. A community development programme that is capable of monitoring and evaluating itself will reduce the problems more efficiently than one that does not have this capability. With a changing environment, the first solutions are approximations. When the community collects and analyses data, the programme can be modified and improved for the "second round". People with very limited formal education can handle improved community−based information systems. The "monopolization" of data collection and analysis by government officials should be broken. If people agree on the need for data, they will easily learn the necessary techniques.

• Since human, financial and organizational resources are limited at every level, *targeting* is necessary. Priority should be given to the more deprived, the poorest, instead of the less poor; to women, instead of men; to children over adults; to the illiterate, rather than the educated. Development programmes should be assessed and evaluated according to the degree to which they reach the poorest. The targeting should primarily aim at breaking the poverty making processes and not be limited to the provision of services for the "target group".

• As a result of the disappointment with biases in rural development studies and with delayed, and sometimes inappropriate data from large surveys, a number of new innovative methods for rural assessment and analysis have been developed. Rapid Assessment Procedures (RAP) uses an anthropological approach (Scrimshaw, *et al.* 1987[12]), while Participatory Rural Appraisal is a process of learning from, with and by rural people about rural conditions (Chambers, 1990[13]). Experience has shown that poor rural people have a much greater capacity to assess and analyse their problems than has been commonly supposed.

[12.] Scrimshaw, Susan, and Hurtado, Elena. 1987. *Rapid Assessment for Nutrition and Primary Health Care: Anthropological Approaches to Improving Programme Effectiveness.* UNU, Tokyo; UNICEF and UCLA Latin America Center Publications, University of California, Los Angeles.

[13.] Chambers, Robert. 1990. *Rapid and Participatory Appraisal for Health and Nutrition.* The Silver Jubilee Celebration of the Nutrition Society of India, Hyderabad, December 1−3, 1990.

• In a normative−driven, goal−oriented process, it cannot be assumed that everybody in a community agrees on the goals and the strategies to attain the goals. Some may even be against obvious changes.

Social mobilization is therefore necessary. The identification and support of "strategic allies" in the community is an important aspect in the initial stages of a social mobilization effort. With more and better community−based data, increasingly more people will participate in the programme, and opportunities for a broad alliance of many people, who normally would not cooperate, may become a reality. That is the beginning of a community−based *movement.*

• In order to establish and sustain community participation, there is a need for a minimum of *community organization and infra−structure.* Community−level development committees, with clearly defined tasks and with accountability, have proven to be a very important contribution to empowerment and self−reliance.

• Several of the above mentioned components of community−based development strategies will require *human resource development* and all would benefit from it. Knowledge and skills for how to assess and analyse the community problems, and to design actions, based on the limited resources, contribute to community empowerment. In order to be more effective, education and training need however to be focused on basic life skills (WCEFA 1990[14]). Teaching and learning must also become more participatory. Instead of "learning" from "teachers", poor people and other resource people should establish a dialogue that aims at "sharpening each other" (Rahman 1990[15]). Potential animators in the community should be identified and

supported in their work. Motivation, leadership and commitment should be the basic criteria for the selection of such animators.

[14.] WCEFA, Inter–Agency Commission, (UNDP, UNESCO, UNICEF, World Bank). 1990. *Final Report: World Conference on Education for All.* New York: WCEFA. WCEFA, Inter–Agency Commission. 1990. *Meeting Basic Learning Needs: A Vision for the 1990s.* New York: WCEFAY

[15.] Rahman, Anisur. 1990. *Towards an Alternative Development Paradigm.* Bangladesh Economic Association, Dhaka. November 23, 1990.

• Community–based development programmes have often been started as "pilot–projects". They have been seen as a kind of "people's projects"; a "bottom–up" effort, sometimes in protest to the state, and often without any linkages with the government. This explains in part why many of these projects have stayed as "pilot projects". The whole idea of a necessary conflict between "top–down" and "bottom–up" needs to be challenged. It should be replaced by a better understanding of the interaction and possible synergism between "top–down" advocacy and social mobilization for human survival and development, and "bottom–up" processes of empowerment and participation to achieve the same goals. Community–based development programmes should therefore not be planned and implemented in isolation from national programmes of the government, but rather be linked to these in such a way that positive lessons and the enthusiasm resulting from a success are immediately shared by government officials at higher levels. The government also needs to feel a certain degree of "ownership" of a community experiment.

• Specific interventions seem less important in determining a success than *how* things are done in terms of community participation and empowerment, mobilization of the bureaucracy, etc. (Radel, 1990[16]). There should always be a compromise between objective actions required to attain a human development goal and the community's right to reject proposals and to suggest alternatives, based on their own felt needs. It is important, in the beginning of a programme, to implement a certain number of activities that have an early, visible and felt impact. Some of the conventional health services, such as immunization, ORT, etc. have proved very useful in this sense.

[16.] Radel, David. 1991. Personal communication.

• *Affordability, replicability and sustainability* of programs and projects are all dependent on the needs for resources compared with the availability, control and willingness to use resources for that particular purpose. So far focus has been on the external costs of programmes and projects. This should be expanded to include national and local costs, together with estimates of the needs of all types of resources, i.e. human, economic and organizational resources. It is also important to recognize the resource needs over time. A division of "resource costs" into "start–up", "expansion" and "running" costs is useful (Parker, 1988[17]). A project with a relatively high "start–up" cost, but low "running" costs is more sustainable than a project with low "start–up" cost but relatively higher "running" cost. The promotion, protection and support of breastfeeding probably belongs to the first category while a food distribution programme may belong to the second.

[17.] Parker, David, 1988. *"Cost and Affordability" in Government of Tanzania.* WHO and UNICEF. 1988, see note 20.

• Successful community–level development programmes are often characterized by good management, including clear accountability for all actors. Community members and community groups, who actively participate in a programme, should have specific and clear roles. Management committees at different levels improve management, including monitoring of the program. During the last decade, district level management has been strongly promoted. A "district" normally covers about 200,000–350,000 people. This is, however, too large a number of people to promote community participation and community ownership of a programme. A much smaller unit is required, probably about 10,000 to 20,000 people.

An Example from Nutrition – The Iringa Nutrition Programme

In early 1984, a nutrition programme was started in Iringa region, in the Southern Highlands of Tanzania, with the assistance of the Italian funded WHO/UNICEF Joint Nutrition Support Programme (JNSP). The programme covered initially 168 villages with about 250,000 people, of which about 50,000 were children under five years of age. In less than three years the rate of severe malnutrition (weight/age below 60% of standard) was reduced from more than 6 per cent to about 2 per cent.

The programme was expanded in 1987 to cover the whole of Iringa region (1 million people). The "Iringa Approach" spread fast to other regions and by the end of 1990, 20 percent of all villages in Tanzania were covered. A number of external agencies are supporting these community–based nutrition programmes. The UNICEF new programme of cooperation (1992–97) will provide additional support and it seems possible that the whole of the United Republic of Tanzania (including Zanzibar) will have adopted the "Iringa Approach" by 1995. Impact up to end of 1989 in five regions is shown in Figure 1. It is important to note that for each expansion the estimated external cost per child has been reduced and is now estimated to be about US$2.50 per child per year (UNICEF, 1991[18]).

[18.] UNICEF. 1991. *Strategy for Improved Nutrition of Children and Women in Developing Countries: A UNICEF Policy Review.* New York: UNICEF.

Severe Malnutrition in Children Under–Five in CSD Programmes in Four Regions

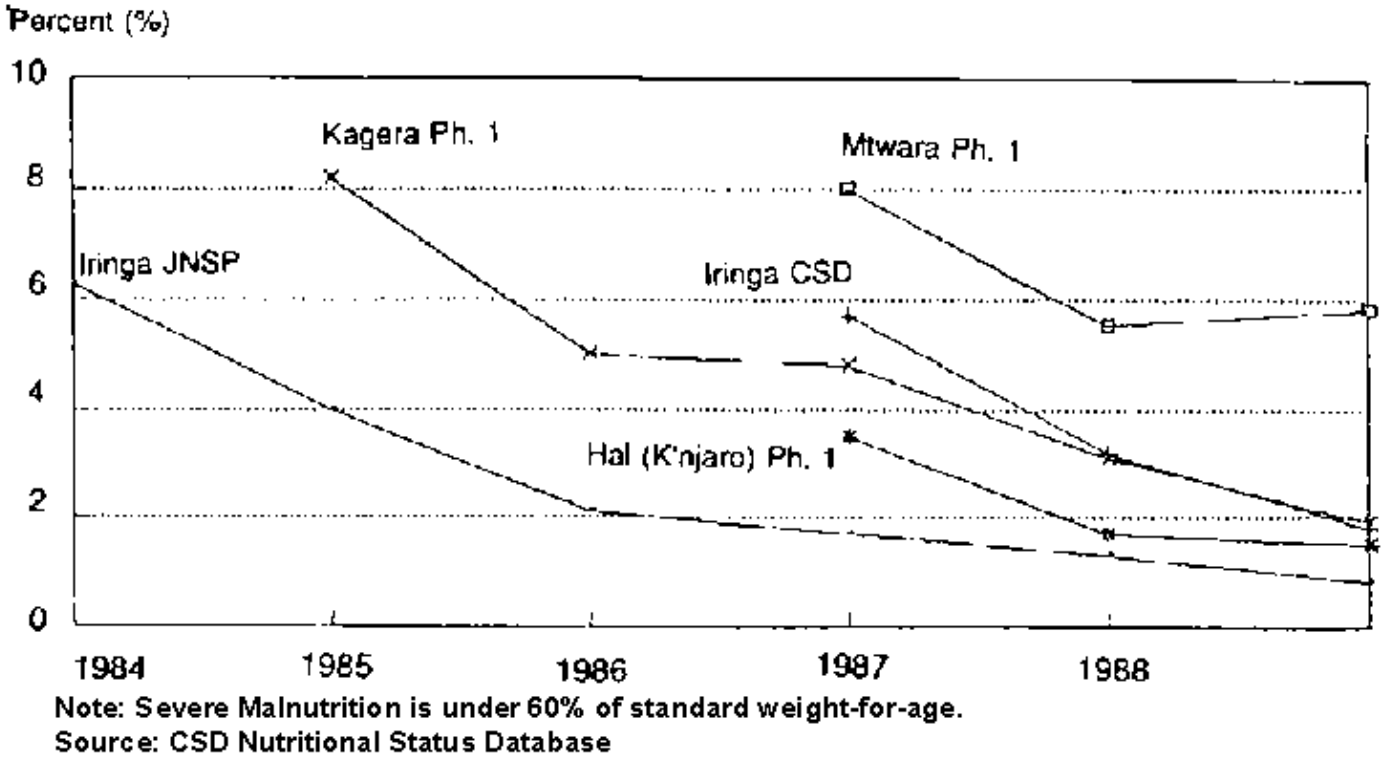


Fig. 1

The Iringa Nutrition Programme has been well documented elsewhere (UNICEF/WHO 1986[19]; Government of Tanzania, 1988[20]; Yambi, *et al.* 1989[21]; Kennedy and McGuire, 1990[22]; ACC/SCN 1991[23]) and will therefore not be described here. The success of the approach is the result of both programmatic and environmental (Tanzanian context) factors. A summary of the most important programmatic factors will be presented here. They all reflect the com ponents described earlier for successful community–based development programme, reflecting the different aspects of a new development paradigm.

[19.] UNICEF and WHO. 1986. *Joint WHO/UNICEF Support for the Improvement of Nutrition in the United Republic of Tanzania.* Report of a mid–term review.

[20.] Government of Tanzania, WHO and UNICEF. 1988. *JNSP Iringa 1983–1988. Evaluation Report.* Dar es Salaam, October 1988.

[21.] Yambi, Olivia, Jonsson, Urban and Ljungqvist, Bjorn. 1989. *The Role of Government in Promoting Community–based Nutrition Programmes: Experience from Tanzania and Lessons for Africa.* Cornell PEW Lecture Series.

[22.] Kennedy, Eileen, and McGuire, Judith. 1990. *Successful Nutrition Programmes in Africa – What Makes Them Work?* IFPRI.

[23.] ACC/SCN. 1991. *Managing Successful Nutrition Programmes.* Nutrition Policy Discussion Paper No. 8 (In press).

The Triple–A Approach Poor people's coping strategies can be described as a cyclical *process of assessment* of the nutrition problem, *analysis* of the causes of the problem, design of appropriate *actions,* re–assessment (monitoring) of the impact of actions taken, improved analysis, better actions etc. (Triple–A). This cyclical process is "fuelled" by information. Growth monitoring and promotion, when properly used, is a good example of a triple–A process at household/individual level. Community action, using community resources and based on a community information system, is another example. The idea is shown in Figure 2.

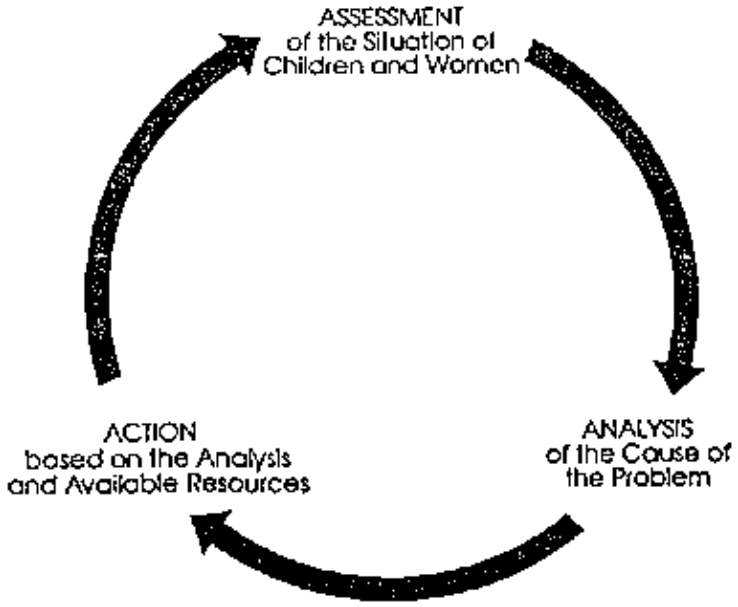


Fig. 2

No pre–set "technical package" was promoted in Iringa. Instead a very large number of community leaders and other "strategic allies" were involved in a dialogue to understand the problem and to articulate their own coping strategies. The whole programme was reviewed and re–planned every three months involving all key actors in implementation.

The promotion of a "Triple–A" thinking and approach enabled people to better understand the dynamics of their own communities – it empowered them. They became more aware of the need for more and better information about malnutrition and its causes, and they became more clear about which resource would be required for the improvement of nutrition. Communities in Iringa understood that it was *their* triple–A cycles that should be strengthened, which made it obvious that the resources at household and commun– ity levels were the most important to mobilize, re–orient and use. This explains the early cost–sharing of some services (community health workers and child care attendants) and the rapid expansion of the programme to other regions of the country.

The Conceptual Framework The initially proposed conceptual framework, indicating the immediate, underlying and basic causes of malnutrition, was changed and improved upon several times during implementation of the programme (see *SCN News* No. 6, p. 12). This framework became the analytical tool used by everybody involved in the programme. It facilitated multi–sectoral cooperation, because it showed that "everybody was important". The classic dispute between staff from health and agriculture, for example, ceased to exist after some time. The framework became an important empowering instrument. It encouraged and guided people not only to look for the obvious immediate cause of malnutrition, but to extend the analysis to the underlying and more basic causes of the problem. The actions that were taken often consisted of a combination of short– and long–term interventions, reflecting an unexpected capability and creativity.

Human Resource Development Training of all cadres at all levels, from household to regional level, was an important thrust of the programme. A combination of "top–down" training of extension workers and a more "Freirerian" approach to empower people through participation was used. Improved understanding of the nutrition problem in the community increased peoples' motivation and commitment. The demand for more information became stronger. Growth monitoring and promotion was never "pushed" into communities; it was never an "entry–point". Instead it was introduced as a response to an articulated *demand* for information by the communities.

Advocacy and Social Mobilization The Iringa Nutrition Programme was inaugurated in December 1983 with a powerful speech by the Prime Minister. Almost all community leaders in Iringa were present. This started off an impressive advocacy campaign that is still going on. All kinds of mass−media personnel were involved in the programme, not as journalists, but as communication experts in their own rights. This resulted in a constant flow of newspaper articles and radio programmes about nutrition in general and the Iringa Programme in particular. After two years almost everybody in Tanzania knew about the "Iringa Approach".

The advocacy campaign explains to a large extent the successful social mobilization in Iringa. Leaders at all levels advocated the right of all children to survive and to be well−nourished. "Strategic allies" presented themselves in community meetings and became strong animators in the programme. They demanded information and they got information from the community−based growth monitoring system. The progress, or lack of it, of each village was reviewed in meetings at ward, division and district levels. Leaders were made accountable for lack of progress and congratulated if progress had been made. A village that did not cope well was soon visited by a team from the district or divisional level to review the programme and to try to assist.

Community Ownership The Iringa Nutrition Programme (INP) is a remarkable example of an externally assisted programme, where the ownership of the programme was rapidly moved to where it should be – Tanzania and Iringa. The first phase of preparation was made without any "outside" involvement. There was no outside "mission" that flew in to help. UNICEF established an autonomous sub−office in Iringa in order to reduce the dependency on the office in Dar es Salaam. Only one expatriate worked for a substantial time in the programme, and he lived in Iringa, not in the capital. He knew Tanzania very well, including the language, the culture and the politics. All this contributed a lot to a true "ownership" of the INP by the people in Iringa. A sign of this ownership was the fact that the name of the programme was changed at an early stage from the JNSP to the Iringa Nutrition Programme (INP).

Community Participation Shrimpton[24] (1989) studied the role and degree of community participation in four community−based nutrition programmes. (Tamil Nadu, India; Thailand; UPGK, Indonesia; and Iringa, Tanzania). He assessed on a scale 1 to 5 the degree of participation in needs assessment, organization, leadership, training, resource mobilization, management, orientation of activities and monitoring/evaluation. The Iringa Nutrition Programme scored highest with a total of 36 points out of a maximum of 40 points.

> [24.] Shrimpton, Roger. 1989. *Community Participation in Food and Nutrition Programs: An Analysis of Recent Governmental Experiences.* Cornell Food and Nutrition Policy Program. May 1989.

The triple−A approach is basically a participatory approach. In Iringa it meant something more than just the involvement of communities in programme implementation. It meant the creation of an environment in which "outsiders" were accepted and allowed to participate in community development.

Targeting and Early Provision of Key Services It is not only external agencies that want immediate results – communities do as well. In Iringa, a system of nutrition rehabilitation at community level was established at an early stage of the programme. Target families for immediate support were identified by communities using data from the growth monitoring system. Other important immediate services with high impact and visibility were: universal immunization, ORT and the provision of essential drugs.

Information and Monitoring The early mobilization of village communities created a demand for information. This made it possible to establish a system of growth monitoring and promotion in all 168 villages within a very short period of time. The information was collected, compiled and discussed at community level. Decisions were made about how to support households with malnourished children. The compiled information was then sent to the next administrative level for discussion and decision about how that level could support villages that did not progress as well as expected. Finally the regional committee received summarized information for decisions about how certain districts could be supported.

As Pelletier[25] (1990) points out, the particular aspect of the Iringa monitoring system is the fact that the information is used for decisions to continuously re−orient the programme at all levels, and not, as is usually the case, for difficult−to−read reports that nobody uses.

> [25.] Pelletier, David. 1989. *An Analysis of the Uses and Limitation of Information in the Iringa Nutrition Program, Tanzania.* Cornell Food and Nutrition Policy Programme.

Management The existence of development committees at almost all levels in Tanzania is one of the most important environmental factors that have contributed to the success of the Iringa Nutrition Programme. These

structures were strengthened by the creation of management and implementation committees at village, ward, division, district and regional levels. A high−level National Steering Committee, chaired by the Deputy Principal Secretary of the Ministry of Local Governments contributed to the replication of the "Iringa Approach" in several other regions. In that sense the programme all the time was a government programme. Each quarter of a year, regular meetings of these committees were held; a detailed review of the programme was made and plans for the next quarter were discussed and agreed upon. Responsibility and accountability for each activity were clearly defined during these meetings.

From a Programme Towards a Movement

The Iringa Nutrition Programme moved from an "experimental" programme in one part of the country to a "movement" covering the whole country within seven years. What made this change and expansion possible? And what lessons can be drawn from this experience for how to transform the present global commitment to child survival and development into a global movement for the eradication of poverty in the next few decades? History helps to understand future opportunities. National and global movements have changed and are changing people's lives. There are global movements for disarmament and peace and for environment and anti−apartheid. Below is an effort to summarize some of the aspects that seem to characterize many of these movements.

• Most movements are driven by normative, human rights oriented goals. It was never primarily scientific arguments that were used in the struggle against slavery, the equal rights to vote, gender issues, etc. Most of the time the arguments for a change were derived from moral values, often based on a call for human rights. This normative orientation makes the work in a movement very similar and often identical with political work.

• Often movements are results of protests. Something is basically wrong, unfair or unacceptable. In many cases "a common enemy" is identified which contributes to the mobilization of both people and governments.

• Most movements are pluralistic. The over−riding concern to attain a priority goal over−shadows most other aspects which previously might have divided people and groups of people with a different political or ideological background.

• Normally movements do not "allow" anybody to be "neutral". All people have to take a position for or against.

• A movement is most often a struggling process, involving a lot of voluntary work, driven by enthusiasm. using targeted slogans and challenging existing dogma and myths.

• Young people have been in the "frontline" of most successful movements. A movement deals with the future; it promises a better future for young people.

A lot is being said about the UN at present. Some criticize the UN for avoiding the real problems in the world and for becoming an international bureaucracy. The 1990s is a big challenge for the UN, our only existing global organization. The UN must provide global leadership for the creation of a true global movement for the fulfilment of the two promises, upon which it was created – peace and human rights. The eradication of poverty including all types of malnutrition must be a first step in this endeavour.

Micronutrient Intakes, Incomes and Prices

> Research shows varying responses of consuption of different micronutrients to changes in incomes or prices.

Recent research has revealed how the intake of different dietary nutrients responds to changes in income or food prices, with important implications for nutrition policies and programmes. The findings, based on data collected in the Philippines, are described below in a condensed version of a paper prepared by Howarth Bouis of the International Food Policy Research Institute, in sum, intakes of vitamins A and C do not respond to changes in either household income or food prices in the same way as calories and iron do. While consumers appear to be conscious of fluctuations in the calorie content of their diet and make adjustments to maintain (as far as possible) adequate levels of calorie consumption as income and prices fluctuate, such an awareness is not the case with vitamins A and C.

Consumption of vitamins A and C varied directly with the price of green leafy vegetables – by far their main source. Most of the vegetables consumed were home–grown (in the study). As the prices of vegetables increase, a larger proportion of what is produced may be sold, with consumption of these vitamins consequently reduced both ways. As Bouis points out, demand behaviour for vitamins A and C is fundamentally different to that of iron, because the source of these vitamins is concentrated mainly in vegetables, which being cheap do not respond to income changes; moreover consumers are unaware of their intakes. These intakes therefore fluctuate widely with prices and availability.

Iron intake behaves differently. Its intake increases faster with income than either calories or vitamins A and C; as income increases, consumers will purchase more meat and fish which are both relatively expensive and rich in bioavailable iron. Overall intake of iron fluctuates less with food price changes than intake of vitamins A and C, owing to the normal dietary sources of iron being diverse; thus a price change in one source will not dramatically affect overall iron consumption. This also means that iron consumption is more likely to be inadequate for poorer households, but less seasonally variable. Further, within households, iron intakes of pregnant and lactating women may be highly inadequate.

Relevant actions with potential for increasing vitamin A and C consumption may thus include both extension programmes for improving home vegetable production, and educational programmes for increasing consumption. In contrast, these may be less relevant to iron deficiency, for which programmes that aim to generate increased incomes are likely to be more beneficial. Fortification may also have its place, and where intakes for certain individuals are particularly low, supplementation should be considered.

Dietary Patterns, Income and Food Prices: An Analysis of Micronutrient Intakes for Philippine Farm Households *by Howarth E. Bouis, International Food Policy Research Institute, 1776 Massachusetts Ave., Washington, DC 20036*

Most economic studies of demand for nutrients have focused on demand for calories. This preoccupation among economists in estimating the determinants of energy deficiencies among poor populations of developing countries is the direct result of the widely held view among nutritionists that (in general) inadequate calorie consumption is the most serious nutrition problem in these countries. However, this signal from nutritionists may be changing. For example, there is increased concern with inadequate intakes of iron. vitamin A, and iodine.

In response to the growing attention that nutritionists are giving to the serious problem of low micro–nutrient intakes, researchers at IFPRI have initiated several research activities to reanalyze household survey information, focusing on demand for micronu– trients. Some preliminary results are now available from a study in the Philippines that analyzes household–level intakes of iron and vitamins A and C and compares them with calorie intakes.

Nutrient Adequacy Ratios The data were collected in connection with a study of the nutrition effects of agricultural commercialization in Bukidnon Province on the southern island of Mindanao in the Philippines. Four survey rounds were undertaken at four–month intervals during 1984 and 1985. 448 households that were present during all four rounds constitute the sample used in this analysis.

520 separate food items were identified during the 24hour food recall surveys. Nutrient conversion rates for these foods are found in food composition tables published by the Food and Nutrition Research Institute in the Philippines. Food quantities consumed (recorded during the 24–hour recall) were then multiplied by these conversion rates to give an estimate of total household consumption of each nutrient.

Table 1 presents the simple sample average of household adequacy ratios for five nutrients by expenditure quintile. The Bukidnon sample population eats a corn–based staple diet, while the most widely consumed staple food in the Philippines is rice. Iron intake is quite strongly and positively correlated with income, whilst income elasticities would appear to be somewhat lower for calories and proteins, and lowest for vitamins A and C, the only two nutrients for which a pattern of monotonically increasing adequacy ratios across expenditure quintiles is not in evidence.

On average, the lowest expenditure quintile is consuming the recommended allowances of protein and vitamin A; otherwise diets are generally deficient in other nutrients. By contrast, the diets of the highest expenditure group appear not to be deficient in any of these nutrients. These average figures however do mask a good deal of variation around these means.

This variation is particularly apparent for vitamin A and vitamin C. For example, despite the fact that the average adequacy ratio for calories for the highest expenditure quintile is 0.99 as compared with that of vitamin A of 1.38, other analyses found that only 15% of households in this quintile were below 80% of calorie requirements on average, as contrasted with 34% of households which were below 80% of requirements for vitamin A.

Micronutrient Food Sources Sources of iron are well–distributed among the seven food groups, more so than for any other nutrient analyzed. Meats and fish account for two–thirds of the *marginal* increase in iron intakes as income increases (these are sources of more bioavailable iron, too). By contrast, sources of vitamin A are relatively concentrated. Vegetables provide 70% of vitamin A and meats and fish provide most of the remaining 30%, although meat and fish provide more than 50% of the marginal increase in vitamin A as incomes increase. Horse radish tree leaves (known locally as *malunggay* leaves) provide just under 40% of total vitamin A intakes.

Variation in Nutrient Consumption across Survey Rounds Information on seasonal variation in nutrient intakes (the first and fourth round surveys record information for the same season in two different crop years) is presented in Table 2. The percentage of households below 80% of requirements is lowest during the first and fourth rounds, coinciding with the corn harvest and lowest corn prices. More importantly, Table 2 shows that vitamin A and vitamin C intakes in the fourth round – shown as adequacy ratios – are only about one–third the intakes of these micro–nutrients in the first round! Food expenditure data which were also collected provide a plausible explanation for the observed decline in green, leafy vegetable consumption. Prices of green, leafy vegetables, which are more expensive than other types of vegetables, increased substantially from the first to the second crop year. Up to three–fourths of consumption of green leafy vegetables comes from own–production. Further analysis of these data is required to determine the extent to which the decline in consumption is due to declining production (for example, due to poor weather leading to higher prices), or due to the sale of a higher percentage of home production of green, leafy vegetables, given more favorable market prices.

Table I: Nutrient adequacy ratios by expenditure quintile

Nutrient	***Q1 lowest***	**Q2**	***Q3***	***Q4***	***Q5 highest***	***All***	***National Average***
Calories	0.81	0.88	0.92	0.93	0.99	0.91	0.89
Protein	0.99	1.11	1.13	1.21	1.33	1.15	1.00
Iron	0.66	0.75	0.81	0.87	1.03	0.82	0.92
Vitamin A	1.06	1.08	1.35	1.30	1.38	1.23	–
Vitamin C	0.88	0.85	1.04	1.04	1.04	0.97	0.91

Source: IFPRI, Research Institute for Mindanao Culture survey, 1984/85; national average from FNRI (1984), Manila.

Table 2: Household calorie, iron, vitamin A, and vitamin C adequacy levels, and percent of households below 80 percent of requirements, by survey round.

Survey round	***Adequacy ratios***				***% households <80% reqs.***			
	Calories	***Iron***	***Vit. A***	***Vit. C***	***Calories***	***Iron***	***Vit. A***	***Vit. C***
1	0.99	1.00	1.95	1.46	25	42	39	44
2	0.89	0.79	1.24	0.94	40	61	59	60
3	0,85	0.78	1.03	0.96	47	65	72	72
4	0.88	0.73	0.71	0.53	36	69	72	80
All	0.91	0.82	1.23	0.97	37	59	60	64

Source: IFPRI, Research Institute for Mindanao Culture survey, 1984185.

Conclusions The essential difference between demand for calories and demand for micro−nutrients is that consumers seem to be aware of fluctuations in calorie consumption, but not of fluctuations in micro−nutrient consumption. Thus, despite the fact that calorie consumption is concentrated in two foods (corn and rice), consumers react to increases in prices of these staples either by switching to other calorie−dense staples or reducing expenditures for non−staples and non−foods to protect (to a large extent if not completely) acceptable levels of calorie consumption.

Iron consumption is also relatively immune to food price fluctuations because iron sources are so diverse, and because staples, especially corn, provide significant amounts of iron (but not vitamin A and vitamin C). Non−staple foods are important sources of iron with high income elasticities, consequently iron income elasticities are also high. Calorie−income elasticities are also positive because of the high propensities for non−staple foods. However, calorie−income elasticities are much lower than iron−income elasticities due to the fact that non−staples are low−density calorie sources, but high−density iron sources.

Demand behavior for vitamin A and vitamin C is fundamentally different from iron because (1) intakes for these two nutrients are concentrated in a relatively few foods, primarily vegetables, (2) vegetables have low income elasticities being relatively inexpensive sources of variety in the diet, and (3) staple grains have virtually none of these vitamins. Because of this concentration and because consumers are unaware of their intakes, intakes may also fluctuate widely with prices, even though it is possible to satisfy daily requirements relatively inexpensively.

Programs to educate consumers about the importance of meeting recommended daily allowances of vitamin A and vitamin C and about commonly eaten sources of these nutrients, then, would seem to have the potential for improving intakes. In Bukidnon province, because so much vitamin A and vitamin C comes from own−production, extension programs to promote growing green, leafy vegetables not only would provide households with a ready supply of these nutrients (unless they sell additional production), but increased production could bring the local price down.

By contrast, it is much more difficult to see how these types of education and extension programs could be effective in increasing iron intakes, if only because sources of iron are so diverse in the diet and, on average, these sources of iron are expensive. While the estimated iron−income elasticity is relatively high (suggesting that policies/programs that increase income may solve the problem without resort to health/nutrition interventions), iron adequacy ratios for low income groups are quite low. Fortification or supplementation may be the best policies for solving the low iron intake problem (depending on the costs of available technologies). Nevertheless, it appears that a real−location of iron intakes *within* households (from men to women) could have a large impact toward reducing the numbers of severely iron−deficient individuals.

This entire analysis is motivated, of course, by an assumption that increasing micro−nutrient intakes will improve health. Previous economic analyses have concentrated largely on the problem of low calorie intakes. Certainly the data presented here show that the percentages of households far below recommended intakes of micro−nutrients are much larger than for calories.

NEWS AND VIEWS

Famine in Africa

Despite several reports since August 1990 pressing for an emergency response to prevent massive loss of lives, misery and displacement, world attention remained focused on the Persian Gulf crisis and Soviet events. Now, with a large−scale famine developing in Africa, many who reacted to images of Ethiopian famine victims in 1985 now suffer from "compassion fatigue" − with similar reports being met with apathy, as the problem has apparently not gone away. Since 1985, however, several consecutive years of drought, regional wars, and massive movements of refugees have been added to the enormous economic and social stress and food insecurity that many African countries were facing.

The facts now are all too stark. The food emergency is deepening in the Horn of Africa, where only a massive international relief programme can avert widespread suffering and loss of life in the months ahead. Taking into account the amount of food aid pledged by the European Commission, European Community member states, and promised by international donors, there still remains a large deficit of emergency food aid. Logistic constraints are impeding food distribution in *Ethiopia,* with severe food shortages and widespread starvation in North Omo, the Ogaden and Hararghe. In recent weeks, shipments through the Southern Line to Tigray and

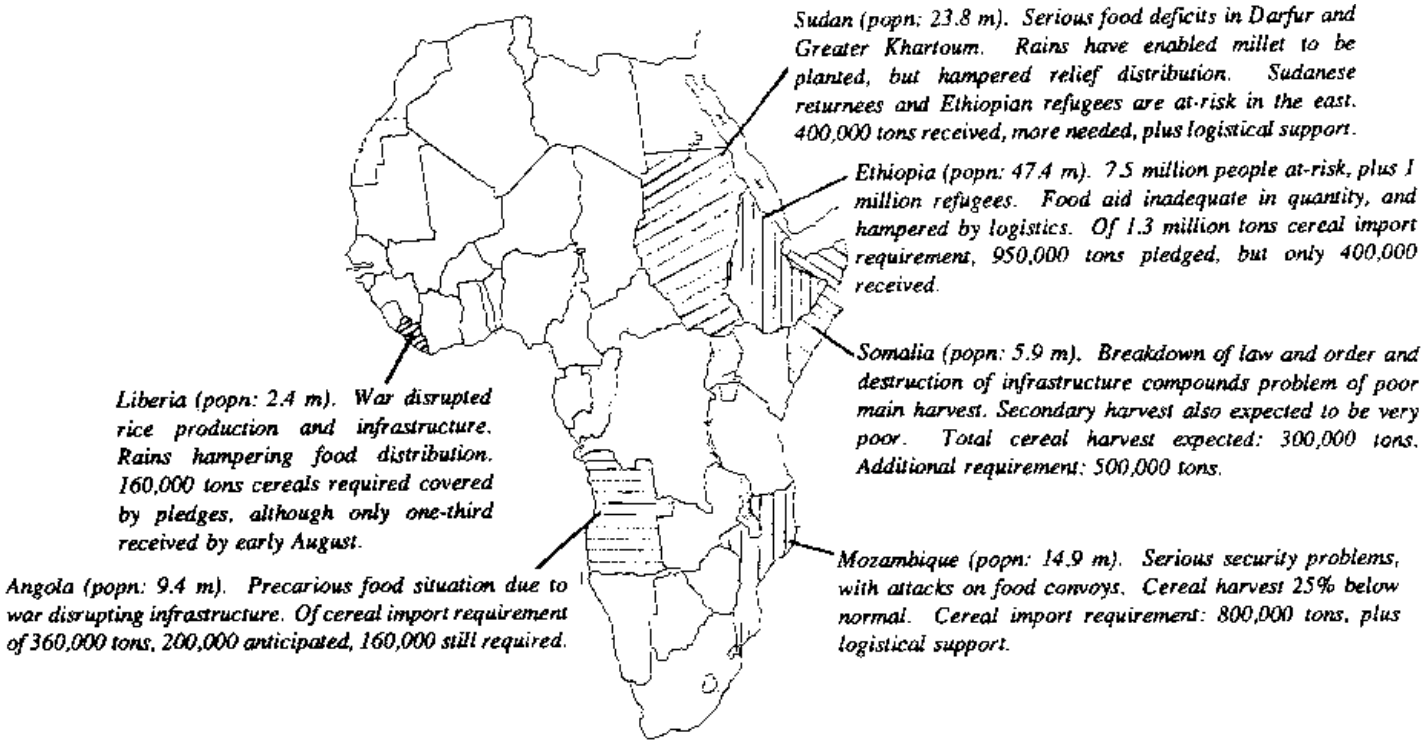
Wollo have increased, although they still remain below requirements. WFP reached an agreement with the EPLF to allow use of the port of Massawa for relief distribution to Eritrea and other northern areas. While this will facilitate operations and reduce costs, additional donor support is urgently needed to expand over–land transport capacity and air–lifting operations.

Serious food shortages persist in *Sudan.* Prices of cereals are well beyond the purchasing power of large sections of the population. The widespread onset of the rains in July and August, while benefiting early crop development, has rendered many areas inaccessible by road, particularly in areas, where the population are most at risk. The position of Ethiopian refugees and returning Sudanese is critical. Reports of a meningitis epidemic in a remote part of southern Sudan which killed 35,000 people have also recorded the presence of a massive famine affecting nearly everyone in that area.

Malnutrition and deaths from starvation continue to be reported from *Somalia,* where as much as 50 per cent of the population need emergency food assistance. So far only limited relief supplies are reaching the affected populations through those few NGOs which are still operating. What little food there is available on local markets is being sold at exorbitant prices beyond the reach of the majority of the population.

Serious food shortages also persist in *Angola, Liberia* and *Mozambique,* partly aggravated by war and civil strife. Relief operations in Mozambique continue to be impeded by security problems with numerous attacks by armed bandits on food convoys. The dilapidated road and rail network in Angola has cut off large sections of the population, and donor funding is urgently needed for its rehabilitation. In *South Africa* and *Zimbabwe,* no export surpluses are available after a poor harvest.

Famine in Africa is now in the news. The seriousness of the situation has attracted the attention of the international community, albeit very slowly. A short–term reactive response to this emergency situation may – after many thousands of people have lost their lives – help to deal superficially with famine conditions. But since the prospects for implementation of any famine preventive policies towards food security for Africa remain gloomy, are we to witness a repeat of history in the years to come?



War, Drought and Crisis in Africa

The six most seriously affected countries are depicted in the map opposite. In some there has been a drought, but for each there has been. or still is. war. War kills both directly and indirectly. It disrupts the planting, harvesting and distribution of crops. Markets and transport systems may be destroyed, so that what there is available may not be accessible. As a result, those people who in normal years would anyway be struggling to maintain food security, are pushed deeper into poverty and desperation. This has been the case in the last few years in Ethiopia, Sudan, Somalia, Liberia, Angola and Mozambique. War, not drought, has been the common denominator in their present situation.

(Sources: *FAO Food Crops and Shortages,* various, 1991; Development Forum. May–June. 1991)

International Relief – A Mixed Blessing?

Perhaps the only positive thing in a disaster stricken area is the solidarity among local and outside helpers to save lives, to provide medical care, shelter, food, clothes, etc. for the survivors and to decrease, as much as possible, the sufferings of victims of such events. But what if the well–meaning actions of those sending/bringing external help will not benefit those receiving them?

The *World Health* Magazine in its January–February 1991 edition devoted to disaster preparedness, contains an article by Claude de Ville de Goyet and Patricia Bittner dealing with this question. They note that unsolicited and hastily–assembled donations by the public as well as the arrival to the disaster area, of a large number of foreign staff to help –themselves in need of food, shelter, transport, guidance and translation services – may in fact add to the load of the already overburdened local managers. The danger would then be that external relief actions were competing with, rather than complementing the local efforts. Similarly, Nick Cater *(In Disaster relief: if you want to help, stay away. The Observer, 14 April 1991)* has addressed this same problem saying that "Not only do well–meaning, but often misguided, rescue teams fail to save many lives but they can hamper local groups which respond most rapidly to natural disasters. Following the 1988 Armenian earthquake, 21 international teams flew into the stricken area with 1427 staff. Despite heat–seeking cameras, sensitive listening equipment and snifter dogs. they managed to dig out only 64 of the 15,000 people pulled out of the rubble. The local community saved 95% of those rescued, and Soviet teams saved most of the rest."

According to WHO'S definition, a disaster is "any occurrence that causes damage, economic disruption, loss of human life and deterioration in health and the health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area". What *response* and how it should be given – particularly from afar – is an issue which is attracting more and more attention.

It is perhaps true that up to now and in most cases, international response to the occurrence of disasters has been an immediate overreaction followed by a fairly quick turn to other probably more fresh events requiring humanitarian attention. However, based on frequent past experiences, while in many cases even a least prepared country can deal more or less effectively with the immediate needs of the victims, what is mostly required and often lacked is long–term resources to rebuild and reestablish the infrastructure. New guidelines to control international search–and–rescue teams in earthquakes, floods and hurricanes are needed and have been the subject of meetings such as a recent intergovernmental meeting in Austria. Several recommendations have also been included in the *World Health* article mentioned above. In brief, the main message is that international assistance is in great need of improvement and reorientation if we want to avoid being a mixed blessing to those unfortunate enough to be hit by a natural disaster and prevent getting the wrong results from well–meant actions.

(Sources: Based on the references quoted above)

African Experience with Food Aid – A WB/WFP Study

A joint World Bank (WB) and World Food Programme (WFP) study on food aid, begun in 1988 and largely concluded in 1990, focused on the African experience with food aid. The study aimed to highlight what are considered to be key issues that must be addressed in order to improve the supply and use of food aid to Africa, whether emergency, programme or project aid. To do so, a series of consultations with African countries and institutions, food aid donor countries, NGOs, academic and other experts on food aid in Africa was undertaken. Moreover, a literature review commissioned for this study was published in 1990 as WFP Occasional Paper No. 13. This review identified over 300 items on food aid in sub–Saharan Africa, mostly written during the past ten years. The study came out with the following conclusions of which many, although intended to apply specifically to Africa, are also relevant to other developing regions,

> – Africa has the potential to feed itself. Agricultural production in Africa could be greatly expanded, but transforming agriculture and expanding productive capacity to improve living standards will take time to achieve. In the meantime, external assistance, including both emergency and non–emergency food aid, will be required to help expedite this transformation.
>
> – Food aid now contributes more than 30 per cent of the region's cereal imports and about 8.5 per cent of all official development assistance (ODA) to Africa. A higher level of food aid

could be accommodated to offset growing food imports and help increasing numbers of malnourished people. Many African countries are finding it increasingly difficult to import food commercially owing to their worsening balance of payments situation, exacerbated by the high level of debt servicing. However, due regard must be taken of absorptive capacity for particular food commodities at both national and sub–national levels.

– Both programme and project food aid have made positive contributions to food security and long–term development in Africa. However, programme food aid has seldom made a large direct contribution to the alleviation of poverty and hunger through the use of saved foreign exchange, sales proceeds or the food itself. In addition to the fact that the main objective of the programme food aid has often not been alleviation of poverty and hunger, problems have included irregular timing, poor programming of counterpart funds and the dissipation of food resources in generalized food subsidies. Project food aid reaches the poor and hungry, but direct distribution of food to the beneficiaries can be very costly and requires greater rigour in selection and design of projects. Project food aid has also been handicapped by the shortage of complementary financial and technical resources and by administrative and logistical difficulties.

– A revision of emergency response mechanisms is required to provide a sound resource base in advance of emergency food aid needs, access to donors' food supplies at short notice, and cash to allow rapid purchase of food close to where emergencies occur. Long–term refugees and displaced people require more developmentally–oriented approaches. Development assistance (including food aid) should be provided in drought–prone areas to address the root causes of recurring emergencies.

(Source: WFP, May 1991)

Markets, Democracy and Development

Meeting the challenge of development needs an undistorted policy climate, and is principally in the hands of the developing nations themselves, writes the Economics Editor of the *Guardian,* Will Hutton. The piece he has contributed to the *Guardian* on this, is quoted below.

"The World Bank has called for a market–oriented approach to economic development, arguing that the prospects for the one billion people who live on less than a dollar a day lies in their own hands. Lawrence Summers, the World Bank's chief economist, commenting on the 1991 World Bank Development Report, said that a new 'market–friendly' consensus on economic development was emerging. But although competitive markets were the best way forward, they sometimes 'prove inadequate' or fail altogether. That was why governments must, for example, 'invest in infrastructure and provide essential services to the poor'.

"The report says that the central theme in development is the relation between governments and markets. The evidence over 40 years was that intervention, price controls and administrative allocation of credit distorted performance. In an analysis of 1200 projects, economic rates of return were between 50 to 100 per cent higher under a relatively undistorted policy climate. Equally, protection in the industrialized countries hurt developing nations, and the authors estimate that unrestricted access to First World markets would add $55 billion to Third World earnings.

"The Bank is optimistic about the prospects for growth in the developing world over the next decade. Per capita incomes could grow by 3 per cent a year, and with the right combination of policies, growth could be up to 2 per cent higher.

"The Bank is now an enthusiast for democracy, stressing the old view that only authoritarian governments can make the 'hard choices' about economic development as 'patently false'. Governments need to retain popular support for their actions, and aid and finance agencies should question backing countries whose first priority is to add to their military strength.

"The World Bank supports the OECD, IMF and Bank for International Settlements orthodoxy that the best economic policy governments can pursue is a stable macro–economic foundation of sound money and public finance. The best help the developed world can give to the development process is to roll back restrictions on trade and to address the debt crisis. This remains an obstacle to growth, and more countries should be

eligible for commercial debt and the debt service reduction. Above all, the industrialized countries should keep rates low and achieve steady non–inflationary growth.

"The report concludes that the developing countries' prospects are principally in their own hands, and it repeats the market message that strategies 'in which governments support rather than supplant competitive markets offer the best hope for meeting the challenge of development'."

(Source: *The Guardian,* 8 July 1991)

Safe Motherhood Initiative

Maternal deaths – defined by WHO as death of a woman who is or has been pregnant during the previous 42 days –account for one quarter of all deaths during the child bearing years. Almost all of these (99%) take place in developing countries. For instance, the lifetime risk of dying from pregnancy–related causes is 1 in 25 for Africa and 1 in 38 for South Asia, compared to 1 in 1750 in developed countries. The number of maternal deaths occurring in India in one week equals the combined totals for all European countries in one year! Almost all of these deaths are preventable. But because of inadequate levels of health, currently over half a million women die needlessly of pregnancy–related causes every year. This amounts to about 1400 women dying daily.

Concern about the neglect of maternal health especially in developing countries led to the launching of the Safe Motherhood Initiative at the International Conference on Safe Motherhood held in Nairobi in February 1987 (see *SCN News* No. 1, p. 8). The conference was jointly sponsored by the World Bank, the United Nations Fund for Population Activities (UNFPA) and the World Health Organization. The Initiative is, in fact, a culmination of several events including the Strategy for Health for All by the Year 2000, the UN Decade for Women and the Mexico Population Conference of 1984. Decision makers from many developing countries have considered what needs to be done to alleviate the desperate situation of many women throughout poor countries. The Safe Motherhood Newsletter describes the initiative in this way.

"The Safe Motherhood Initiative is a global effort to reduce maternal mortality and morbidity. The target is to reduce maternal deaths by at least half by the year 2000.

"The Initiative aims to enhance the quality and safety of girls' and women's lives through the adoption of a combination of health and non–health strategies. However, the initiative places special emphasis on the need for better and more widely available maternal health services, the extension of family planning, education and services, and effective measures aimed at improving the status of women.

"Activity within the Initiative may take many forms: increasing awareness of the dimensions of the problem and the need for action; strengthening maternal health services; training of health workers and others; facilitating educational and economic opportunities for women; and research, particularly operational research.

"Partners within the Initiative are governments, agencies, non–governmental organizations and other groups and individuals who stimulate and participate in efforts likely to reduce the number of women suffering and dying as a result of pregnancy and childbearing."

Financial support for achieving the Initiative's goals have been committed by a number of organizations including WHO. WB, UNDP and UNFPA.

For more information on the Safe Motherhood Initiative and for a free subscription to the *Safe Motherhood Newsletter* please contact: The Manager, Safe Motherhood Initiative. Division of Family Health, World Health Organization. 1211 Geneva 27, Switzerland. Tel: 41 22–791 3386; Fax: 41 22–791 0746.

(Source: *Safe Motherhood Newsletter.* Issue 5, March–June, 1991)

Vitamin A – A Moral Responsibility

The theme of the XIV IVACG (International Vitamin A Consultative Group) meeting held in Guayaquil, Ecuador in June 1991 was community–based interventions (see *SCN News* No. 6). Assessment of vitamin A status and its effect on mortality and morbidity were some major topics discussed in the meeting. The IVACG Chairman, Dr A. Horwitz (who is also SCN Chairman), highlighted some related issues discussed in the meeting. The following are some extracts from his closing remarks.

"What makes the XIV Meeting of IVACG clearly different from all others that preceded it, is the emphasis placed on community based interventions. Although vitamin A supplementation is one of the approaches, the major interest has been on long range solutions based on behavioral change and dietary choice. The rationale is clearly stated. As long as people regularly consume vitamin A rich foods –either preformed from animal products or preformed as carotenoids from plant sources – all conditions associated with its deficiency can be prevented. In this process the main actors are the people and specifically their knowledge, attitudes and behavior. What is needed is to induce the choice of appropriate foods and to change traditionally entrenched old practices related to the consumption of products lacking or poor in vitamin A.

"We need to keep in mind that because the pace of formal education and cultural imitation as well as economic development has been too slow to induce better health, the need to enlist people's cooperation calling their attention to the consequences of their behavior has become urgent. Mothers as agents of change are our main target related to vitamin A deficiency of children. However, society at large must be informed about any condition affecting large groups of human beings requiring a healthier life style.

"I submit that perhaps the greatest contribution of the Primary Health Care Movement – the integrated one not the selective one – stemming from the Declaration of Alma Ata, has been the focus on an active participation of the people in the decisions that deal with their health and nutritional status, as well as of their families and the communities where they live. But this fundamental objective cannot and will not be reached through the traditional health and nutrition education approaches. Experience shows that these did not motivate the people, because messages were not understood and the need for changing behaviors deleterious to health was not felt. Hence the need for the modern approach to nutrition education, based on methodologies stemming from the social and the biological sciences. They should be applied to vitamin A deficiency prevention and control.

"Although some of us agree with the objectives of social marketing, we are not convinced of the need of adopting the methodologies of commercial marketing. What we want is to persuade people, not to lure them. Once convinced, we expect them, properly informed, to actively change their behavior so as to avert death, prevent disease and malnutrition, and promote health. To this end, as stated, the biological and social sciences have designed appropriate methodologies and should, through research, create even more efficient and cost–effective ones.

"There is evidence of a new development paradigm reflecting the recognition of the role of the poor in poverty eradication and development. There is also a stronger emphasis on normative and moral arguments. From passive recipients to main actors, the poor should play a major function in the 'bottom up' approach to solve priority problems identified by them. However, the 'top–bottom' approach, also needed, should be normative but ethical.

"For sustainable community level programs, four elements are critically important – awareness, choice, empowerment and public demands. We must recognize that management is the weakest link in the program implementation process. It explains, to a large extent, why we apply in nutrition much less than what we know, and why we witness failures in well formulated health plans. Isolated interventions have a lesser impact than integrated synergistic ones for improving the health and nutritional status of children. If income generating schemes are included, and funds are administered by the mother, results stand a better chance of becoming sustainable. Maternal literacy reduces the risk of vitamin A deficiency and is associated with sustained participation in the interventions. It is long known that the higher the level of education of mothers the lower the infant and elderly childhood mortality rates.

Despite limited information – because we still lack a focal point for monitoring all vitamin A control programs even in the countries with a high prevalence of deficiency –morbidity and mortality rates also indicate that people are not consuming what they should, even where vegetables and fruits containing adequate amounts of beta–carotene are available. We submit that governments and the international community of agencies should develop programs, community–based and culture–specific, on effective production and consumption of vitamin A rich foods, and not rely exclusively on supplementation.

"The need has become evident for exploring the mechanism that induces significant mortality reduction, or lack of it, as a result of vitamin A supplementation. This is becoming a rather urgent area of research to facilitate consistent policy decisions. On the basis of the information available and forthcoming, we will need to establish in detail when and how vitamin A supplementation should be applied, a recommendation to governments to decide on the uses of this intervention.

"Since the World Summit for Children, programmes to control micronutrient deficiencies are gaining momentum. The Heads of State of a large number of countries of the world committed themselves to virtually eliminate these conditions, affecting more than a billion human beings most of them from developing countries, during this decade. Governments count on the technical and financial cooperation of the international community of agencies. However, the task ahead is as large as it is essential, and time is running short to reach the overall humanitarian goal. Although it has a price, the outcome is priceless, as it is precious. Every agency represented in this meeting must review its objectives and available resources in the light of the overall decision taken. We must not have children going blind nor dying prematurely because they lack on time an essential nutrient, vitamin A, that nature generously provides. This is our collective moral responsibility. As long as we keep it constantly in mind – what more poignant than the vision or the image of a child going blind – we will succeed.

"What we learnt, if we are diligent, should serve many in need. What we do not yet know about vitamin A deficiency should stimulate our imagination to find appropriate answers that will enable us to serve an even larger number of human beings who are awaiting our cooperation. The more we advance in the effective application of proven technologies as well as in the investigation of new knowledge, the greater will be the real success of this meeting."

(Source: Dr A. Honvitz, Director Emeritus, Pan American Health Organization; Chairman, ACC/SCN)

One Spot of Blood to Identify Multiple Nutritional Deficiencies

Can various micronutrient deficiencies be identified by a single blood–spot? Some recent advances suggest its feasibility soon. A recent workshop at Emory University brought together scientists from several nutrition organizations to determine the feasibility of applying one single blood–spot test to determine human deficiencies in iodine and iron. During the workshop, held 22 April, 1991, under the auspices of the UNICEF–supported International Program Against Micronutrient Malnutrition (PAMM), Kansas University Medical Center (KUMC) discussed progress in their USAID–supported research to develop a method for assessing iron deficiency. The Centers for Disease Control, also at the meeting, have already developed a blood–spot test for determining iodine deficiency. The workshop concluded with optimism that these two testing methods can be merged into one paper blood–spot technique which assesses both micronutrient levels. Such a technique would be very cost effective and improve the identification of people at risk. The PAMM stands ready to expand their country level assessment programme to include iron when the dual test methodology is ready.

This workshop illustrates the effective coordination of efforts to alleviate malnutrition in accordance with the goals of the World Summit for Children. The expectation is to use one spot of dried blood to assess multiple micronutrient states, including vitamin A in the long run.

(Source: Office of Nutrition, USAID, May 1991)

Solar Drying to Improve Vitamin A Status in Haiti

Solar drying uses the sun's energy for drying food while protecting it from the vitamin–depleting effects of solar rays. It is an inexpensive and promising means of food preservation for developing countries.

VITAL, USAID's Vitamin A Field Support Project, through a collaborative effort with Save the Children, is providing technical assistance to introduce inexpensive solar drying processes to Haitian communities. The community dryer will be used for locally–grown fruits and vegetables, focusing on the mango, a fruit abundant in the region and containing extremely high levels of beta–carotene.

Haiti is the seventh largest producer of mangoes in the world, yet due to transportation difficulties and a short growing season much of the produce goes to waste before it can be consumed. When dried properly using the appropriate technology and techniques, the mango can provide plentiful vitamin A. The acceptability of the dried fruit makes it an attractive food source of vitamin A for children at risk for deficiency.

The project will not only promote increased consumption of the dried vitamin A–rich fruit by the target population, but will focus also on nutrition education activities to link the population and consumption goals of the project. This modification of a traditional technology holds promises for populations facing seasonal constraints to food security.

(Source: Office of Nutrition, USAID, May 1991)

Climate Change Threatens Human Health

The world has come a long way in the past two years in realizing the dangers of global warming, known as the "greenhouse effect" because of the way certain gases in the atmosphere act like greenhouse glass, allowing passage of incoming solar radiation but trapping some of the outbound heat radiation from the earth. This article is based on a contribution from George Sanderson, of the UN Envriron−ment Programme. Carbon dioxide buildup − mainly from combustion of fossil fuels like oil, gas, and coal, and from clearing and burning forests − is believed responsible for about half this world−wide warming, while chlorofluorocar−bons (CFCs), methane, ground−level ozone, and nitrous oxide emissions account for the rest. On present trends, scientists predict that these gases will warm the earth further by about 0.3 degrees Celsius in each decade of the next century. This rise, faster than any experienced over the past 10,000 years, could increase the planet's mean temperature by 3°C before the year 2100, making it warmer on average than it has been for 100,000 years.

This may not sound especially ominous, but left unchecked global warming could alter rainfall patterns, flood vast areas of low−lying land as warmed seas rise (possibly by as much as a metre), and drive countless species to extinction as fragile eco−systems collapse.

It could also affect human health by disrupting food and fresh water supplies, displacing millions of people, and altering disease patterns in dangerous and unpredictable ways. "Human health could be affected by even quite small changes in average mean temperature, and there is the prospect of some major diseases flourishing in warmer conditions and of more resistant strains of infection emerging", warned the Commonwealth Secretariat in 1989. The populations most vulnerable to the negative impacts of the greenhouse effect are in developing countries, in the lower−income groups, residents of coastal lowlands and islands, those living in semi−arid grasslands, and the urban poor in the squatter settlements, slums and shanty−towns of large cities.

Present strategies for immunization, coping with disease vectors or carriers, providing safe drinking water, and improving nutrition are all based on existing climate regimes, ecosystems, sea and solar−radiation levels. These are all expected to change, but exactly how much cannot be predicted with any certainty, making it virtually impossible to adjust health and nutritional strategies now to take account of possible climate changes.

Humans adapt well to moderate changes in temperature and to occasional extremes. But this adaptive capacity −developed over many thousands of years − is relatively low in infants and the elderly; it rises through childhood and adolescence to reach a maximum which can be maintained up to about 30 years of age.

Currently, the temperature in Washington DC exceeds 38°C on an average of one day per year; it rises above 32°C about 35 days every year. "But by the middle of the next century, these figures could rise to 12 and 85 days respectively per year", according to the World Meteorological Organization (WMO). "'The effect of such temperature rises on human health in Washington and similar cities throughout the world is difficult to predict. But there is no question that increased urban heat stress could come to claim many lives". The same conclusion was reached by the Intergovernmental Panel on Climate Change (IPCC), which warned in June 1990 that the increase in deaths caused by a greater number of summer heat waves "would be likely to exceed the number of deaths avoided by reduced severe cold in winter". (The Panel was created in 1988 under the auspices of WMO and the United Nations Environment Programme.) A changing climate is also likely to shift the range of conditions favouring certain pests and diseases, according to the final scientific statement issued by the Second World Climate Conference in November 1990.

As temperatures rise, the boundaries of the tropics may extend into the present subtropics and parts of temperate areas may become subtropical, favouring a poleward movement in both hemispheres of the vectors or agents that carry or cause many tropical diseases (e.g. mosquitoes, snails etc.). Some communicable illnesses, including those transmitted through air, water, and food, could therefore become common in regions that once rarely knew them, with a possible rise in death rates. Diseases like malaria, hepatitis, epidemic cerebral meningitis, poliomyelitis, tetanus, cholera, and bacillary dysentery, which flourish in hot, humid weather, could increase while those associated with cold weather would be expected to diminish. In a warmer climate, malarial mosquitoes and other disease vectors also may migrate vertically, up into formerly inhospitable highlands. This may be particularly hazardous in tropical highland areas where there is no natural resistance to malaria.

Changes in temperature, rainfall, humidity and storm patterns may affect vector–borne diseases in two ways. First, they may directly affect the vector's range, longevity, reproduction rate, biting rate, and the duration and frequency of human exposure. Second, they may modify agricultural systems or plant species, thus changing the relationship between vector and host.

Development rates of mosquitoes, for example, would increase with warmer temperatures, provided these pests have wet areas in which to breed, and the snail–borne disease schistosomiasis is likely to spread if global warming forces increased irrigation or causes people to migrate towards irrigation projects. Changes in human migration patterns, along with increased temperature and rainfall, may extend the geographic range of hookworms too.

Moreover, "warmer, humid conditions may enhance the growth of bacteria and moulds and their toxic products, such as aflatoxins", cautioned a World Health Organization (WHO) task group on the potential health effects of climate change. "This would probably result in increased amounts of contaminated and spoilt food."

In the oceans, toxic "red tides" – which kill off marine life due to the proliferation of minute organisms called dino–flagellates – may become more frequent as temperatures rise and nutrients from agricultural fertilizers leach into rivers and coastal waters. This proliferation would disrupt marine food stocks and raise incidences of ciguatera poisoning, caused by eating tropical fish or shellfish which have consumed organisms that have ingested dinoflagel–lates.

Sea–level rise could spread infectious disease by flooding sewerage and sanitation systems in coastal cities, and increase the incidence of diarrhoea in children. The flooding of hazardous waste–dumps and sanitation systems could result in long–term contamination of crop lands. As well, rising, warmer seas may disrupt marine habitats and aquatic food chains. Since fish constitute 40% of all animal protein consumed by the people of Asia, such a disruption of the marine ecosystem would affect the food supplies and incomes of many millions of people, and increase malnutrition and deficiency disease.

Food shortages, reaching "famine proportions in some regions", could also follow the inundation of fertile coastal land by rising seas, the WHO task group noted. And the potential scarcity in some developing countries of food, cooking fuel, and safe drinking water because of drought may further increase the extent of malnutrition, with "enormous consequences for human health and survival" to quote the IPCC.

Some of the factors contributing significantly to global warming, such as the burning of fossil fuels and the use of chlorofluorocarbons (CFCs) and halons, threaten human health in other ways too. A typical petrol–driven motor car, for example, emits carbon monoxide, sulphur and nitrogen oxides, hydrocarbons, low–level ozone, and lead, all of which are hazardous to health. The WHO task group and the IPCC predicted that climate change would worsen air pollution – especially in heavily populated urban areas – by altering the composition, concentration and duration of chemical pollutants in the atmosphere.

For their part, the stratospheric–ozone–depleting CFCs and halons also subject humans to increased risk of skin cancer, eye cataracts, snow blindness, and lower immunity to a host of other illnesses as a result of increased exposure to ultra violet B radiation from the sun. "Skin cancer risks are expected to rise most among fair–skinned Caucasians in high–latitude zones", according to the IPCC. The WHO task group reached a similar conclusion, noting that "the incidence of non–melanoma skin cancer could increase between 6% and 35% after the year 2050. These increases may be much larger in the southern hemisphere, where total ozone depletions have been larger."

Finally, changes in the availability of food and water as well as radical shifts in disease patterns could initiate large migrations of people, increasing the number of "environmental refugees" and leading to overcrowding,

social stress and instability, all of which may impair human health and increase health inequality between peoples of developed and developing countries.

The upshot of all this, according to leading scientists, is that much more emphasis must be placed on research into how people contribute to and cope with climate change, and on public awareness and education programmes. "Not only do we need more information about environmental conditions... we also need information about health conditions if we are to target our efforts and use our ever–limited resources to best serve health needs", notes Dr Wilfried Kreisel, Director of the World Health Organization's Division of Environmental Health. "Sad to say, environmental health globally suffers from informational malnutrition, ranging from mild to severe."

(Source: Based on an article provided by George Sanderson, Deputy Chief, Information and Public Affairs, UNEP, May 1991)

Earth Summit

The decision by the General Assembly of the United Nations in late 1989 to convene the Earth Summit in Brazil in June 1992 (see *SCN News* No. 6, p. 34), is one distinct response to the need to heighten awareness and to undertake appropriate action. The Summit's aim will be to ensure global environmental and economic security. The preparation for the United Nations Conference on Environment and Development (UNCED) is well under way. To complement the release of the papers and reports prepared for the conference, the United Nations NGO Liaison Service (NGLS) is planning to do analytical summaries of some of the main documents. Another excellent source of information is *Network* '92, a monthly newsletter from UNCED, published by the Centre for Our Common Future, Palais Wilson, 52 Rue des Paquis, CH–1201 Geneva, Switzerland. Tel: 41 22 732 7117. For more information on NGLS' activities, contact NGLS at Palais des Nations, 1211 Geneva 10, Switzerland. Tel: 4122 734 6011 ext. 2005; Fax: 733 6542.

(Source: Development Forum, March–April 1991)

The Black Triangle

In relation to environmental destruction and risk to human health the following report released by UNICEF is of special interest.

At a seminar organized in Florence at the headquarters of the International Child Development Centre, it was revealed that the degree of environmental destruction in the countries of Eastern Europe, and in particular the "black triangle", is alarmingly high. The black triangle is an industrial region stretching across several central European countries including Silesia in Poland, Bohemia in northern Czechoslovakia, the Sudeten region in former East Germany, and post–Chernobyl Ukraine. Life expectancy is reported to be 5 to 8 years lower than in non–industrial areas of these countries, and almost one half of pregnancies could be at risk. An extraordinarily high concentration in the air of lead, cadmium and the highly carcinogenic substance benzo–alphapyrene has been reported in Upper Silesia, where children and young people make up one third of the 3.9 million population. The effects of such pollution on children are incalculable: 40% of those living in the Bukowno region suffer from saturnism, an incurable illness caused by lead poisoning which affects the whole nervous system. 17% of all land in the Soviet Union is in ecologically critical condition and 36% of the population is in danger because of the state of the environment.

The Florence seminar, which was attended by important political figures, environmental and public health specialists, and journalists from both East and West was an opportunity not only to listen to alarming testimonies but also to share the thoughts and suggestions of scientists and journalists.

(Source: *International Review,* 3 April 1991)

Malaria–preventing Bednets

Deaths due to malaria may considerably be reduced simply by using bednets impregnated with a biodegradable insecticide. Recent studies by Drs Greenwood and Alonso (of the UK Medical Research Council Laboratories) in 17 Gambian villages attributed a 70% reduction in malarial mortality of children between 1 and 4 years to this method of malaria control. Moreover, the study found no adverse effects on people using the bednets, and no difference in death rate between using the impregnated bednets alone or together with taking antimalarial drugs.

The nets are simply impregnated twice a year by dipping them into the insecticide solution and wringing them out. The insecticide deters mosquitos from entering homes, or kills a large share of those mosquitos that come into contact with it. The nets thus prevent the mosquitos from infecting the child. The up–front cost is estimated by WHO at US$3.60 per net, plus a small amount for insecticide.

Malaria is a child killer disease in Africa, resulting in the death of some 500,000 children annually. "Despite the considerable research and control efforts devoted to malaria since the turn of century, it is still the most prevalent and, from a public health standpoint, most devastating parasitic disease in the tropics" says Dr Godal, Director of the WHO Special Programme for Research and Training in Tropical Diseases. The situation is worsening in many areas, because of increasing resistance of the parasite to most anti–malarial drugs, as well as people's migration to malarial areas.

WHO is planning a US$5 million programme to conduct several massive trials each involving 150,000 people, to investigate the effectiveness and cost of using nets in different ecological and socioeconomic areas. Plans for a national programme to introduce within 2 to 3 years impregnated bednets into almost all villages are already formulated by the Gambian government.

(Source: WHO Press Release 35, 20 June 1991)

New Strength and New Momentum for Health

At the 44th World Health Assembly in Geneva in May 1991, James P. Grant, the Executive Director of UNICEF, highlighted a number of significant steps taken internationally since the World Summit for Children in September 1990 and emphasized the future actions to be taken. Among the points covered in his statement were the following:

"... We have for the first time international agreement on the goals that you – the leading health officials of the world –have long espoused and long sought concerted action and resources to implement. Now we have the attention and engagement – and financial commitment – of your national leaders to an unprecedented degree, with the goals personally endorsed and committed to by more than 100 heads of state or government and over 50 other senior representa tives of countries who have signed the World Summit Declaration and Plan of Action...

"The ultimate test of the World Summit commitments is the progress achieved in countries. And already indications bode very well for meaningful follow–up.....In Mexico, for example. President Salinas has appointed the Secretary of Health as overall coordinator of the National Commission for the Implementation of the World Summit Commitments, which has four specialized commissions at the national level and a similar structure in every state. President Salinas will personally devote a day every six months, beginning last November, to reviewing his country's follow–up to the Summit.

"In November 1990, in response to the Summit, the seven Central American health ministers, together with their counterparts in the field of education, met in Punta Arenas, Costa Rica, and hammered out agreement on a series of areas in which they could work together for the welfare of children.

"In Canada, Prime Minister Mulroney has designated the Minister of Health to coordinate the implementation of his government's World Summit commitments. Committees to oversee follow–up to the World Summit and draw up plans of action have also been named in the Central African Republic, Costa Rica, Guinea–Bissau, the Maldives, Spain and Uganda, among other countries.

"As part of its post–Summit effort, Brazil's Minister of Health presented a Plan to reduce infant mortality to 40 per 1,000 live births by 1995, down from the 1989 rate of 61. In the United States, a World Summit for Children Implementation Act of 1991 has been introduced in Congress, which would provide some US$2.7 billion in 1992 and US$3.1 billion for 1993 for specific domestic and international follow–ups to the World Summit....

"... While the World Summit for Children gave us great new leverage to support our common WHO and UNICEF health goals for the 1990s, it also challenged us to do much more spade work in several critical child health fields. I am pleased that our two organizations, along with other key actors, are already collaborating to move us forward on several of these concerns, including:

- reduction of micro–nutrient deficiency – to be discussed in Montreal later this year

• control and treatment of acute respiratory infections – to be discussed at the International Conference on ARI in Washington in December

• the need for better and more comprehensive vaccines –the objective of the Children's Vaccine Initiative – for which UNICEF financial and other participation was just endorsed by our Executive Board

• prevention of HIV infection and the special needs of AIDS–affected children

• and accelerated promotion and protection of breast–feeding.

"...UNICEF estimates that reaching these objectives will require additional resources in developing countries rising to the magnitude of US$20 billion per year by mid–decade, of which some US$3 billion will be needed towards meeting the basic health goals, US$9 billion for water and sanitation, and some US$5 billion for meeting the education goals... These sums are large, but not impossible. The world, after all, still spends more than US$1,000 billion annually on arms, and tobacco companies spend more than US$3,000 million annually on advertising in North America! It certainly should be possible to mobilize the resources necessary to fulfill these historic promises to children...."

(Source: Extracted from the statement by Mr James P. Grant, Executive Director of UNICEF, 44th World Health Assembly, 14 May 1991)

Nutrition in UNICEF/WHO Joint Health Policy

"Improving nutrition remains among the most challenging tasks for the last decade of the twentieth century", according to the UNICEF/WHO Joint Committee on Health Policy (JCHP). Recognizing that nutrition is a multi–disciplinary area that would benefit from continuing inter–agency collaboration, the Committee expressed concern that "achievements will remain limited so long as nutrition is considered simply a health problem". The Committee, thus, stressed that "by linking nutrition with all related economic and social sectors, every United Nations organ or agency would be concerned in addressing the problem", with the ACC Sub–Committee on Nutrition coordinating the nutrition–related efforts of the various United Nations agencies. It was further stated that the new International Development Strategy has included six nutritional goals for human development.

Since nutrition is a vital factor to child survival, in the Committee's view, priority should be accorded to the prevention of malnutrition. Target groups include households, health services, and maternal care facilities. Development planners should be encouraged to use nutritional status as an indispensable and direct indicator of national development, it was recommended. The JCHP endorsed the nutritional precepts reproduced below:

– Measures to attack poverty and reduce inequity go to the root of the problem of hunger but much can be done to improve the nutrition of children under two years of age by strengthening the "caring capacity" of mothers – their knowledge and understanding and ability to apply these –for example, through contriving to reduce the burden on their time and energy.

– The growth of children is the outcome of a series of processes that ultimately influence household food security and health security, and the caring capacity of mothers and other members of the family. All three are necessary for good growth but none is sufficient by itself.

– The most critical period is the first two years of life, when the growth pattern for the future is set.

– Improved nutrition of women is important for their own health and for that of their children.

– Exclusive breastfeeding is especially important not only for optimum nutrition of the child but also for protection from the frequency and severity of infection and for delaying conception.

– While breastfeeding should continue as long as possible, additional food must be introduced from the age of 4 to 6 months, with special attention paid to the frequency of feeding.

– Families must have access to sufficient and appropriate food to satisfy the needs of all their members throughout the different seasons of the year (i.e. be food secure). For many, this will mean adequate purchasing power, especially important for women; for some, it will mean direct involvement in food production for themselves.

– Community level action (supported as appropriate from outside), stemming from community involvement in assessment and analysis of the situation, is often the most effective way of mobilizing human and other resources for sustained economic and social development leading to improved nutrition.

– Access to credit and technical resources is frequently denied the poor, especially women, inhibiting initiative and self–help.

– Deficiency of vitamin A can lead not only to blindness but also to markedly increased mortality from infectious disease. Emphasis should be on improving dietary intake, but periodic supplementation with high doses of vitamin A to children below six years of age can be useful. Because of greater vulnerability to infection in the early years, it is sensible to ensure good liver stores during infancy. The great success of immunization programmes in reaching out to children in the first year of life provides a new opportunity to reach children also with vitamin A.

– Iodine deficiency is the single most important cause of mental deficiency as well as a cause of infant death, stunted growth, and poor physical performance. The addition of iodine to salt is the traditional way of attacking the problem, of proven effectiveness. Newer methods that have been shown to be effective are the addition of iodine to water supplies and the provision of iodized oil by mouth once in two years – especially important for pregnant women and young children to prevent cretinism.

– Iron deficiency is widespread throughout the world and is especially serious for pregnant women. A course of iron tablets daily throughout the second half of pregnancy can cost only 25 US cents.

(Source: Report of the UNICEF/WHO Joint Committee on Health Policy on its Twenty–Eighth Session. WHO, Geneva, 28 March 1991)

Roger Moore, Special UNICEF Representative

"The actor Roger Moore, who played James Bond in some of the popular films, will become a special representative for the film arts for UNICEF. He will join such personalities as Sir Edmund Hillary, the conqueror of Mount Everest, and the Pakistani cricketer Imran Khan in helping to win support for the UN children's agency."

(Source: *The International Herald Tribune,* 9 August 1991)

A Breastfeeding Culture

A "massive shift to a breastfeeding culture" is called for by James Grant, UNICEF Executive Director. A global initiative called the World Alliance for Breastfeeding Action (WABA), aims to strengthen the efforts for breastfeeding promotion in line with the Innocenti Declaration on protection, promotion and support of breastfeeding (see *SCN News* No. 6 p. 33). Only 7 out of 90 countries have fully adopted the International Code of Marketing of Breast Milk Substitute, initiated by WHO and UNICEF in 1981, explains Grant. Meanwhile activities for marketing breast milk substitutes have been intensified. Organizations active in breastfeeding promotion such as La Leche League International, World Council of Churches, International Baby Food Action Network (IBFAN), International Lactation Consultant Association (ILCA), the International Organization of Consumers Union (IOCU) and the Inter–faith Centre for Corporate Responsibility (ICCR), are in the steering committee of WABA. Pat Young of ICCR remarks: "in the 1970s the cause was established, in the 1980s the Code was established, and in the 1990s compliance will be established".

(Source: Anwar Fazal. Development Forum, 19 (2), March–April 1991. For more information about WABA contact: WABA, c/o IOCU. PO Box 1045. 10830 Penang. Malaysia. Fax: +60–4–366506)

Baby Friendly Hospitals

Institutions that adopt and apply "Ten Steps to Successful Breastfeeding" (quoted in the *SCN News,* No. 4, p. 40), will be designated as "baby friendly" and will receive a plaque or other award of public recognition. This new initiative to promote breastfeeding through the creation of baby friendly hospitals has been launched by WHO and UNICEF at a meeting of the International Pediatric Association in Ankara, Turkey, on 28 June 1991, which endorsed the Innocenti Declaration (see *SCN News* No. 6, p. 33), with "Ankara Affirmation". The aim is to change hospital practices towards promoting, protecting and supporting breastfeeding.

The "baby friendly" concept has, according to UNICEF, already received support from numerous organizations, health professions, government ministers, as well as personal support of the Presidents of Finland, Mexico and Nigeria, and of the Surgeon–General of the USA.

Both the WHO World Health Assembly and the UNICEF Executive Board at their sessions in 1991 recommended that the Innocenti Declaration be used as the basis for their policies, specifically emphasizing the "ten steps". The resolution by the UNICEF Executive Board has also called upon "manufacturers and distributors of breast–milk substitutes to end free and low–cost supplies of infant formula to maternity wards and hospitals by December 1992, thereby reducing their detrimental effect on the initiation of breastfeeding". It also "encourages States to ensure the application at the national level of the International Code by integrating it, in particular, into their legislation". Mr Borasio. the President of the International Association of Infant Food Manufacturers has pledged full cooperation and confirmed in a letter to WHO and UNICEF that its members agree with the goals of ending donations or low– priced supplies of infant formula to maternity wards and hospitals.

(Sources: WHO Press Release/38, 4 July 1991: UNICEF Program Committee, 1991 session)

Iron Fortification

In June 1990. the ACC/SCN convened a workshop to consider how to make iron supplementation work on a large scale (see feature article in *SCN News* No. 6, p. 1). The recent ACC/SCN document on "Controlling Iron Deficiency" (ACC/SCN State of the Art Series, Nutrition Policy Discussion Paper No. 9) based on that workshop, sets out a framework for problem analysis and provides detailed guidance on effective iron supplementation. The need for complementary long–term approaches to iron deficiency control, namely food fortification, dietary modification and parasitic disease control was emphasized.

Effective food fortification, a long–term method of choice in many situations, requires long–term commitment, a bio–available but non–reactive iron source, and suitable vehicles or foods to be fortified. While "fortification does not necessarily substitute for supplementation, if it is effective in the long term, supplementation may be of less urgency and may become only very specifically targeted (i.e. only for 2–3 months during pregnancy). If fortification and supplementation are undertaken concurrently in an area, then iron deficiency anaemia prevalence may be reduced faster than is possible using supplementation alone, allowing the latter to be withdrawn once the problem has been sufficiently alleviated. Adequate monitoring of the impact of fortification is needed, which necessitates a consideration of the technical means for assessment and evaluation."

A next step was therefore to look again at iron fortification, which was done at a meeting convened by INACG at the end of 1990. This article is based on the draft report of that meeting.

The International Nutritional Anaemia Consultative Group (INACG) was established in 1976 by USAID to bring together scientists and practitioners from the United States, other countries, private industry, and the donor community in order to exchange information, develop plans and strategies and mobilize resources to address issues in iron deficiency. In December 1990, INACG held a workshop entitled "Combatting Iron Deficiency Anaemia through Food Fortification Technology", the objective being to produce an action plan for developing national iron fortification programmes through partnerships among industry, government, and donor groups. Current and experimental iron fortification systems were described and followed by discussion of issues such as safety, cost, marketing, and policy. The workshop involved multidiscip–linary working groups, charged with developing action plans for economically sustainable and effective iron fortification. In the process they were asked to define the appropriate role to be taken by industry (both national and multinational), donor agencies (multilateral, bilateral, and NGOs), and country leadership (at the level of ministries, state and provincial government, and community). The recommended action included the following.

• Countries having a high prevalence of iron deficiency should require the mandatory iron fortification of country–specific foods in order to achieve long–term and sustainable prevention of iron deficiency. This

should be within the context of a broader anaemia control strategy requiring the commitment of political leaders. A national coordinating committee should be established to link the various sectors responsible for various aspects of food fortification.

• Leadership at the ministerial level (most likely the health sector) should be involved and recognize that consumer groups and public health activists serve an important role in obtaining political commitment and influencing donors and industry.

• Country capacity should be made adequate in areas of food fortification technology, regulatory and monitoring mechanisms, consumer research, and information dis−semination.

• Initial financial support may be sought from donor agencies, although the development of a fortification programme should eventually become financially self−sustaining.

Roles of different groups

To begin a national iron fortification programme, formation of a *national coordinating committee* was considered essential. This committee could consist of members from concerned ministries (most likely Health, Education, Industry), involved industry (national or multinational), relevant academic and technology groups (research, public health, food technology), public health consumer groups, and others with interest and expertise in public health issues, consumer education and marketing. This group would define the problem of implementing iron fortification in country−specific terms and propose a strategy to overcome impediments.

At *national level,* the political leadership needs to be convinced of the significance of iron deficiency anemia in their country; commitments at the ministerial level are needed to create the necessary policies to implement a programme; a national planning and coordinating committee should be set up to develop a country specific programme, and legislation initiated where necessary to establish it. At *state, provincial and community level,* the need for the programme should be recognized, its value promoted to the population affected, and implementation of the programme at the local level facilitated. *Academic institutions* can assist with the epidemiological and food consumption data needed to identify the appropriate fortification vehicle; technological development to provide an effective fortification vehicle; and the assessment and monitoring of effectiveness of the programme.

Donor and international agencies should promote awareness of the serious problem of iron deficiency anaemia to the governments of seriously affected countries, perhaps providing seed money to aid in initiating action where needed, expertise in developing and implementing programmes, and helping with information needed to obtain political commitment assisted.

Within industry, at national or multinational level, technical expertise should be provided in the development of appropriate products, including quality assurance. *Local industry* should be involved in preparing the specified product, maximizing use of local materials where feasible to minimize costs, maintaining an effective quality control programme, and assisting in promoting educational efforts aimed at the targeted population.

Awareness by the *consumer* of the serious adverse effects of iron deficiency anaemia can be a strong factor in obtaining political support for inducing and sustaining action at the government level.

Non−governmental organizations (NGOs) or PVOs can aid in developing local solutions, organizing local industry to provide a demonstration of the effect of an appropriate iron fortification programme at the village level. This, in turn, can result in a growing demand for solutions at a national level.

(Sources: Draft summary of the XII INACG Meeting, 5−7 December 1990; "Controlling Iron Deficiency", ACC/SCN Nutrition Policy Discussion Paper No. 8. The report of the meeting and additional information available from: INACG, The Nutrition Foundation Inc., 1126 16th St NW, Washington DC, 20036, USA. Fax: 202−659−3617 Phone: 202−659−9024)

Dietary Control of Chronic Musculoskeletal Diseases

The importance of healthy nutrition and diet in the prevention and control of chronic diseases was highlighted by Dr Hiroshi Nakajima, Director−General of WHO, in his opening address to the 4th Interscience World Conference on Inflammation, Antirheumatics, Analgesics and Immuno−modulators, co−sponsored by the World Health Organization, which took place from 15 to 18 April 1991 in Geneva.

Musculoskeletal diseases, consisting mainly of chronic rheumatic and arthritic disorders – of which inflammation of the joints is the prominent feature – include more than 100 specific disease entities. Chronic rheumatic diseases place a considerable social and economic burden on societies. These conditions are not only a health problem for developed countries, but as life expectancy increases in developing countries they are recognized as equally important health problems in these societies.

The WHO Director General stressed that "in dealing with chronic inflammatory and auto–immune disorders, attention should not be focused solely on drug treatment. Diet is one of the major factors linked to a wide range of diseases. Intense research activity is starting, for example, on some polyunsaturated fatty acids for the treatment of different inflammatory and auto–immune diseases, such as rheuma–toid arthritis, diabetes and psoriasis. The prospects are promising for the use of omega–3–polyunsaturated fatty acids – contained mainly in seafoods – in the prevention of coronary heart disease."

According to the WHO Director General this dietary approach broadens the perspective for the integrated prevention and control of a group of chronic diseases through modified nutrition. More research is nevertheless needed to explore the preventive and therapeutic potential of life–style modifications in relation to chronic inflammatory and auto–immune diseases.

Advances in immunology and molecular biology have enhanced our understanding of the basic pathological mechanisms, and progress in pharmacology and therapeutics helped us to reduce the pain and deprivation of those who suffer from these musculoskeletal diseases. Dr Naka–jima further emphasized that "equally important is that we investigate how to prevent these diseases, through care of our bodies and healthy nutrition and life–styles".

(Source: WHO Press Release, 19 April 1991

Diet and Colon Cancer

About 1.25 billion people in the world are estimated to obtain around 40% of their daily calorie consumption from fat. This level is three times as much fat per person as is consumed by the remaining 4 billion population of the globe (as cited by Alan Durning in the November–December 1990 edition of the *World Watch).* Most of this fat comes from eating large quantities of red meat in the daily diet, with, for example, per capita meat consumption in the former East Germany being over 70 times that of India. This high level of red meat consumption is suspected to be at least partially responsible for the high prevalence of several diseases known as the "diseases of affluence".

An extensive body of prospective data provides further evidence for a now rather old hypothesis that the incidence of colon cancer is associated with red meat consumption. What is more, these data, collected during a six–year follow–up study of a large sample of women, indicate that the carcinogenic effect of meat consumption is independent of the total amount of energy consumed.

Numerous epidemiological studies have shown an association between dietary factors – notably high intake of animal fat and low dietary fibre intake – with an increased incidence of colon cancer. For example, migration from an area where the incidence of colon cancer is low to a higher incidence area and adoption of new eating habits of that area have been considered to increase the individual risk of developing colon cancer. The significance of a new study (see *Sources)* lies in the fact that it is large, involving about 89,000 women, whose eating habits were studied before any diagnosis of colon cancer was made. Furthermore, the study design controls for the effect of total energy intake on the observed associations, an issue which made most previous studies rather inconclusive.

The strongest association was found with high consumption of beef, pork or lamb. The subjects consuming these as a main dish (over 100 g/day) showed 2.5 times higher risk for colon cancer development. Neither other sources of dietary fat (like butter, cheese, ice cream or vegetable oils) nor protein content of meat were significantly related to the risk of colon cancer. This implies that the responsible factors are fat in the meat or some other red meat component as yet unidentified. Furthermore and as might be expected, those women consuming the highest quantities of red meat together with the lowest energy–adjusted crude fibre intake showed the highest susceptibility to developing colon cancer.

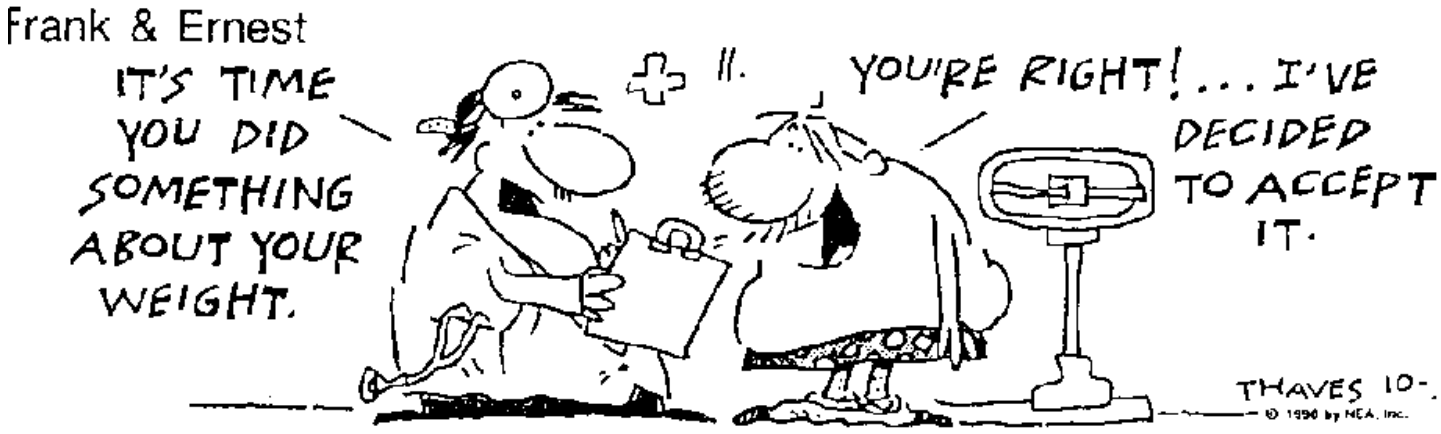
The underlying mechanisms for the observed association are still unknown. Carcinogens resulting from the cooking of meat, increased bile acid secretion into the colon, or increased faecal concentration of endogenous nitrosamines from a high meat diet are postulated as possible related factors. Further research is undoubtedly needed to identify the involved mechanism(s) inducing colon cancer following meat consumption. Moreover, it

is yet to be seen whether the same association also exists for male subjects.

(Source: Willet, W. *et al.,* Relation of meat fat and fiber intake to the risk of colon cancer in a prospective study among women. *New England Journal of Medicine,* 323 (24): 1664–1672, 1990)

Risks of Deliberate Weight Loss?

Obesity as well as large involuntary weight loss both have adverse health outcomes. On the other hand, with high prevalence of dieting to lose weight, there are many who go through repeated episodes of weight loss and regain. It was, however, only in 1986 that experiments on rats called attention to the possible association between weight *variability* and later health outcomes. Since then other prospective studies have been conducted on the relation of weight fluctuation and health outcomes. Recently Brownell and his colleagues from Yale University have published the results of their analysis of weight fluctuations based on the data from 32 years of follow–up of 3130 subjects participating in the Framingham Heart Study in Massachusetts.



The pattern of weight cycling was established on the basis of variability in each subject's measured body–mass index (the weight in kg divided by the square of the height in meters) at the first eight biennial examinations during the study and on their recalled weight at 25 years of age. Data on total mortality, mortality from coronary heart disease, and morbidity due to coronary heart disease and cancer of this large sample were analysed in relation to the variations in body weight of each individual. To control for any effect of possible preexisting diseases causing weight changes, only those end–points occurring during a follow up period of at least 4 years after the last body weight measurements were used for analysis. The relative risk of each end point among the subjects whose weight were most variable was compared with those whose weights varied least.

The results indicate that mortality and morbidity risks from coronary heart disease are significantly higher in the subjects with greater fluctuation in body weight. Furthermore, weight fluctuation was found to be most strongly associated with adverse health outcomes in the youngest cohort aged 30 to 44 years. The study also found that the relative risk estimates for both total mortality and coronary heart disease endpoints tended to be higher for men than women

The risk was found to be comparable in magnitude to other known risk factors attributed to obesity itself, for total mortality, cardiovascular disease, and coronary heart disease. At least two major conclusions may be reached. First, the public health implications of current weight loss practices need to be further investigated. Second, the results reflect an adverse effect of voluntary weight loss when this is not maintained. Thus, it appears that it may not be a good idea for an overweight person to try to lose weight if the new lower weight is not kept and repeated cycles in body weight are experienced.

(Source: *The New England Journal of Medicine,* 324 (26), 1839–1844, 27 July 1991)

Cholera Outbreak Reappears

A major cholera epidemic starting in Peru earlier this year – with more than 177,000 people being affected throughout the country by mid–May – came as a surprise to many who considered cholera a disease of the past. The outbreak claiming 1300 lives in the Peru alone was but another example of the way in which health and wellbeing is affected by poor environmental conditions. In fact, serious outbreaks of fatal diseases were not unexpected by the health officials who witness appalling living conditions and deterioration of

environmental health standards in poor neighbourhoods. The disease spread to 13 out of 25 Peruvian provinces and shortly reached nearby Ecuador, Colombia, Chile, and Brazil. By July 1991, over 250,000 cholera cases and 2500 deaths were reported by 8 countries in America.

By this time, reports from 10 African countries showed an alarming rise in cholera cases, sweeping through Africa at a catastrophic pace in some countries. Although the number of cases reported – over 45,000 – were lower than American region, the number of deaths were substantially higher (about 3500).

Cholera is a diarrhoeal disease caused by acute intestinal bacterial infection. It is transmitted mainly through contaminated food and water, usually in poor crowded communities where proper sanitation measures such as safe drinking water are inadequate. Without proper treatment it brings quick death to affected adults and children alike, although exclusively breastfed infants are rarely affected. About 80–90% of patients can usually be treated by oral rehydration therapy, while intravenous fluids might be necessary for those few who are severely dehydrated. During a cholera outbreak specific measures to avoid contamination through food consumption are to practise good food hygiene, cook food thoroughly and consume it immediately after cooking, avoid transfer of contamination from raw to cooked food, and consume only those vegetables which are peeled before eating.

"Even though this pandemic is entering its fourth decade, this new peak in cases and deaths reminds us again that once cholera attacks it is there to stay" says Dr Nakajima, Director General of WHO. "Death from cholera is all the more tragic because the disease is treatable and the conditions that spread cholera can be corrected" he adds. The rapid spread of cholera throughout Africa, and its persistence for more than 20 years, have challenged some concepts about disease transmission and shown the ineffectiveness of inappropriate measures used to prevent it. Dr Tulloch, Director of the WHO Division charged with control of diarrhoeal and acute respiratory diseases and coordinator of the WHO Task Force on Cholera Control is of the view that "the high rate of deaths from cholera in Africa is a reflection of the levels of poverty, mass migration and inadequate access to health care in some areas...in spite of progress in delivering ORT (oral rehydration therapy) over the past several years, the death rate in Africa is worsened by factors including lack of access to life saving ORS (oral rehydration salts), and delayed or incorrect management of cholera cases."

A Global Task Force on Cholera Control was created by WHO in April 1991 to accelerate activities to fight the disease. WHO is organizing a series of regional meetings to plan new actions against the disease. Emergency planning meetings will be held in Africa, the Eastern Mediterranean Region and the Americas in the second half of this year. The aim is to reinforce policies and guidelines, improve intercountry collaboration and surveillance, and expand direct support to individual countries, including provision of emergency supplies of ORS, education and information programmes, and training activities for health workers. It is now fully realized that without appropriate long–term preventive measures the underlying poverty and social stresses in poor countries will allow this and other similarly fatal diseases to reappear and to persist.

(Sources: WHO Press Release/39, 22 July 1991; *Disaster Preparedness in the Americas,* Issue No. 46, 1991; *In Point of Fact,* No. 73, WHO, April 1991)

Food Standards Conference

A Joint FAO/WHO Conference on "Food Standards, Chemicals in Food and Food Trade" was held – with GATT collaboration – in Rome, Italy, from 18 to 27 March 1991. The objectives of the conference, (see *SCN News,* No. 6), were to make Codex work on food standards more responsive to the current needs of governments; to review the achievements and efficacy of the Joint FAO/WHO expert committees on food additives and pesticide residues; to identify major problems in import/export control obstructing international trade in food and to suggest solutions. 360 participants at the level of senior administrators and technical experts, from 78 countries and 20 international organizations, attended. Some highlights of the major recommendations were as follows.

The Codex Alimentarius Commission (CAC) should review the Codex standards, from the standpoint of their *current* relevance and sound scientific basis, in view of the new international status which they would have under GATT proposals in the area of sanitary and phytosanitary regulations and measures, under the Uruguay round of Multilateral Trade Negotiations: in addition

- efforts should be made to simplify Codex standards as much as possible:

- procedures for acceptance of Codex standards should be reviewed, to increase acceptance rates;

• a review of Codex mechanisms should be undertaken to facilitate greater developing country participation in Codex;

• more should be done to increase consumer participation in decision–making, nationally and internationally;

• the activities of the Joint FAO/WHO Expert Committee on Food Additives should be enlarged to encompass novel foods and food ingredients and foods derived from biotechnology;

• FAO and WHO should increase technical assistance in food control to developing countries; training of inspectional, laboratory and managerial staff is a high priority;

• a series of recommendations were adopted aimed at helping developing countries to obtain information on import requirements, and in the area of information exchange.

(Source: Food Quality and Consumer Protection Group, FAO, Rome)

World Food Prize Won by Nutritionist – Dr Nevin S. Scrimshaw

The World Food Prize is the foremost international award recognizing outstanding individual achievements in improving the quality, quantity or availability of food in the world. It is the largest prize given for accomplishments in food and agriculture. During its five–year history, however, those honoured excelled in the increasing production of food through improving agriculture. Awarding the 1991 World Food Prize – for the first time – to a physician and international nutrition expert, Dr N.S. Scrimshaw, was in fact an official acknowledgment of the contributions of nutrition and nutritionists in alleviating hunger and malnutrition in the world. Laureates of the World Food Prize receive a cash award of $200,000 and a sculpture by world–renowned designer Saul Bass.

Dr Scrimshaw's scientific integrity and moral qualities have placed him as a distinguished international nutritionist and one of the principal food and nutrition advisors to national and international organizations. In the nutrition world he has been well–known for his pioneering work leading to the landmark publication on interactions of nutrition and infection (Scrimshaw *el al.*. 1968). while at the same time he has contributed greatly and in numerous different ways in combating malnutrition and hunger. In 1949, Scrimshaw established the Institute of Nutrition of Central America and Panama (INCAP) and was its first director. His research there produced advances in the treatment of kwashiorkor and endemic goitre. A vegetable–based protein formula called Incaparina was devised using cotton–seed flour and maize, upon which several developing countries still rely heavily. In India, a similar baby food was developed using peanut flour and wheat and named Balahar. He encouraged other countries to develop their own protein–rich weaning foods using suitable and locally available ingredients. In the early 1950s, Scrimshaw and co–workers found an iodization method suitable for the crude bulk salt in Central America, where goitre was a serious public health problem. Today this method is used all over the world. In 1961. he moved to the Massachusetts Institute of Technology (MIT) in Cambridge to establish its Department of Nutrition and Food Science. His laboratory became a world centre for evaluating the nutritional value and safety of novel proteins for human consumption. Recognizing the vital role of the nutritionist in alleviating hunger and malnutrition, he has established numerous organizations and

institutions to train young researchers from the third world countries.

Dr Scrimshaw currently works with United Nations University (UNU), where he organized the World Hunger Program, which established institutes of nutrition in Asia, the Near East and Latin America. He directed the UNU's Food, Nutrition and Development Program while serving as an adviser to numerous governments, universities, international agencies, and scientific organizations. He has recently been involved in studying the effects of chronic energy and iron deficiency, as well as promoting the application of anthropological methods to Rapid Assessment Procedures (RAP), for the improvement of nutrition and health related programmes.

He gave the following official statement on receiving the prize:

"I particularly appreciate the honor of receiving the World Food Prize, because this year it recognizes the contributions of nutritionists to the solution of the grave nutrition and food problems that continue to plague human kind – even where food production is adequate. It will encourage the efforts of nutritionists in all countries to overcome the terrible consequences of hunger for individuals and societies.

"Famines associated with war, civil disturbances and natural disasters are tragic and shameful. However, even more widespread, is the hidden hunger due to chronic energy and micronutrient deficiencies that afflict a majority of the population in most developing countries.

"Both famine and hidden hunger have disastrous consequences for human health, survival and welfare, and retard social and economic development. Improved food production and food aid are not enough. Modern hunger, whether hidden or overt, can only be overcome when, through multidisciplinary efforts, we change the political and social factors that are responsible".

(Source: The World Food Prize News, Des Moines, Iowa, 22 July 1991)

World Hunger Award Winners 1990

The Alan Shawn Feinstein World Hunger Program – named after its founder – was established at Brown University in 1984 to address the long–term persistence of hunger in the world through research, the development of unique resources, and through public recognition. The fifth annual Alan Shawn Feinstein World Hunger Award of US$25,000 was won by the **People of Iringa** region in Tanzania in recognition of their admirable efforts to improve the nutrition conditions of their children through community–based nutrition programme. Recipients of the other two US$10,000 awards were **Patricia Young** – national coordinator of the National Committee for World Food Day – receiving the Feinstein Public Service Award, and Professor **Nevin S. Scrimshaw** of the United Nations University who won the Feinstein Research and Education Award.

Iringa Nutrition Programme's success was mainly due to its grassroots organization, in which nutritional improvement was achieved through increasing the society's capacity to assess and analyse local problems for establishing appropriate actions. This community–centred programme, in which the people of Iringa participated actively, resulted in reduction of severe malnutrition by 60% and lowered the young child death rate by 30%. The programme was expanded from 168 villages originally selected to all 620 villages in the Iringa region. Similar models are planned to be implemented nationwide. (See feature article on Community–based Development earlier in this issue.)

Patricia Young of Scranton, Pa., and Washington, DC, a graduate of Indiana State University, has been a full time volunteer behind the educational and action–oriented efforts for the World Food Day in the United States each year. She created the US National Committee for World Food Day, a coalition now totaling more than 400 organizations and institutions. Working together, they energize nearly 14,000 volunteer organizers around the country to mobilize people to seek ways of ending hunger through cooperation and action. Beyond the community level, Young offered the leadership and guidance to educational institutions by setting up annual national teleconferences on hunger, seen on hundreds of university campuses and in elementary schools in more than 30 states. She drafted language which appeared in House and Senate versions of last year's farm bill, directing the President to submit to Congress each year on World Food Day an assessment of progress towards food security in each country receiving US food assistance. Because of her success on a national level, her advice has helped create a global movement of cooperating national World Food Day committees.

Through his 40 years of research, writing and teaching, **Nevin S. Scrimshaw** has directly contributed toward the reduction of hunger in developing countries. Dr Scrimshaw has received various other awards and honours in recognition of his scientific contributions, see previous article.

(Source: The Brown University News Bureau, 28 January 1991)

International Conference on Nutrition

The International Conference on Nutrition (ICN), co–sponsored by FAO and WHO, is set for December 1992, in Rome. This inter–governmental conference, involving all the UN member nations, will "provide the world community with an opportunity to look critically at the continuing problems of hunger, malnutrition and diet–related disease and how they can most effectively be addressed".

A progress report on preparations for the ICN is in "Programme News", under FAO/WHO.

Sixth Asian Congress of Nutrition

As announced previously *(SCN News* No. 5, p. 42), the Sixth Asian Congress of Nutrition was held in Kuala Lumpur, Malaysia, from 16 to 19 September 1991. The scientific programme of this Congress consisted of plenary lectures, symposia, free communications and poster sessions. Moreover, several pre and post–Congress workshops and conferences were coordinated to coincide with the Congress. The proceedings covering topics given below will be published by the organizers.

The following topics were covered in the plenary lectures: challenges and frontiers in nutrition in Asia (C. Gopalan, India); nutrition in transition: lessons from developed countries (M.L. Wahlqvist. Australia); human energy requirements (W.P.T. James, UK); nutrition and immunity: new insights and practical applications (R.K. Chandra, Canada); trace metals in health and disease (Yang Guan–Qi, China); nutrition intervention programmes: success and failure (K. Tontisirin, Thailand); modern techniques of amino acid production towards future nutritional needs (R. Tsugawa, Japan)

The symposia included the following topics: recent advances in nutrition research methodologies; maternal and child nutrition; nutrition and ageing; nutritional toxicology; nutrition and cancer; nutrition and cardiovascular disease; energy adaptation and obesity; iron deficiency and iron deficiency anaemia; nutrition in transition (changing dietary patterns); nutrition and diabetes; food and nutrition policies in national development; vitamin and minerals in health and disease; food industries and nutrition; sports nutrition; nutritional aspects of edible oils and fats; nutrient composition of foods in Asia; control and elimination of IDD; rapid assessment procedures for the evaluation and improvement of nutrition programmes; dietetics in Asia – the next decade; and effective nutrition communication for behavioural changes.

Information from: Dr A.Valyasevi, the United Nations University, Institute of Nutrition, Mahidol University. Nakornchaisri, Nakorn–pathom, 73170 Thailand. Telex: 84770 UNIMAHI TH.

Symposium on Clinical Nutrition

The Fourth International Symposium on Clinical Nutrition was held in Heidelberg, Germany – from 2 to 4 October 1991 – by the International Union of Nutritional Sciences (IUNS) and the Deutsche Gesellschaft fur Ernährung (DGE). The symposium aimed to highlight the increasingly recognized role that nutrition plays in both prevention and treatment of many diseases, and to review recent advances in the field. The main topics covered include: geriatric nutrition; non–nutrient components of food of clinical significance; food allergy and intolerances, nutrition and cancer; medical practice of nutrition in hospital; recent advances in parenteral nutrition; total parenteral nutrition in special diseases; and omega–3–fatty–acids.

Information from: Prof. Dr G. Schlierf. Klinisches Institut fur Herzinfarktforschung an der Medizinischen Universitatsklinik, Bergheimer Strasse 58. D–6900 Heidelberg. Tel: 06221/568640.

Workshop on Protein–Energy Interactions

The International Dietary Energy Consultative Group (IDECG – affiliated with ACC/SCN) held a meeting on 21 to 25 October, 1991 in Waterville Valley, New Hampshire, USA. The following issues were discussed and reviewed: the cellular basis of protein–energy interrelationships; effects of specific amino acids and amino acid composition of the protein source on protein–energy interactions in vivo; significance of the source and level of energy substrate intake on protein–energy interactions and thermogenesis; effects of different levels of energy intake on protein metabolism and of different levels of available protein intake on energy metabolism; growth and its effects on protein–energy interactions; effects of pregnancy and lactation on protein–energy interactions; effects of increased physical activity and energy expenditure on protein–energy interactions: impact of aging on protein–energy interactions; metabolic and nutritional interrelationships

between energy and protein in sepsis, trauma, and major disease; effects of chronic degenerative diseases on protein and amino acid requirements relative to energy intake; effects of fasting and very low energy diets on metabolic relationships between energy and protein; effects of protein–energy interactions on immune function and response to disease; effects of intestinal functions on protein–energy interactions and nutritional needs; and protein–energy relationships: experience with parenteral nutrition. The proceedings will be published.

A workshop on "Effects of Maternal Nutrition Status and Energy Intake during Pregnancy on Birthweight", is tentatively planned for 1992, the date and location of which will be announced later by IDECG.

Information from: Dr B. Schurch, Executive Secretary of IDECG, c/o Nestle Foundation, PO Box 581, 1001 Lausanne, Switzerland.

(Source: IDECG Annual Report 1990)

IDD Elimination – Symposium in USSR

The elimination of IDD, especially in the USSR, is the topic of a forthcoming international symposium. The meeting is planned to be held in Tashkent from **18 to 22 November** this year, hosted by the USSR and sponsored by the ICCIDD, WHO and UNICEF. The conference covers IDD effects, epidemiology and assessment as well as national control programme and interventions for their prevention and treatment. A roundtable is planned on problems in implementation of IDD control programmes in the Republics of the USSR.

Information from: Dr Basil Hetzel. Executive Director ICCIDD, PO Box 10041 Gouger Street, Adelaide. 5000 Australia. Fax: 61–08–232 4969.

Nutrition and Health in the Elderly

The First European Congress on Nutrition and Health in the Elderly is to be held in Noordwijkerhout, The Netherlands, from **5–7 December 1991.** A study in Europe on Nutrition and Health in the Elderly forms the main topic of the scientific programme of the conference. This study –known as the SENECA project – A Euronut Concerted Action Programme – has been carried out, by a strictly standardized methodology, on some 2600 subjects born between 1913 and 1918 in 19 cities and towns across Europe. The congress will present the observed European patterns of dietary intake, nutritional status and life style including physical activity and social network. Other related topics of concern to elderly health and nutrition will also be discussed.

The congress will be organized by the Department of Human Nutrition of the Wageningen Agricultural University in the Netherlands on behalf of the participants of the EC Concerted Action on Nutrition and Health in the Elderly (SENECA Project) and the project Management Group of the Euronut Concerted Action on Nutrition and Health.

Information from: Ms R. Hoogkamer. Department of Human Nutrition, Wageningen Agricultural University, Bomenweg 2, 6703 HD Wageningen, the Netherlands. Tel: 31 0 8370–84214, Fax: 31 0 8370–83342.

2nd European Conference on Food and Nutrition Policy

To continue efforts to promote food and nutrition policy through multisectoral coordination and action, and following the 1st European Conference in Budapest, the 2nd European Conference on Food and Nutrition Policy is scheduled for **21–24 April 1992** to take place in the Netherlands Congress Centre, the Hague, the Netherlands.

The various areas of food and nutrition policy will be illustrated, together with discussions on the different types of measures of policy implementation. Identification of the nutritional issues in Europe, setting the objectives for change and selecting priorities, are among the issues to be covered in the plenary sessions. Speakers from various sectors will be invited to demonstrate how they can contribute to better health through sound food and nutrition policies.

The conference – with English as the official language – is open to a limited number of persons active in the field of food and nutrition policies, e.g. decision–makers, industry (marketing and development), consumers (representatives of national consumer bodies), government (ministries of Health and Agriculture), trade

(leaders of retail companies, catering sector) and health educators. Registration fee is Dutch Guilders (Hfl)500 before 1 October 1991, and Hfl600 after that. Closing date for abstracts is 1 January 1992.

Information, and to register: Secretariat Food and Nutrition Policy, Flora de Vrijer, c/o TNO Nutrition and Food Research, PO Box 360, 3700 AJ Zeit, the Netherlands. Tel: +31 3404 44218; Fax: +31 3404 57224.

International Famine Workshop

A Meeting on "Dynamics of Social Groups Most Vulnerable to Famine" will be held as the Third International Famine Workshop of the International Geographical Union Study Group on Famine Research and Food Production Systems, at Tufts University, School of Nutrition, Medford, Massachusetts, from **August 4–7, 1992.** The symposium will consist of three days of professional presentations, plenary sessions, and panel discussions focusing on issues relating to groups potentially the most vulnerable to famine – the very old, very young, women, the poor, the landless. There will be a whole section on '"Human Needs, Wants and Rights", and a short course on "Overcoming Hunger in the 1990s: A new Geography of Hunger and its Alleviation", organized by the World Hunger Programme. A registration fee of US$350 will include symposium packet, accommodation, meals, coffee breaks and an opening reception.

Information from: Dr de Souza, Secretary General, 27th International Geographical Congress, 1145, 17th Street NW, Washington. DC 20036, USA.

Dietary Assessment Methods

The 1st International Conference on Dietary Assessment Methods is planned for **September 20–23, 1992,** in the Saint Paul Hotel, St Paul, Minnesota. The topics to be covered include recent advances in collecting dietary data; assessing diets of diverse populations; assessing diets of children and the elderly; assessing intake of specific food components; methodologic issues in the use of International Data Sets; and evaluating and interpreting dietary data. Abstract for research presentations will be accepted through 15 January, 1992.

Information: Department of Professional Development and Conference Services, 210 Nolte Center, 315 Pillsbury Drive SE, University of Minnesota, MN 55455–0139; 612/625–3451. Fax: 612/626–1632.

Degree in Applied Human Nutrition

As announced before (see *SCN News* No. 3, early 1989, p. 24, Programme News under Kenya), the Department of Food Technology and Nutrition of the University of Nairobi organizes a two–year full–time postgraduate programme leading to a Master of Science degree in Applied Human Nutrition. This is the *only* programme of its kind in the African continent serving mainly the Eastern Central and Southern Africa region. The forthcoming programme commencing in **October 1993** consists of a year of course work followed by a year of individual research leading to a thesis. Candidates must already have an undergraduate degree with either an upper second class honours or its equivalent in natural science (e.g. biochemistry, agriculture, etc.), social science (e.g. anthropology, economics, etc.) or medical sciences from any recognized university. They should also have work experience of at least one year following their primary degree.

Information and application forms (which must be submitted by March 1993) from: Dr G.K. Maritim, Head, Applied Human Nutrition Programme, University of Nairobi, PO Box 41607, Nairobi, Kenya.

Off–campus Programs in Human Nutrition

The Deakin University in Australia offers Off Campus Programs in Human Nutrition (leading to Graduate Diploma of Human Nutrition: Graduate Diploma of Nutrition Education) which are available to students throughout the world by correspondence.

Study in the off–campus mode normally does not require attendance at the University. Study materials are posted to students and arrangements can be made to sit examinations at various centres throughout Australia and elsewhere. Graduate diplomas can be completed in a minimum of 2 years' and a maximum of five years' part–time study. For entry to these programmes, a university or college of advanced education degree or its equivalent is required. Enough chemistry and biology should have been undertaken at tertiary level to understand and work with nutritional concepts. Preference will be given to those applicants who are in a professional field where nutritional knowledge or skills are needed.

Information from: Mrs. [.H.E. Cole−Rutishauser, The Off−campus Coordinator. Department of Human Nutrition. Deakin University, Geelone. Victoria. Australia 3217. Tel: (052) 47 1547. Fax: (052) 41 1299.

"Nutrition in a Sustainable Environment" – IUNS 1993

The International Union of Nutritional Sciences (IUNS) will hold the XV International Congress of Nutrition in Adelaide. Australia from **26 September to 1 October, 1993,** focusing on the nutrition and environmental issues. The congress themes will include: nutrition and environment; nutrition policies and programmes; prevention of chronic disease: nutrition through the life cycle; nutrition and nutritional anthropology of aboriginal peoples; molecular biology of essential nutrients; and nutrition and performance. The plenary lectures will be on the topics of food, nutrition and the environment – future directions in nutrition research: the impact of biotechnology of agriculture; matching nutrition knowledge to nutrition needs; preventing diseases of affluence in developing countries; and nutrition support, present and future. Each of the themes listed will be made up of several symposia, workshops and sessions spread over several days. There will be around 50 symposia and 50 workshops or sessions devoted to the forefronts of nutrition research. Free communications will be scheduled as posters, but all symposia and sessions and some workshops will include brief oral presentations selected from the delegates' abstracts.

Deadlines for Registration and Abstracts are March 1992 and September 1992 respectively. Early acceptance of Abstracts for those who need time to raise funds is December 1992. Other Abstracts by March 1993. The registration fee will be $500 Australian. It will include the cost of the proceedings of the Congress. Some support will be offered to speakers, chairpersons and hopefully also to a limited number of delegates who may need assistance.

Information from The Secretariat, XV International Congress of Nutrition. CSIRO Division of Human Nutrition. PO Box 10041. Gouger Street. Adelaide SA 5000. Australia.Tel: 61−8−224−1800: Fax: 61−8−224−1841.

World Conference for Women

The United Nations Commission on the Status of Women has recommended a World Conference in **1995** to review the progress made to improve the situation of women since the United Nations Decade for Women ended in 1985. The year 1995 will, thus. be an important year for women worldwide.

The Commission's goals aim at galvanizing national action to implement fully the Nairobi Forward−Looking Strategies, adopted in 1985. for the Advancement of Women. By 1995, pay equity policies should be implemented, and gender−biased textbooks should have been revised. Women, by 1995, should hold 30% of all significant decision−making posts in government, the private sector, professional associations and NGOs. These and other related goals represent a challenge from the United Nations Commission on the Status of Women to all governments and activists committed to gender equality. The efforts stem from the recognition that without such empowerment, women will consistently face discrimination in education, health care, nutrition, employment and political participation.

(Source: *The United Nations Social Agenda,* 4, 1990)

LETTERS

From Mrs J. Katona−Apte

I cannot resist commenting on the cover picture of the last issue of *SCN News* (No. 6, late 1990). While the photograph does. according to the text accompanying it, depict the "often fatal consequences of bottle feeding" and "the age−old bias in favour of the male", it also indicates that most societies, especially in the third world, do not necessarily consider bottle feeding more modern and thus better than breastfeeding. In Pakistan male children are much preferred over female ones. Therefore, when the mother−in−law recommended that her daughter−in−law breastfeed the male of the twin and bottle feed the female, the mother−in−law wanted to maximize the survival potential of the male offspring. This clearly suggests that the old woman *knew* that breastfed babies are at an advantage over those bottlefed!

Such knowledge has important implications for health education programmes and breastfeeding promotion. It is preferable to reinforce what is already known and accepted than to start from an incorrect premise that people in third world societies are ignorant of the health benefits of breastfeeding.

J. Katona–Apte.
Senior Programme Adviser,
Human Resources, WFP

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From Dr Ramesh M. Shrestha

The feature article "Preventing Anaemia" published in *SCN News* No. 6 presents a brief summary of the current knowledge in prevention of anaemia. Many text books and journal articles deal normally with adult female population only. as it is done in the above mentioned SCN paper. I would like to request you to publish feature articles on anaemia in children in future issues of the *SCN News.* It is even difficult to find standards for comparison of haemoglobin in children. Few textbooks mention that children's haemoglobin (without specifying age group), living at sea level, ranges between 6 to 10 g% and increases as the child gets older! Aren't there studies specific for children? The problem of anaemia in children may not be as severe as in adult populations but information available in this field on children is very inadequate. I am interested in information on haemoglobin standards for children from birth to nine years of age.

Ramesh M. Shrestha
Programme Officer,
UNICEF– HANOI
PO Box 2–154
Bangkok, Thailand

Reply

Anaemia is, no doubt, an important problem for many children particularly in developing countries. The global anaemia prevalence has been estimated as 43% and 35% for young and school–age children respectively by DeMaeyer and Adiels–Tiegman in 1985. The same authors, however, reported estimates of anaemia prevalence as 51% and 38% for 0–5 and 6–14 year–old children in less–developed countries respectively. The corresponding prevalences for the same age group children in developed countries was reported as 10% and 12% respectively. These estimates were based on the proposed lower limits of normality of haemoglobin for different age groups by WHO in 1959. Suggested cut–off values for children 6 months to 6 years were 11 g%, and for 6–14 years 12 g%. Severe anaemia has been defined as Hb <9.5 g%. These cut–offs have been widely used by different investigators in defining the extent of anaemia present in their sample of children studied. DeMaeyer and Adiels–Tagman collected information on the prevalence of anaemia by age and sex categories, and by country. They included 146 studies published from 1960 to 1980 or later (up to 1984) in which data on haemoglobin in children were given. According to them "There appears to be a renewed interest for studies in young children.... children and women appear to have been studied more frequently than any other age or sex category. This is probably justified by the greater prevalence of anaemia in these two groups". Anaemia in school children is receiving more attention because of the potential of iron deficiency adversely affecting educability and learning abilities (see e.g. *SCN News* No. 5 feature article on "Food for Thought –Nutrition and School Performance", and "Malnutrition and Infection in the Classroom" by E. Pollit, 1990). A recent ACC/SCN document on "Controlling Iron Deficiency" published in February this year describes priority target groups for intervention as pregnant and lactating women; premature and low–birth–weight infants; pre–school children; school children; and adolescent girls. The document emphasizes that "infants are known to be specially susceptible to the development of iron deficiency, with the period of greatest vulnerability between 6 and 18 months of age".

There are despite the focus on adults, in the literature, quite a number of studies specific to children in which haemoglobin concentrations have been measured. For instance, in China over 170 million children aged 6 months to 7 years have been studied for estimating of anaemia prevalence (data summarized by the Institute of Nutrition and Food Hygiene, Chinese Academy of Sciences). Some of these references are available from the SCN in tabulated form. Also the Second Report on the World Nutrition Situation under preparation by the SCN will provide further information on this topic.

Mahshid Lotfi, ACC/SCN

NOTES

Demaeyer, E. and Adiels–Tegman, M. The prevalence of Anaemia in the world. *World Health Statistics Quarterly,* **38,** 302–316 (1985). E. Pollit (1990) *Malnutrition and Infection in the Classroom.* UNESCO, Paris.

ACC/SCN (1987) *First Report on the World Nutrition Situation.* Geneva.

ACC/SCN (1991) *Controlling Iron Deficiency,* State–of–the–Art Series, Nutrition Policy Discussion paper No. 9.

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Editorial note The article on weaning foods by Mahshid Lotfi in *SCN News* No. 6 has provoked some interesting correspondence. We should recall that two different processes were discussed. *First,* fermentation of foods can be used primarily to reduce contamination with harmful bacteria; this has a supplementary advantage in somewhat reducing the viscosity hence bulk of the diet, thus increasing the energy density. *Second,* small amounts of preparations rich in amylases (enzymes that break down starch) can be added to porridges or gruels just before consumption –known as amylase rich flour (ARF) or power flour; this substantially reduces viscosity and bulk and increases energy density. There are two common ways in which amylases (as ARF) are obtained: at home from germinating whole grains then drying and grinding; or by obtaining bulk–prepared ARF, commercially or otherwise.

The correspondence here mostly refers to ARF – rapid reduction in viscosity of food just before consumption – and not much to reducing bacterial contamination.

From Dr Pieter Dijkhuizen

With much interest I have read the article in *SCN News* No. 6: "Weaning foods – New uses of traditional methods".

I fully agree with the analysis that low energy density and high contamination levels of many traditional weaning foods are major contributors to malnutrition among young children. Addressing these problems using the "traditional methods" of fermentation and mailing undoubtedly has potential from hygienic and nutritional points of view and certainly merits attention.

However, assuring that these promising traditional methods will not continue to slide into oblivion along with so many other potential solutions is the challenge we face. The crucial thing is to convince mothers to incorporate such proven methods into their daily weaning food preparation practices. This aspect I dearly missed in the article. Isn't the proof of the pudding in the eating?

The (Dutch) Royal Tropical Institute (RTI) has been involved with low–cost weaning foods since the 80s. Initially RTI's efforts stressed nutrition and food technology. More recently, the focus shifted to marketing: reaching mothers and caretakers of young children. This shift was based on the common knowledge that the nutrition education has limited success with introducing better weaning foods, while soft drink and cigarette "marketing" is able to change consumer habits dramatically. Why is this the case?

Our experiences in weaning food activities suggest that the reasons can be found in the following model. Changing weaning food practices requires the following five prerequisites:

1. Mothers (or caretakers) must be convinced of the importance of good weaning food practices.

2. The new weaning food must be affordable (two or three times the staple food price seems acceptable).

3. The improved weaning food must be easy to prepare (preferably easier than the traditional practice).

4. The improved weaning food must be continually available.

5. And last, but surely not least, the new weaning food requires a built–in incentive; it must have "status".

In this model nutrition education remains essential. Understanding 'why' is important, but it is not enough. The new practice must give the mother some form of self–gratification. This can be, for example, a sense of being a 'modern' mother.

The impact of "modern" associations must not be underestimated. The 20th century doctrine of "progress" has left few communities in this world untouched. People everywhere are more than eager to accept innovations, whenever these are within their reach. The term "traditional methods" may well have a nostalgic appeal for scientists; mothers of young children may find it synonymous with drudgery. "Tradition" is certainly no guarantee for success. The failure of nutrition education campaigns to introduce multi−mixes as improved weaning foods at household level is easy to explain when applying the model. It is an excellent nutrition concept, but it increases workload (long cooking time) and does not compensate with increased appeal or status.

A similar situation appears to exist with respect to germination and mailing. Only the "power flour" trials by UNICEF in Tanzania met the nutritional and emotional expectations. Power flour came in pouches with maltase which required the flick of a finger to perform the magic change of the porridge. Unfortunately this approach was not economically feasible.

My conclusion is that the prospects are bleak for germination and mailing to enjoy widespread application at household level. More success can only be expected when the approaches accommodate the stated prerequisites, particularly the "status" aspect.

Though meritorious as discussed above, germination and mailing have other limitations. These methods are not entirely without bacteriological risk; cases of food poisoning have been reported. And although maltase certainly can increase energy density of porridges, protein quality or quantity are not correspondingly improved. Many traditional weaning porridges, particularly when based on tapioca, sago or maize, are protein deficient and require supplementation. Also the oil content of traditional porridges is much lower than recommended; germination and mailing do not improve this.

In response RTI has developed an approach to low−cost weaning food production which is based on a porridge flour composed of indigenous raw materials (cereals, legumes and oilseeds). The processing involves roasting and milling all ingredients. The result is a ready−made weaning food. It is safe, meets Codex standards (energy density around 1 kcal/ml) and needs only 5 minutes' cooking. It is a modern product in image, affordable and convenient, although based on traditional processing methods.

The RTI approach is suitable for community based activities in rural areas and for small−scale industries in (semi) urban areas. It is however, not suited for household level since equipment like roaster and mill are required.

At present projects using this approach are implemented in more than 10 countries. They operate either as community−based activities (e.g. Weanimix−project, UNICEF, Ghana) or as small−scale industries, ranging in output from 25 tons/year (PROSUR, Dominican Republic) to 750 tons/year (MUSALAC, Burundi). The latter project received last year WHO'S World Prize as an outstanding nutrition activity.

In the community−based activities mothers use their own raw materials to make their weaning food. Small−scale industries sell their product at about two times the cost of the local staple food. They operate as economically sustainable without requiring subsidy. At a next opportunity I will be glad to provide more details of these activities.

I would be grateful to hear how the methods of germination and mailing can be retained and made attractive for mothers in the rapidly changing societies of developing countries.

Dr Pieter Dijkhuizen
Weaning Food Section
Royal Tropical Institute
63 Mauritskade,
1092 AD Amsterdam The Netherlands

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We invited comments from Prof Gopaldas, in India, from her experience −

From Prof. (Dr) Tara Gopaldas

As we can see, the major concerns of Dr Dijkhuizen regarding the use of traditional methods such as fermentation/germination/malting in weaning foods of poor communities are these:

– Will mothers utilize the traditional food processing method on a regular basis in their weaning food preparation?

– Will such food processing methods satisfy the five criteria listed in his letter by Dr Dijkhuizen for changing weaning food practice?

– Do ARF/Power Flour have a plus over the successful roasted multimixes as propagated by RTI?

Regular use of fermentation/germination methods in weaning food preparations

Many Asian and African cultures use fermentation and/or germination in their daily food preparation. A few examples are the curds and germinated pulses and grains of India; fermented tempeh and bean sprouts of SE Asia; the Sudanese Nasha; the Njera of Ethiopia; the Obusera of Uganda; etc. Almost all the above stated preparations are fed to the baby as well. They will not go into oblivion. However, Dr Dijkhuizen does have a point in voicing his concern as to whether low income mothers will prepare germinated cereal flours whether it be ARF or Power–flour, on a regular basis? In a study conducted by us in 1988 on the transfer of the "ARF Technology from Lab to Slum" in Baroda, we found that slum mothers had no difficulty in preparing ARF. However, only about a third continued to make ARF on a regular basis even though they were convinced of its benefit to their young child. The reasons stated were "long time required" (it takes about three days in all to prepare); difficulty in getting small quantities of germinated grains milled; and inability to keep the germinated grains out–of–reach of children. However, they said if some Women's Organization or manufacturer could sell the ARF packets at even 10 packets/Re., they would certainly buy. Affordable cost and easy availability were their main considerations – not status. In any case, why do we always insist on the mother having to make ARF or Power–Flour or weaning multi–mixes? Cannot the community, the entrepreneur, or the small–scale industry meet the demand? The proof of the pudding according to us is not whether mothers will make ARF/Power Flour regularly, but that infants/young toddlers (6–24 months) *consistently consume much, much more of the energy–dense but low–bulk gruels* whether it be in India, Tanzania or Ethiopia. The least appreciated yet most important operative word in the weaning food business for all of us should be *high nutrient density with low–dietary bulk.* To a harried low income mother, gratification comes with her being able to *feed her baby happily and quickly* and seeing him *grow better as a result.* Nutrition and nutritive values are in *our* minds, not hers. Maybe this is why the traditional nutrition education that all of us have been dishing out for decades has failed.

Do fermentation/germination satisfy the five prerequisites for changing weaning practices?

(i) Most mothers want their babies to consume as much breast milk for as long as possible. The same goes for the other foods she feeds her infant. Hence no mother would begrudge diverting a little more staple flour (whether it be tapioca or any other), pulse flour, oil/oilseed or sugar, if she could offer it to her baby in a *form that he could readily accept,* namely, one of low–dietary bulk. However nutrient–dense a weaning preparation may be, it would not serve much purpose unless the intended beneficiary ate it in the *quantity required.*

(ii) The preparation of ARF costs *no more* than the cost of the cereal grain it is made from. With imputed cost of labour and some fuel it may cost about twice the cost of the staple. In any case both ARF/Power Flour are required only as *additives* and hence their cost is negligible (a few US cents per child/month).

(iii) Germination/malting whether of small or large amounts is time consuming. This is its negative.

(iv) Our experience is that low income mothers are not good at or comfortable in cooperative efforts. Hence the best prospect for continual availability would be through the route of a cottage or commercial venture.

(v) We do not subscribe to the view that mothers want a weaning food of "status" or that they wish to be "modern". What low income mothers want is a weaning food or a weaning additive that will work and which will be readily available like sugar, salt, flour or chillies, and which can be bought at the corner shop.

Do ARF/Power Flour have a real plus over the roasted, extruded or otherwise processed Multi–Mixes?

We are amazed that so much confusion still exists over the specific roles of ARF/Power Flour *vis a vis* multi−mixes. *Both* are required. Neither would displace or supplant the other. In fact we urge manufacturers of weaning foods to incorporate the ARF/Power Flour technology in their multi−mix formulations. This would go a long way in improving the weaning food scenario. Or else the same manufacturers of multi−mixes could also produce ARF/Power Flour in packet or sachet form which could be offered to the mother to be added to the child's gruel/porridge at the time of preparation. Since germinated cereal flour (ARF or Power Flour) is *a food,* it would not attract the strict quality control stipulations of chemical additives.

A sub−study of Project Poshak in the Seventies demonstrated that infants (6−12 months) rarely consumed more than 7−11 g of Instant Corn Soya Milk (ICSM)/day. The same fate was repeated with our roasted indigenous multi−mixes made from cereal, pulse, oilseed and jaggery. The sad moral of the story is that no matter how nutritious a weaning multi−mix may be, *unless it is in an appropriate low−bulk−form, it will not be consumed in the amount required.* In short, all that nutrition goes waste.

We would request Dr Dijkhuizen to please let us have 5 kg lots of the weaning mixes used in the 10 countries he speaks of. We will be very happy to conduct viscosity trials for him with and without ARF.

How can we act together to improve the low−bulk characteristics of gruels at the household, community and large−scale feeding program levels?

The ARF/Power Flour technology is such an inexpensive and simple one that it can be applied with ease to any level stated above. For countries where germination is an established practice, trainers and implementors of supplementary feeding programs should be trained in the ARF/Power Flour technology. For example, if the Integrated Child Development Services (ICDS) Program of India adopts the ARF−Technology, over 10 million infants/toddlers (6−24 months) would benefit. In countries where "kimea flour" (germinated sorghum flour) or Power Flour is popular, a safe version of it should be widely popularized.

In countries where germination is not widely practised, Commercial Barley Malt (CBM) is an equally effective ARF. We have had very good results with donated foods such as Soya−Fortified−Bulgar Wheat (SFBW), CSM, the weaning food used in the Tamil Nadu Nutrition Development Program, etc. Experiments on viscosity reduction of child Weaning Foods such as Sarvottam Pittu of Nepal, Triposha of Sri Lanka, and the rice−based multi−mix of Thailand have been planned.

Extruded foods are being widely used in feeding programs. We would urge that manufacturers incorporate the ARF/Power Flour Technology. The viscosity reduction of extruded food coated with amylase was demonstrated a long time ago by Jansen *el al.* (1981). It has again been validated by Alvina *et al.* (1990).

We have a ready−to−go−technology for the improvement of Weaning Foods in ARF/Power Flour; it is for agencies like WFP, CARE, USDA etc. to use it in their supplementary feeding programs. We would make a final plea that all of us who are committed to the improvement of weaning foods and to the eradication of PEM, come together in this effort.

Prof. (Dr) Tara Gopaldas
The Faculty of Home Science
MS University of Baroda
Baroda 390 002
India

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"The poor are getting poorer, but with the rich getting richer it all averages out in the long run."

PROGRAMME NEWS

BELGIUM

Formation of the National Nutrition Council

Recently a National Nutrition Council (NNC) has been formed by the Government of Belgium. The Council was formally installed on 3 July by the Minister of Health, and its mandate is to provide advice to the government on nutrition–related issues like formulation of a food and nutrition policy. There are 40 members, from a wide range of disciplines connected with food and nutrition, appointed by the King, with Prof. H. Henderickx, from the University of Ghent, as the chairman. The Council's first task would probably be to organize the Belgian participation in the International Conference on Nutrition (ICN). The Ministry of Health has been officially invited by the Ministry of Foreign Affairs to be the focal point for the ICN preparations. In this regard, the Secretary General of the Ministry of Health, Mr Van Daele, will be acting as the ICN focal point.

Since February 1991, an ad–hoc Working Group of several nutritionists – all of them members of NNC – has been meeting regularly at the Ministry of Health, to work on a Belgian paper for the conference.

(Source: I. Beghin, Nutrition Unit, Prince Leopold Institute of Tropical Medicine, June 1991)

FAO

The Food Policy and Nutrition Division of FAO provides member countries with advice, information and technical assistance for "the achievement of adequate nutrition for all population groups, primarily through assessing and monitoring the nutrition situation and subsequently assisting in the formulation and implementation of national food policies and nutrition interventions while ensuring quality and safety of food supplies". This work is directed not only to eliminating hunger and poverty but to improving nutritional status and ensuring improved access to adequate and dependable supplies of good quality and safe foods at afford able prices for all population groups for present and future generations. Current activities include the following:

– contributions to advanced knowledge of a range of technical issues including human energy and nutrient requirements;

– food composition tables (linked with labelling activities and oriented towards agro–industry);

– new methods for assessing/monitoring the nutritional situation of the population, as part of efforts to set up global systems to monitor year–to–year changes in nutritional status;

– nutrition implications of food aid and emergency feeding programmes in cooperation with WFP;

– promoting locally produced food/traditional food plants, especially with high vitamin A content;

– international food standards, limits for food additives, residues and other contaminants developed by the FAO/WHO Codex Alimentarius Commission, and links between Codex and General Agreement on Tariffs and Trade (GATT);

– monitoring and control of food quality and safety systems;

– activities as the technical focal point for the FAO/WHO International Conference on Nutrition.

At country level, the Food Policy and Nutrition Division helps to develop and strengthen agriculture ministries to improve food production and improve food security and raise nutritional status particularly of the most at–risk families. Specifically, to assess the food and nutrition situation; to analyse the related factors, magnitude, causes, and consequences; to focus on the operational aspects of policy formulation and sectoral or overall development planning, and on the implementation of strategies and programmes to improve access to food and nutrition status; to assist in the design and implementation of specific interventions, integrated wherever possible with larger scale agricultural projects and national development plans, to tackle problems of the most at–risk groups; to design and set up a surveillance system to monitor changes; to promote community nutrition (nutrition intervention programmes with community participation); to establish projects and activities to promote the control of food quality, safety and contamination and consumer protection; and to assist in the prevention of food losses and control of mycotoxins in rural and industrial settings.

(Information and Source: Food Policy and Nutrition Division, FAO, Via delle Terme di Caracalla, 00100 Rome, February 1991)

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FAO Vitamin A Programme –Progress Report and Future Outlook

The FAO's plan for the first five years as contribution to the "UN Ten Year Action Programme to Control and Prevent Vitamin A Deficiency, Xeroph–thalmia and Nutritional Blindness" was officially launched at the WHO Headquarters in Geneva in October 1985. The objective of FAO's contribution to this UN Programme is to increase the production of vitamin A and carotene rich foods and ensure their proper consumption. The strategy for the achievement of this objective is to support governments, and particularly their ministries of agriculture, in taking long–term measures to increase production of appropriate vitamin A rich foods and ensuring their distribution and availability throughout the year. Therefore, initially two priority activities were emphasized by FAO: 1) sensitizing of government staff, particularly those of the agricultural sectors, to appreciate their role in the overall effort to prevent and control vitamin A deficiency, and 2) technical assistance to governments to formulate project documents for submission to donors. Progress in the first five years was reported in the Third Summary Progress Report – covering the First Five Years (1986–1990) – of the FAO Vitamin A Programme (published January 1991) which up–dates information on the specific country

and regional activities given in the earlier reports dated February 1988 and February 1990 (for the latter see *SCN News* No. 5, under FAO, Programme News section).

Coordination of the required technical contribution of other units within FAO, particularly those responsible for horticultural crops and seed production, palm oil production, rural development programmes, women's programmes and the development of support communication programmes, was mandated to the Food Policy and Nutrition Division of FAO.

A substantial contribution was made by FAO to the UN Ten−Year Programme during the first five years of programme implementation. In spite of the shortfall of some US$3,500,000 due to internal budgetary constraints, and insufficient support by donors and governments, it proved possible to initiate programmes and actions in 18 countries of the four regions with vitamin A deficiency as a public health problem. These were Bangladesh, Benin, Burkina Faso, Brazil, Chad, China, Haiti, India, Indonesia, Malawi, Mali, Mauritania, Nepal, Niger, Philippines, Tanzania, Vietnam, and Zambia. Other activities included establishment of valuable contacts in collaboration with other international agencies, development of regional cooperation, and sensitizing agricultural sectors of some governments to facilitate programme expansion in the years to come.

The main programme constraint was lack of resources. This slowed down the momentum of the programme within the countries, and brought the required agricultural inputs even further out of tune with ongoing health−oriented interventions. In addition, the paucity of funds reduced the possibility of supporting the non−governmental organizations, especially national ones, willing to cooperate with FAO. Generation of further resources during the next five years remains a challenge for the FAO Vitamin A programme.

As for the future outlook, three new long−term projects will start in 1991, and new project proposals for Bolivia, Brazil, Ecuador or possibly Haiti and Peru will be developed. Promotion for the growing of fruit trees (mango, papaya) for schools, communities, and women's groups will be undertaken. It is hoped that this could involve blind people through collaboration with the World Union of Blindness. During the next five years FAO will promote the following major programme elements:

− generation of funds to support within FAO projects or outside in−depth studies on the impact of long−term agricultural and educational activities on the dietary habits of project beneficiaries and, where possible, on the vitamin A status.

− external budgetary support will be sought and budgets of planned projects will include funds for the preservation, processing, and storage of carotene rich foods at household and community level.

− further attention will be given to communication techniques through mass media to educate the public through effective nutritional messages for preventing vitamin A deficiency in their children.

− technical cooperation between countries will be strengthened.

(Information: Food Policy and Nutrition Division, FAO, Via delle Terme di Cara−calla, 00100 Rome. Source: *Third Summary Progress Report − The First Five Years, 1986−1990.* The FAO Vitamin A Programme, January 1991)

FAO/WHO

Preparations for the International Conference on Nutrition (ICN) Progress Report

An International Conference on Nutrition (ICN) is to be co−sponsored by FAO and WHO, to provide the world community with an opportunity to look critically at the continuing problems of hunger, malnutrition and diet−related disease and how they can most effectively be addressed, and will be held in Rome in December 1992.

Preparations for the ICN are progressing along two parallel tracks. Globally, preparations for the ICN should be seen as part of an on−going process designed to strengthen the commitment and ability of individual governments, various agencies and non−governmental organizations, and the private sector to address nutrition problems. The Directors−General of FAO and WHO sent a joint Official Communication to all member countries in March 1991, announcing the ICN and inviting them to initiate country−level activities towards the preparation of the Conference.

These country preparations are to be complemented by a series of regional/sub−regional meetings designed to discuss food and nutrition problems common to each region and the means to address these problems. The outcomes of these national and regional activities will contribute significantly to the deliberations during the ICN.

Overall, the technical and administrative preparation for the ICN is under the direction of a Joint FAO/WHO Steering Committee, chaired jointly by Special Representatives of the Directors−General. Dr V. Ramalingaswami, Professor Emeritus, All India Institute of Medical Sciences, has been named as the Secretary−General of the ICN. The first meeting of the Steering Committee was held in December 1990 with subsequent meetings being held on a quarterly basis. The Steering Committee provides guidance on all aspects of the Conference's preparation and monitors the progress made. Day−to−day coordination of the organizational aspects of the ICN is carried out by the FAO/WHO Joint Secretariat in Rome. The technical preparations within FAO are being coordinated by the Food Policy and Nutrition Division under the direction of the Assistant Director−General of the Economic and Social Policy Department. Technical guidance is also provided by the FAO Interdepartmental Task Force on the ICN, which was established in 1990. Similar arrangements are in place within WHO to provide their agency's inputs. An Advisory Group of Experts (AGE) has also been formed to provide scientific guidance and advice on the technical issues, themes and background documents for the Conference.

To coordinate country−specific activities and to facilitate communication with the ICN co−sponsors, each Member Nation has been encouraged to nominate a national focal point. The table summarizes responses so far of National Focal Points designated. As of 6 September, a total of 88 country focal points have been designated − 53 from the health sector, 10 from agriculture, 4 jointly from both sectors, and 21 from other ministries or nutrition institutes.

Each country has been requested to prepare a country paper summarizing the country's nutrition situation, including the extent and causes of nutrition problems, past experience in addressing them and plans for future action. It is hoped that this process will catalyse action within various sectors at the country level towards ICN preparations and participation, but, more importantly, in assuming strong implementation of actions to improve nutrition, following the ICN. Country papers will also be utilized to contribute to a series of technical consultations at regional or sub−regional level.

An intersectoral approach is considered crucial for preparing the country paper and, especially, for implementing related follow−up activities. Member Nations have been encouraged to establish national coordinating committees, or use existing or already planned mechanisms and procedures, to bring together the various ministries, agencies, non−governmental organizations, academia and members of the media and the private sector whose activities are relevant to nutrition, to provide a forum in which the multifaceted nature of nutritional problems and their solutions can be more effectively addressed. Many countries have formed such committees and have held, or are planning to hold, national seminars or workshops to involve all relevant participants in the ICN preparations and related follow−up activities.

Number of National Focal Points (NFP) by Region as of 6 September 1991

Region*	***No.NFP nominated at 6.9.91***	***% of Member Nations with NFPs***
Africa (46)	*30*	*65*
Asia (22)	*14*	*64*
Europe (29)	*14*	*48*
Latin America and the Caribbean (33)	*12*	*36*
Near East (18)	*8*	*44*
North America (2)	*1*	*50*
Southwest Pacific (10)	*9*	*90*
TOTAL (160)	*88*	*55*

** In brackets the total number of Member Nations in a region*

An underlying principle of the preparation for the ICN is that it builds upon country−level experiences and leads to activities aimed at preventing and alleviating malnutrition at the national as well as the regional and international levels. One of the key mechanisms for linking the ICN to country and regional−specific activities will be through ICN regional and sub−regional meetings, which are scheduled to be held during the first quarter of 1992. ICN meetings have been tentatively scheduled for SE Asia (Bangkok), Anglophone Africa (Nairobi), Francophone Africa (Dakar), the Caribbean (Kingston), Latin America (Mexico City), the Western Pacific (Manila), the Near East (Cairo), and Eastern Europe (Bratislava).

The primary purpose of these ICN regional and sub−regional meetings will be to provide a technical forum for assessing the nutrition problems common to each region, for evaluating various policies and programmes, in particular those related to agriculture, health, economic and social development and their relationship to nutrition. Relevant national and regional strategies for ensuring nutritional well−being will be discussed and will provide the basis for regional−level contributions to the Plan of Action to be adopted by the ICN. Countries will be invited to send delegations of high−level technical representatives from appropriate government agencies, academia, consumer and other NGO groups and the private sector. International NGOs interested in various ICN regional meetings will also be invited to attend.

A principal background document for the ICN, "The Assessment and Analysis of Trends and Current Problems in Nutrition" will provide an overall technical review of the current nutrition concerns worldwide and efforts to address them. As a global assessment of the nutrition situation, the paper will include a summary of the preliminary findings from the Sixth World Food Survey and a review of experiences in programmes and policies affecting nutrition and institutional arrangements to improve nutrition at national and international levels. Findings from several case studies currently under way will contribute to this paper by highlighting particular issues and concerns within countries.

Themes developed for the ICN have evolved from discussions of the ACC Sub−Committee on Nutrition and careful consideration by FAO, WHO and other UN agencies. These themes include: Assessing, Analysing and Monitoring Nutrition Situations; Improving Household Food Security; Protecting the Consumer through Improved Food Quality and Safety; Caring for the Socio−economically Deprived and Nutritionally Vulnerable; Promoting Healthy Diets and Life−styles; Preventing and Managing Infectious Diseases; Preventing Specific Micronutrient Deficiencies; Incorporating Nutrition Objectives into Development Programmes and Policies. Papers for each of the themes have been commissioned to academia, national institutes, government agencies, and UN agencies. These papers will be aimed at a broad audience in the development community and will be one of the chief mechanisms for briefing policy−makers on nutrition problems.

Two Preparatory Committee meetings are envisaged prior to the Conference. The first Preparatory Committee meeting (Prepcom 1) is currently scheduled for early September 1992 in Geneva, for eight working days, and would include substantive discussions of the Assessment Paper. A summary of the results of previous Regional meetings would be available at Prepcom 1, where government representatives will consult their technical experts and NGOs to get advice prior to the Conference. Prepcom 1 could provide the primary mechanism for developing and refining the anticipated Plan of Action to be debated and adopted by the Conference Plenary.

Prepcom 2, on the other hand, would be kept as short and as flexible as possible and held, in principle, for two to three days in Rome immediately preceding the ICN Plenary. As regards the Plenary, a total of six days is tentatively proposed, to be held at FAO Head quarters in Rome in early December 1992, starting on a Saturday and finishing on a Friday. Two parallel commissions/working groups are envisaged. The main agenda items would comprise the Adoption of a Plan of Action and, if member countries wish, the Adoption of the Declaration.

Non−governmental organizations (NGOs) will be invited to participate in the ICN, and their early involvement in country and regional−level preparations has been encouraged. Because of their work, particularly in developing countries, on food, nutrition, and health issues, it is important that NGOs participate in ICN preparatory activities at country level. This will allow them to share their views and experiences with national authorities and have their concerns reflected in regional/sub−regional meetings and later at the Conference. This should facilitate their active involvement in the follow−up to the ICN during the implementation phase of the Plan of Action.

It is also envisaged that NGOs participate actively in the country and regional−level meetings. The participation of NGOs in the Conference itself will, of course, be subject to the decisions of the Preparatory Meeting of Member Governments on the general arrangements for the Conference. Accredited NGOs will be welcome to attend the Conference and to participate as appropriate and practical. In this connection, in view

of the very many interested NGOs, it would seem inevitable that there should be selectivity in the representation of different classes of interest (food, agriculture, health, consumers, industry, etc.) as regards interventions, possibly based on their contributions at the country and regional level. In addition, during the FAO Conference in November 1991, the *Ad Hoc* Group of Representatives of International NGOs to FAO will be holding a meeting and the ICN is on their agenda to discuss their participation.

The ICN is not seen as an end itself, but rather as a step in the continuing process to strengthen the commitment and actions necessary to prevent and alleviate problems of hunger and malnutrition. Enthusiasm generated to date by the ICN preparatory activities in many countries is encouraging. It is evident from the progress reported here, that the process of preparing for the ICN has resulted in increased awareness of the scope and dimension of nutrition and diet–related problems. as well as an increased willingness among various public and private sectors to work together to address these problems. If these efforts continue, then a major goal of the ICN will have already been achieved.

Still, much more needs to be accomplished if lasting improvements in nutritional well–being are to be achieved. The ICN provides the world community with the opportunity to confront the problems of hunger and malnutrition and relate them to the underlying issues of inadequate food, health, and care and inequitable economic and social development. In this period of rapidly changing economies and political structures, this opportunity, placed before the world community, will provide an important step in the process of meeting the nutrition challenge.

(Source: FAO Conference document C 91/27, September 1991. For further information contact FAO/WHO Joint Secretariat, FAO, Via delle Terme di Caracalla, 00100 Rome)

IAEA

Human Nutrition Programme

The International Atomic Energy Agency (IAEA) was created in 1957 as a specialized Agency of the United Nations with the objective of accelerating and enlarging the contribution of atomic energy to peace, health and prosperity throughout the world. One of its programme areas, Human Health, comprises activities in nuclear medicine, applied radiation biology and radiotherapy, dosimetry, and in *nutritional and health–related environmental studies (NAHRES).* The Agency, as well as having programmes directly related to nutrition, has an extensive programme area on food and agriculture which is indirectly related to human nutrition. This latter programme is operated jointly with FAO and is designed to assist Member States in using nuclear techniques in their agricultural research and development to improve food production, reduce food losses, and protect the environment.

The objective of the IAEA programme is to promote the use of nuclear analytical techniques and isotope tracer meth ods in human nutrition research with special reference to nutrition problems in developing countries. The techniques supported include (1) neutron activation analysis (e.g. for the determination of trace elements in foodstuffs and human tissues), (2) radioisotope tracer techniques (e.g. for studies of the bio–availability of iron and other trace elements), (3) whole–body counting (e.g. for metabolic studies), (4) radioimmunoassay (e.g. for the determination of serum ferritin and vitamin B12), and (5) stable isotope tracer techniques (e.g. for studies of protein turnover using 15 N and of energy expenditure using doubly–labelled water).

A Coordinated Research Programme (CRP) is developed around a specific scientific topic, in which normally about 10–20 institutes (mostly from developing countries) are invited to participate. Research contracts – typically around $20,000 spread over 3 to 4 years of the programme – are awarded to such institutes. Also, every 1–2 years meetings for research co–ordination are organized.

The Agency's technical co–operation programme encompasses expert services and equipment, fellowships and training courses. Individual technical co–operation projects typically provide US$50,000–100,000 over a period of two years. Fellowship training (which may or may not be associated with a specific technical cooperation project) enables suitably qualified personnel from developing Member States to receive on–the–job training in another country. The duration of such training is normally between 3 and 12 months and all expenses are borne by the IAEA or a donor country.

Currently active coordinated research programmes relate to the following topics: 1) daily dietary intakes of nutri–tionally important trace elements, 2) applications of stable isotope tracers for studies of protein turnover and energy expenditure, 3) the bioavailability of iron and zinc from different diets (see *SCN News* No. 5. p.

47), and 4) assessing nutritional and environmental exposure to mercury in selected human populations. In addition, support for two technical co−operation projects in Cameroon and Portugal are currently provided.

A database of results for diet samples collected within the framework of the Coordinated Research Programme on human daily dietary intakes of nutri−tionally important trace elements continue to grow. These gave input data reviewed by the 1990 WHO/FAO/IAEA Expert Consultation on Trace Elements in Human Nutrition.

As part of the programme of information exchange, periodic bibliographies (presently 4 issues/year) are prepared, which are mainly for the benefit of CRP participants. These bibliographies summarize information on trace element analysis by nuclear techniques, application of stable isotope tracers, and fallout radioactivity in environmental and food samples taken from the IAEA's International Nuclear Information System (INIS) database. Another recent publication presents the results of a joint WHO/IAEA collaborative study on the composition of human breast milk.

New CRPs are expected to start during 1991/92, in collaboration with WHO, on 1) comparative studies of energy expenditure in selected human population groups using the doubly−labelled water method, and 2) collaborative research on osteoporosis in selected human populations. A Seminar for developing countries on isotope techniques in human nutrition research is expected to be held in India at the end of 1992. A new CRP on protein metabolism under conditions of marginal intake is under consideration for implementation in 1993.

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The first trial issue of a newsletter *(NAHRES News),* describing some programmes of the Agency's Section of Nutritional and Health−Related Environmental Studies, together with other pertinent information came out in July 1991, This Trial issue No. 1 contains 1990's Annual Report of NAHRES, information about the current status of various CRPs, as well as plans for meetings and training courses. Attached to this newsletter is a bibliography on Trace Elements Analysis by Nuclear Techniques (section A), and Applications of Stable Isotopes (section B).

To obtain a copy of this trial issue and for more information please write to the Section of Nutritional and Health−Related Environmental Studies (NAHRES), IAEA, P.O. Box 100, A−1400 Vienna, Austria. Tel: +43 1 2360 1657, Fax: +43 1 234564.

(Source: Dr Robert M. Parr, Head, Nutrition and Health−Related Environmental Studies, IAEA, Vienna)

IDECG

International Directory of Energy Metabolism Scientists

The Secretariat of the International Dietary Energy Consultative Group (IDECG) has begun to compile an International directory of scientists concerned with biological aspects of energy metabolism. The compilation will be a useful information source for both beginners and skilled individuals in this field in order to exchange ideas and experiences, and will serve as a guide to organizations, institutions and scientific groups who require to know who is currently active in these lines of science. Questionnaires have already been sent to about 100 scientists known to be active in this field, and most of them have returned the requested information. Those concerned scientists who have not still received a questionnaire should contact the IDECG secretariat: Dr B. Schurch, Executive Secretary of IDECG, c/o Nestle Foundation, PO Box 581, 1001 Lausanne, Switzerland.

(Source: IDECG Annual Report 1990)

IFPRI

Food Security and Hunger Alleviation in Sub−Saharan Africa

The Food Consumption and Nutrition Division of the International Food Policy Research Institute (IFPRI), focusing on improvement in food security and alleviation of poverty and malnutrition in poor rural households in Africa, has recently undertaken two projects to help the food security situation in Sub−Saharan Africa. These projects are "Public works programmes for food security", and "Consumption credit for the rural poor in Sub−Saharan Africa".

1. Public Works Programmes for Food Security in Sub−Saharan Africa:

Public works programmes can enhance food consumption through creating employment for the poor in the short run and generating income−increasing assets in the long run. Nevertheless, the experience with such schemes is limited in Sub−Saharan Africa, despite the fact that they have been the key instrument to tackle food insecurity in Asia. The aim of this project is to find out the constraints to preventing utilization of these programmes as a tool for poverty alleviation.

This research − coordinated by Joachim von Braun, with Patrick Webb and Tesfaye Teklu − begins with a comprehensive review of the experience with public works programmes to date in Sub−Saharan Africa. Focusing on the goal of food security improvement for the malnourished poor, it identifies potential areas for expanded use of such programmes and generates policy conclusions that can feed into the formulation of strategies for reducing hunger in both rural and urban Africa. This research, a three year undertaking, is closely related to other programmes supported by bilateral and multilateral donors and NGOs. The project looks at four major questions:

− What lessons can be learned from the Asian and Latin American experiences with public works programmes that may be transferable to African countries and conditions?

− What lessons can be learned from those African countries that already have experience with these programmes?

− What latent potentials exist in Africa's diverse settings for programmes that can generate employment, skills, and assets for food crisis alleviation and for longer−term development, and how can these potentials be tapped in the context of weak institutions and poor infrastructure?

− How do different public works projects compare in terms of effectiveness with other instruments available for addressing food security problems?

In phase one of the project a detailed review of public works initiatives in the following 18 African countries will be carried out: Angola, Botswana, Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Mali, Malawi, Mauritania, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sudan, Tanzania, and Zimbabwe. The review will also consider experience with programmes such as food−for−work e.g. in Bangladesh, China, India, and Central America.

In phase two, at least two of the above country cases will be selected for an in depth study of the potential for, and impact of, public works programmes for improved household food security. This phase will involve data collection and analysis at the household level to assess the net effects of these programmes (including food−for−work) on employment and consumption. The resulting analysis will provide guidance for setting programme priorities in different settings, given location−specific development and food security goals. The country studies will be followed by a comparative analysis that brings together broader review findings and leads to policy conclusions and suggestions for strategy formulation.

2. Consumption Credit for the Rural Poor in Sub−Saharan Africa

Lack of access to credit and savings schemes in the rural formal financial markets leaves poor and food insecure households with limited options for stabilizing food consumption. The major options available to the rural poor for coping with food shortages include income diversification, cash savings or holding of other liquid assets, emergency sales, inter−household borrowing within the community, and loans from other informal sources. Credit from formal lenders and progammes is mostly restricted to production purposes.

Based on recent experiences with credit projects in Sub−Saharan Africa which suggests that more information is needed on consumption credit, IFPRI has initiated research for better understanding of existing indigenous informal institutions at the household and community levels. Such understanding will assist in designing viable credit policies and innovative projects. Bottom−up informal systems can, when expanded to a critical mass, link up with the formal credit and savings systems of rural banking and cooperatives to create sustainable rural financial systems in Africa.

This research focuses on how to improve food security through enhanced rural financial intermediation. The major research questions are:

– What is the nature and scale of participation by the poor in formal and informal credit and savings systems? Is credit use differentiated according to socio–economic groups within the rural poor (i.e. gender, land–ownership, income structure)?

– What are the direct and indirect effects of access to credit and savings schemes on household productivity, income and consumption?

– How do existing formal and informal credit and savings options help to alleviate food security problems?

To investigate these questions comprehensive surveys at the household and community levels are required. This project will be conducted in three Sub–Saharan African countries over the next three years. Specific policy information will be generated for each country. A final integrative and comparative analysis of the case studies will provide general policy findings applicable to a range of Sub–Saharan countries. The following policy issues are most important for the study:

– What types of national, sectoral, and community level institutional arrangements, subject to different agro–ecological and socioeconomic conditions, promote credit and savings mobilization by the rural poor for reducing food insecurity?

– What are appropriate criteria for identifying group–based systems, going about their upgrading, and linking them into the formal banking system to arrive at viable approaches for effectively targeting sustainable credit and savings systems for the poor?

The project is executed by Joachim von Braun as the project leader and Manfred Zeller (both at IFPRI) in collaboration with Franz Heidhues and Gertrud Schrieder (both at University of Hohenheim. Germany).

(Source: Rajul Pandya–Lorch, IFPRI, May 1991)

MEDECINS SANS FRONTIERES

Assistance to Populations in Distress

Médecins Sans Frontières was established in 1971 as a private international organization to provide assistance to populations in distress, to victims of natural disasters, collective accidents and war events, without any discrimination based on race, politics or religion. The association has six national sections – Belgium, France, Luxembourg, the Netherlands, Spain and Switzerland – which cooperate closely in the field and in logistical support, with each particular action falling under the responsibility of a section.

The assistance has mainly been in the form of medical doctors, nurses, mid–wives and other para–medical staff, mobilized shortly after a disaster to intervene rapidly in crisis areas. Longer–term actions have been conducted, assisting populations living in war or guerilla areas, such as in Afghanistan, Mozambique, Nicaragua, Sudan, Uganda, and elsewhere. In Malawi, for instance, in order to assist Mozambican infant refugees due to war, the association opened 10 intensive nutrition rehabilitation centres caring for 6000 infants in 1989. In 1990, Médecins Sans Frontières has operated numerous nutrition programmes for infants in African and Asian countries.

Famine early warning systems are established by the Médecins Sans Frontières in places with substantial famine risk. Warning signals such as delayed seasonal rain. massive arrival of refugees, increased food prices, emergency sales of livestock etc. are watched for. In case of doubt, a nutrition survey is undertaken on under–five–year old children by a medical team. More than 10% undernutrition among infants and young children confirms the existence of famine. At this stage, young infants are sent to special intensive nutrition centres made by the Médecins Sans Frontières, and general food distribution begins. Médecins Sans Frontières always has security stocks ready for distribution to any part of the planet.

The Association of Doctors Without Frontiers is financed mainly through private donations, sale of cards, etc. thus refusing allegiance to any political, economic, ideologic or religious power, in order to maintain complete independence and a state of strict neutrality.

(Source: Médecins Sans Frontières)

THE PHILIPPINES

Nutritional Guidelines For Filipinos

The development of nutrition guide lines for Filipinos was started in April 1990, by a Committee composed of experts in food management, clinical nutrition, nutrition education, dietetics, nutrition planning, policy formulation, and the academe. The Food and Nutrition Research Institute (FNRI), an agency under the Department of Science and Technology, spearheaded the formulation of these guidelines in collaboration with other government agencies and non–government organizations such as the University of the Philippines Systems (College of Medicine and College of Home Economics), Nutrition Center of the Philippines (NCP), National Nutrition Council, Nutrition Foundation of the Philippines, Makati Medical Center and other private practitioners.

The guidelines are developed to promote better health status through proper nutrition. It seeks to foster an adequate and balanced diet, desirable food and nutrition practices and healthy habits suitable for general public. It provides a handy reference for counselling and educational services on nutrition. The booklet recommends eating a variety of foods, breastfeeding, proper weaning, achieving and maintaining desirable body weight, eating clean and healthy foods and practising a healthy lifestyle. The NCP Deputy Executive Director of the Nutrition Centre of the Philippines, Mercedes A. Solon, recently participated in the development of these guidelines,

(Source: The Nutrition Centre of the Philippines Bulletin, October–December 1990)

UNICEF/ICCIDD/WHO

Assisting Governments in Implementing National IDD Control Programmes through IPCIDD

The International Training and Support Programme for the Control of Iodine Deficiency Disorders (IPCIDD), through a strong network of support from the international agencies such as UNICEF, WHO, and the International Council for the Control of Iodine Deficiency Disorders (ICCIDD), is designed to assist governments in implementing iodine deficiency control programmes. The programme – as announced in the *SCN News* No. 6, p. 45 – is a collaborative effort of the Emory University School of Public Health, the Centers for Disease Control (CDC), and the Task Force for Child Survival of the Carter Presidential Center, in Atlanta, Georgia, and is supported by UNICEF. The aim is to help countries with a comprehensive epidemiologic and laboratory programme coupled, with appropriate interventions, to control iodine deficiency disorders (IDD). Participating countries are selected for their demonstrated level of political and resource commitment to IDD control, and the readiness of the national IDD programmes to benefit from the technical training and to contribute to the international effort against IDD.

IPCIDD is expected to be a major catalyst in eliminating iodine deficiency, one of the world's leading nutritional diseases. An estimated 1 billion people in 60 countries are affected by IDD which in children can lead to permanent brain damage and mental retardation, goitre, deaf–mutism, short stature, and retarded development of the musculo–skeletal system. Iodine deficiency is also associated with increased rates of perinatal and infant mortality. The problem is entirely preventable with iodine supplementation.

The first training programme began in May 1991. Experts in the fields of nutrition surveillance, field laboratory management, and public health programme management as well as consultants with special expertise participate in the training programme, which is organized into three major modules: epidemiology and data management; programme management; and laboratory methods and management. Countries participating in 1991 are Bolivia, China, Indonesia, Peru, Philippines, Rwanda, and Zimbabwe.

Information from Dr G.F. Maberly, Programme Director, IPCIDD, Emory University, School of Public Health, Atlanta, George, 30329, USA.

(Source: UNICEF, May 1991)

UNU

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

RAP training workshops in Brazzaville, Congo and Santiago in Chile have been successfully completed, and additional training workshops are now being planned for 1992 in several parts of the world. The 16 minutes RAP video is now also available in Spanish. Copies of both English and Spanish versions are available for US$12 and can be freely copied. Video tapes can be ordered from the UNU International Food and Nutrition

Programme, Harvard Center for Population Studies, 9 Bow Street, Cambridge, MA 02138 USA. The RAP guidelines are now available in English ($8.95 plus postage), Spanish ($8.95 plus postage), French ($10.95 plus postage) and soon in Portuguese. These may be ordered from the UCLA Latin American Center, University of California, Los Angeles, CA 90024–1447 USA.

The papers from the International Conference on Rapid Assessment Methodologies for Planning and Evaluation on Health Related Programmes held at Pan American Health Organization (PAHO) headquarters in Washington, DC, in November 1990 are in editorial process and the volume is scheduled for publication early next year.

The Spring 1991 edition of the *RAP News* is now available. To obtain copies and/or to be put on the mailing list for future newsletters, please contact Dr Nevin S. Scrimshaw, UNU International Food and Nutrition Programme, Harvard Center for Population Studies, 9 Bow Street, Cambridge, MA 02138, USA.

* * * *

International Food Intake Directory (INFID)

The United Nations University (UNU) project to assist countries in the compilation and summarization in standard form of all dietary intake data available for the past 40 years is continuing and compilations are complete or in progress for 13 developing countries. It is expected that each set of summaries will be published locally as well as be available through the Cambridge Programme Office of the UNU Food and Nutrition Programme. The purpose of this project is to compile a directory of dietary intake data from developing countries which also have reasonable disease specific mortality and morbidity data. The compilations are intended to facilitate epidemiological analysis of the relationship between diet and chronic diseases. They should also prove useful to professionals within the country for the analysis of dietary trends and the development of dietary guidelines and other educational materials. Individuals and institutions not already participating in this project are encouraged to write directly to Dr Nevin S. Scrimshaw, Director, UNU International Food and Nutrition Programme, Harvard Center for Population Studies, 9 Bow Street, Cambridge. MA 02138, USA. Modest financial assistance is available to help participants with copying, postage, and other incidental costs that may be incurred in obtaining copies of this information.

(Source: Dr Nevin Scrimshaw, UNU. May 1991)

USAID

WINS – Women and Infant Nutrition Support

The Women and Infant Nutrition Support (WINS) Project funded by the USAID Office of Nutrition is designed to strengthen programming for women and young child nutrition in developing countries in order to promote physical and mental development in children. The WINS project intends to address the entire continuum of nutritional needs from birth through three years of age, i.e. from exclusive breastfeeding through weaning to the family diet.

The WINS Project applies strategic approaches, technologies, and lessons learned – over the past decade – from successful breastfeeding and young child nutrition projects carried out by USAID and other government and nongovernment organizations. Through the provision of technical assistance and training, the Project seeks to strengthen the institutional capacity of agencies currently engaged in nutrition activities. More specifically, the Project supports comprehensive infant and young child feeding efforts in at least four countries. It carries out collaborative inquiries with country institutions and researchers to test the feasibility of new approaches to solving breastfeeding and young child nutrition problems and conducts in country and regional seminars and workshops to disseminate new knowledge and relevant skills. It provides technical assistance in related programme and policy analysis and planning, project design, implementation, evaluation, and monitoring to USAID missions and host country institutions.

To accomplish this, the WINS Project draws on the expertise available through its consortium and its strong linkages with other activities within the USAID Office of Nutrition. The WINS Project seeks to strengthen the skills of country counterparts to more effectively design and implement their own programmes, through training and continuity of technical assistance provided by the WINS consortium and its network of in–country colleagues. Working in a collaborative mode, the WINS Project is designed to ensure a host country–based, cohesive approach, building on existing projects where appropriate, identifying and filling gaps in services, and bringing together a range of resources to enhance programme effectiveness.

The WINS project is managed by Education Development Center (EDC), which is a thirty−three year old nonprofit institution, known for its work in the fields of nutrition, health, education. and human resource development. EDC is assisted by the Tufts University School of Nutrition, the International Center for Research on Women (ICRW), and a consortium of other outstanding United States and international organizations.

For more information, please contact Ms Bibi Essama. Project Director, or Dr Nina Schlossman, Technical and Deputy Director at Education Development Center. Inc.. 1250 24th Street. NW, Washington. DC 20037. USA. Tel: 202−4660540: Fax: 202−2234059; Telex: 446154 WESI. Source: USAID.

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Nutrition Institution in Francophone Africa

The Nutrition Communication Network for Africa (RENA) will become a full African institution in July 1991. when its headquarters is relocated to the University of Benin in Lome, Togo. Since it was established in 1987. RENA has been working out of the University of Liege, Belgium, to provide its member countries in Francophone Africa with technical assistance and training in nutrition social marketing, while operating a clearinghouse for nutrition education materials. The USAID's Nutrition Communication Project (NCP) has been instrumental in moving RENA to West Africa by building its institutional capacity to conduct regional programmes in nutrition social marketing.

NCP recently brought in a new partner, the Center for Communication Research (CERCOM) at the University of Abidjan, to take responsibility for training in social marketing. The Office of Nutrition, USAID, plans to provide continued technical assistance to RENA and CERCOM with the expectation that they will soon become self−sufficient institutions in West Africa that can effectively promote good nutrition and help overcome the dietary problems that plague the region.

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Expansion of the ICDS Management Information System

The USAID's Vitamin A Field Support Project (VITAL) has extended its management information system into five more provinces in India at the request of the Indian Government. The improved data and data analysis capabilities provided by this information system has significantly increased the Government's capacity to expand health coverage and nutrition education services to a larger segment of the population. The Integrated Child Development Services programme (ICDS), which manages the information system, now provides services to close to half of the country. According to a recent national survey, villages served by ICDS had coverage rates at more than 60% for pre−school children receiving Vitamin A supplementation, as opposed to 10% in non−ICDS areas. The success of the system has been so great that the Government of India is now considering expanding the coverage even more.

VITAL subcontractor, Community Systems Foundation, is developing new and improved standardized monitoring tools to accommodate other components of ICDS services. This new Progress Reporting System will soon introduce state−of−the−art monitoring and evaluation software tools to manage vitamin A deficiency intervention programmes in India and in other developing countries.

(Source: Office of Nutrition. USAID, May 1991)

WFP

Operations in 1990

To fulfil the important role that food aid can play in overcoming the causes of poverty and hunger, it must be integrated into national development programmes, treated as a development resource by the government, and adequately backed by technical and financial support. A comprehensive approach to poverty alleviation is to promote the productive use of the most abundant asset of the poor – their labour – and to provide basic social services, such as primary health care, nutrition and basic education, as well as safety nets for some groups of poor people unable to maintain reasonable living standards without them. This approach has been the strategy of the World Food Programme (WFP) from the start. Through food−for−work, land settlement, agricultural production and community development projects, WFP helps mobilize and compensate the labour of the poor to construct rural infrastructure and undertake other economic and social development activities.

Support to health and education helps governments provide basic social services. Emergency food aid for refugees, displaced people and victims of natural disasters help provide the safety nets.

Over its nearly 30 years of operation, WFP's contribution to the attack on poverty and hunger has become increasingly significant. At the end of 1990, WFP was assisting 278 active development projects with total resources from WFP valued at $3.24 billion, including commitments of $480 million in 1990 for 48 new development projects or expansions of existing ones, and budget increases for ongoing projects. The portfolio of development projects provides food to an estimated 75 million people.

Through 23 active operations worth $324 million WFP supported 6.6 million long–term refugees and displaced people in 1990, providing them with most of their basic food requirements.

Food aid worth $132 million was provided to some 5.8 million people in 20 countries through 32 emergency operations.

In 1990, disaster relief, including the feeding of long–term refugees, amounted to nearly half of all WFP food aid commitments – $336 million for long–term refugees and displaced people and $132 million for emergency operations, compared with $480 million for development projects.

At the end of 1990, WFP was assisting 92 human resource development projects, for vulnerable group feeding (mothers, infants, pre–school children) and feeding children at primary schools with $1.2 billion of WFP resources. Human resource development projects accounted for 56% of 1990 commitments with a total value of $270 million.

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Assisting AIDS Victims

Rather than targeting infected individuals or their households, WFP contributed to the global AIDS strategy by concentrating assistance on communities and geographical areas that exhibit high prevalence rates of HIV/AIDS infection. For example, in Tanzania, food entitlements are targeted at households with high dependency ratios in Kagera region which is most affected by AIDS. Similarly in Uganda, 9500 orphans, 3000 foster families, 2000 hospital patients and 1800 AIDS counsellors and social workers will be assisted in Rakai and Masaka districts having 30% of the AIDS victims. In Malawi food aid is used for an incentive to increase awareness of AIDS, to attract infected patients to specialized clinics, and to promote income–generating activities. In Zambia, over 1700 hospitalized/home AIDS patients are provided with cooked meals. Furthermore, WFP has assisted five national non–governmental organizations in the Dominican Republic with resources to be used for the benefit of AIDS victims and their households.

(Source: Ms Judit Katona–Apte, Senior Programme Adviser (Human Resources), WFP, May 1991)

THE WORLD BANK

Nutrition and Educability

The World Bank has begun to promote more attention to nutrition and health needs of school children in its education projects. Currently there are five projects in which a substantial nutrition component has been included or is proposed for an up–coming operation.

These include: *Brazil* – Innovations in Basic Education; *Burkina Faso* – Education IV; *Dominican Republic* – Primary Education; *Mozambique* – Education II; and *Pakistan* – Sindh Primary Education Development. The aim of the Dominican Republic Primary Education Development Project would be to improve an existing school feeding programme through additional training, operations research, and community education and to take efforts to combat iron deficiency anaemia and parasites. In the Mozambique Second Education Project a component is included to study nutrition and health status, and to provide appropriate actions including deworming medicine, and iron supplementation, as required. School–based micronutrient and deworming programmes and introduction of nutrition and health in the school curriculum are included in the nutrition component of programmes for Burkina Faso.

Nutrition activities have been included in several other projects, for example: *Bangladesh* – Central Education Project; *Madagascar* – Education Sector Reinforcement; *Mali* – Human Resource SECAL; *Nepal* – Basic/primary Education; The *Philippines* – Elementary Education II; and *Rwanda* –Education Sector Credit.

A newly published World Bank Policy Paper entitled "Primary Education" by Marlaine Lockheed, recommends nutrition supplementation and health screening for students as a means of improving students' learning capacity.

In line with this increased attention to nutrition in relation to educability, an informal meeting was held at the World Bank on 13 December 1990, to discuss progress in the movement to increase education efficiency through improving children's learning capacity via better nutrition and health. The goal of the meeting was to reach a consensus on the next steps to take to stimulate increased interest and activity in this area.

(Source: The World Bank, May 1991)

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The Bank's Nutrition Lending Activities

The World Bank's nutrition lending increased sharply during the year 1990, when there was 46% more nutrition financing than in the previous ten years combined. The year 1991 is likely to show a 47% increase over last year, and a further 76% increase is projected for the year 1992. Thus, since reorganization the World Bank has enhanced its nutrition lending by twenty−fold in 1990−92, compared with the three years before.

Asia accounts for the largest volume of 1990−92 nutrition lending (44.1%). although South America, at 42.3% is not far behind. Africa constitutes 10.3%. Some current examples of the support provided to nutrition projects and operations are cited below.

Africa Scheduled programmes dealing with nutrition and food security in *Chad and Ethiopia* have been delayed by reason of political problems in these areas. A Health and Nutrition Sector Adjustment Project with a substantial nutrition orientation for *Kenya,* and a nutrition/food security project for Mozambique, are in the lending programme. A new approach to help with food security status is recently being prepared for testing in *Malawi.* Here, in addition to fertilizer, seed, and other production inputs, enough maize meal will be given to women farmers to feed themselves and their children through the next harvest. The intention is to prevent them from having to consume their seeds as food, and to help them break out of the poverty cycle. *Nigeria's* Minister of Finance confirmed agreement to include a nutrition project in the lending programme. Increasing food security and reducing malnutrition are among the objectives of the *Zambia* Northwestern Province Development Project Phase II. In addition to extension agents providing information and assistance on nutrition issues related to agriculture, a group of nutrition demonstrators will work in parts of the province to emphasize the project's special outreach to women.

Asia A $11 million nutrition portion of the *Bangladesh* Population and Health IV project includes support for vitamin A and iodine supplementation programmes, breastfeeding promotion, nutrition education, expansion of the Institute of Public Health and Nutrition, and strengthening of the National Nutrition Council.

The *India* Child Survival and Safe Motherhood Project includes for nutri tion about $38 million. This is 22% of the proposed $175 million credit. The project addresses iron−deficiency anaemia and vitamin A deficiency and supports several approaches to behavioural change, with special attention to feeding practices. Other state−specific nutrition operations were approved within the past year for Tamil Nadu, Orissa, and Andhra Pradesh, and a project is under preparation for Bihar and Madhya Pradesh.

Community Health and Nutrition III project is directed to five provinces of *Indonesia,* oriented toward specific nutrition and health problems of provinces and local areas.

Preparation for the Bank's first National Urban Health and Nutrition Project, in *the Philippines,* is moving along. An overall strategy and programme for delivering nutrition services is being formulated for presentation in a July workshop.

Latin America and Caribbean

The Primary Education Improvement Project in *Chile* includes a variety of nutrition and health interventions for 250,000 primary school students, and the feeding of 80,000 preschoolers. A Health and Nutrition Project, initially programmed at $80 million, is planned for *Ecuador.* A similar project to include food supplementation/nutrition intervention targeted at women and children under five is also under consideration for *Guyana.* The proposal followed an observed 100% increase in the cost of covering minimal daily nutrition requirements in the last 14 months. This is calculated as about 80% of the current minimum salary. Also, a

programme giving 300.000 low−income pregnant and breastfeeding women food coupons at health centres will be given substantial support in a Social Sector Adjustment Project, currently being prepared in *Honduras.* Unlike other similar programmes, in this project the coupons can be redeemed at any store, not just government stores. Furthermore, while the programme is financed heavily by food aid, both World Food Programme and USA Government food assistance will be monetized so that resources can be more efficiently channelled to the project.

(Source: The World Bank)

WHO

Programmes Against Child−killing Diseases

The World Health Organization (WHO) is now working with Member States to set up the Acute Respiratory Infections (ARI) Control Programmes similar to its Programme for the Control of Diarrhoeal Diseases. The aims of these two programmes are to reduce the number of deaths due to diarrhoea by half by the end of this decade mainly by treatment with oral rehydration salts; and to reduce deaths from pneumonia by one−third, through the timely use of simple oral antibiotics. As in the case of controlling diarrhoea it is intended to define standard treatment protocols based on simple clinical diagnosis that do not rely on laboratory or x−ray equipment.

Both diarrhoea and ARI are recognized as the two major childhood diseases in the developing world, which accounted for more than half of *all* childhood deaths in 1990 alone. Even those children who manage to survive often suffer varying degrees of malnutrition. Pneumonia, compared to diarrhoea, is much less recognized as a child−killer problem, thus efforts to reduce its fatal consequences have been less successful. Both these diseases become potent killers in an environment of poverty, malnutrition and lack of information. Widespread marketing of often useless anti−diarrhoeal drugs and cough and cold syrups frequently complicate the problem and result in wasting money and valuable time required for appropriate treatment.

WHO identifies four major problems which contribute to the 7.5 million deaths from diarrhoea and ARI annually. These are (1) insufficient health workers trained in the treatment of these diseases; (2) lack of awareness of the ultimate dangers of these diseases if left untreated; (3) lack of correct antibiotics or other medicines needed to effect the cure; and (4) poor nutrition.

Among the preventive strategies promoted by the WHO is encouraging mothers to breastfeed in order to give natural immunity and nutritional benefits to their infants.

Development and application of programmes to train both supervisory personnel and clinical and community−based health workers has been given much priority by WHO. To promote effective and practical solutions, WHO works in conjunction with national health programmes in the developing countries to train workers, educate families, and when possible to develop local capacity to manufacture the necessary medicines.

Both programmes have active research efforts that strive to improve the approaches to fighting diarrhoea and ARI, including the search for new vaccines against pneumonia and the major causes of diarrhoea. WHO is currently spending about US$17 million per year on the two programmes. An additional US$20 million per year will be needed by the middle of this decade in order to achieve the stated goals.

(Source: WHO Features. No. 159, June 1991)

WHO/UNICEF

Micronutrient Malnutrition Strikes One−Fifth of Humanity

On the initiative of the Director−General of the World Health Organization (WHO), Dr Hiroshi Nakajima and the Executive Director of UNICEF, Mr James Grant, several United Nations agencies together with North American international development organizations met under the auspices of the Task Force for Child Survival and Development for a global conference − Ending Hidden Hunger −in Montreal, Canada, 10−12 October 1991. This was a policy conference on micronutrient malnutrition. Representatives of some sixty of the world's most severely affected countries were active participants in the search for workable solutions to a major public health problem.

The meeting focused on nutrition deficiencies of iodine, iron and vitamin A. While rarely making the headlines, micronutrient malnutrition severely affects one–fifth of the world's population, hitting hard especially at young children and women.

Virtual elimination of iodine and vitamin A deficiency, as well as reduction of iron deficiency anaemia among women of childbearing age by one–third of 1990 levels, are goals that govern ments have adopted at both the World Health Assembly and the 1990 World Summit for Children.

Iodine deficiency is the world's leading cause of preventable brain damage. Properly called Iodine Deficiency Disorders (IDD), the condition is directly linked to goitre and a wide spectrum of mental and intellectual defects of varying degrees of severity including cretinism, paralysis and deaf mutism. It can also lead to stunted growth and development, miscarriages, stillbirth and infant deaths. Iodine–deficient soil, water and food can be determining factors. The Forty–third World Health Assembly, meeting in Geneva in May 1990 unanimously called for the elimination of IDD as a significant public health problem in all countries by the year 2000. The Montreal meeting should bring that goal closer to fruition. It is hoped that once the size and dimensions of the problem are properly understood by policy–makers in all corners of the globe, more funds will be released and the different sectors involved will be brought together.

Iron deficiency anaemia is probably the most common nutritional disorder. Worldwide, approximately one thousand million people suffer from anaemia which lowers the ability of the blood to carry the oxygen needed for vital bodily functions. It affects first and foremost pre–school children and women of reproductive age in tropical and sub–tropical regions. In developing countries, severe anaemia is an associated cause in one of every two maternal deaths. The condition deeply affects the physical, social and economic fabric of society.

The present situation is tragic because possible remedies have been well known for some time. Supplementation with ferrous sulphate tablets (often including folic acid) has been successfully field–tested in different regions. Dietary modifications can also play an important role in fighting iron deficiency; increasing the intake of haem iron from animal products (and vitamin C which increases its uptake) while, at the same time, reducing the intake of tea, coffee and some cereals, which are known to thwart the absorption of iron.

WHO considers the effective provision of iron supplementation during pregnancy and lactation to be the most practical and immediate way of resolving the problem of iron deficiency anaemia among vulnerable groups. In the Organization's view, the control of iron deficiency is an essential component of primary health care and the Safe Motherhood Initiative.

Shortage of vitamin A is the most common cause of irreversible loss of sight in childhood in developing countries. During the 1980s, more than 2.5 million children needlessly went blind. Unless treatment is provided up to 60% of children going blind in this way may die within a few months. On top of these horrifying statistics, every year at least 500,000 children are subject to serious eye damage. At this very moment, vitamin A malnutrition is causing more than six million children to suffer from night blindness or eye pathology.

When there is a shortage of vitamin A, the human immune system starts to lose its ability to ward off infection. Measles, one of the six major childhood diseases, is a striking example of how the damaging effect of vitamin A deficiency can lead to both blindness and increased mortality. By depleting reserves of vitamin A in the liver measles triggers rapid deterioration of the cornea. Half of all cases of corneal blindness in Africa are directly linked to measles. Thus the overall importance of vitamin A in child survival cannot be overestimated.

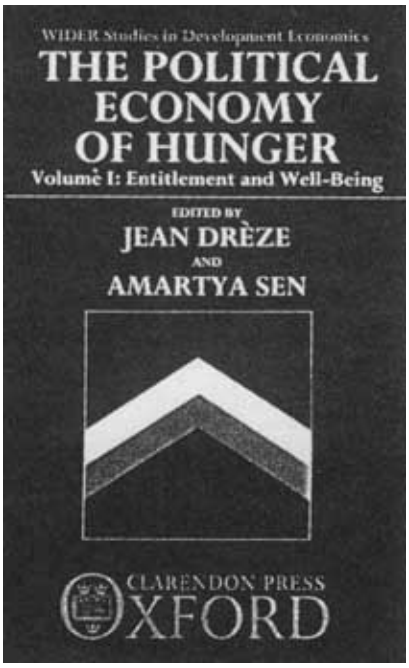
In summary, it can be said that problems and solutions are well researched and well known. What is needed is concerted action by all the parties concerned. The Conference on Ending Hidden Hunger urged accelerated action towards three daring, but achievable, goals for the 1990s:

– the virtual elimination of iodine deficiency disorders;
– the virtual elimination of vitamin A deficiency and its consequences, including blindness;
– the reduction by one–third of 1990 levels of iron deficiency anaemia among women of childbearing age.

(Source: WHO)

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

PUBLICATIONS



The Political Economy of Hunger: Volumes I–III (1990)

Edited by Jean Dreze and Amartya Sen, Clarendon Press, Oxford.

Following on from the excellent *Hunger and Public Action* by Dreze and Sen (see *SCN News* No. 5), here are three volumes of papers, under the overall title *The Political Economy of Hunger,* commissioned by the World Institute for Development Economics Research (WIDER), based in Helsinki.

Volume I: "Entitlement and Well–Being" deals with the background nutritional, economic, social and political aspects of the problem of world hunger. Topics covered include the characteristics and causal antecedents of famines and endemic deprivation, the interconnections between economic and political factors, the role of social relations and the family, the special problems of women's deprivation, the connection between food consumption and other indicators of living standards, and the medical aspects of undernutrition and its consequences. Several chapters also address the political background of public policy, in particular the connection between the government and the public, including the role of newspapers and the media, and the part played by political commitment and by adversarial politics and pressures.

Volume II: "Famine Prevention" focuses in particular on sub–Saharan Africa, and includes papers on the problems of early warning and early action, the politics of famine preven tion, the influence of market responses, the role of cash support and employment provision in protecting threatened food entitlements, and long–term issues of reduction of famine vulnerability. In addition to such general analyses, the book contains a number of case studies of successes and failures in famine prevention, both in South Asia and in sub–Saharan Africa.

Volume III: "Endemic Hunger", will be published soon, and will contain papers on Chinese food policy since 1949, public policy and basic needs provision in Sri Lanka, growth and poverty in Brazil, malnutrition and poverty in Latin America, undernutrition in sub–Saharan Africa, policy options for African agriculture, poverty and food deprivation in Kenya, industrial contributions to African food problems, food problems in Bangladesh, and some policy options for eliminating hunger in South Asia.

Together the essays cover a wide range of topics relating to world hunger, providing many authoritative and provocative insights and recommendations for policy–makers worldwide.

S.R.G.

Income Sources of Malnourished People in Rural Areas: Microlevel Information and Policy Implications

IFPRI Working Paper No. 5 (1991) Edited by Joachim von Braun and Rajul Pandya−Lorch

This study, comprising 13 papers and a synthesis piece bringing together the broader findings, identifies employment and income sources of malnourished and non−malnourished rural households, traces their employment and income strategies, and identifies relevant differences in their demographic, income, and employment characteristics. The analyses are based on 13 household−level surveys conducted in the 1980s by IFPRI in low−income rural settings in Latin America, Africa, and Asia.

The research was stimulated by the preliminary insight that rural house holds, even if they are poor and/or located in so−called subsistence−oriented regions, are dependent on a variety of farm, non−farm, and non−agricultural income sources. The study finds that rural households do not depend directly for their incomes only or mostly on agriculture; in half of the survey locations, the non−agricultural income share of households is about or exceeds 50%. The study comes to several important policy conclusions:

− Malnourished rural households have diverse sources of income that vary by economic setting.

− Rural households do not depend directly for their income on agriculture alone; in half of the survey locations, the share of household income from non−agricultural sources was 50% or more.

− Income diversification occurs in stagnating rural economies as a response to coping with risks associated with any one income source, whereas in growing rural economies it is driven by households capturing gains from specialization, enabling the rural economy to get more diversified.

− Although female−headed households tend to have generally lower incomes than male−headed households, in some cases they tend to have higher calorie intake than male−headed households.

− In major developing countries, the share of agriculture in the economy declines rapidly as economies grow, but the share of agricultural income in rural income remains high.

− Increasing rural income reduces malnutrition significantly in countries with very low per capita income.

The comparative analysis suggests a focus on prevention of policy−induced market failures, improved market integration through infrastructure, provision of social security including community health and sanitation improvement, and rural growth promotion.

To obtain a copy contact: Rajul Pandya−Lorch, International Food Policy Research Institute. 1776 Massachusetts Avenue, NW Washington, DC 20036−1998, USA. Fax: 202−467−4439; Cable IFPRI, Tel: 202−862−8185.

Women, Work, and Child Welfare in the Third World

Edited by Joanne Leslie and Michael Paolisso.

AS Selected Symposia Series 110; West−view Press, 5500 Central Avenue, Boulder, Colorado 80301, 265 pp. 1990

During the 1980s, two main schools of thought concerning the productive and reproductive roles of women existed. The "women−in−development" school sought to enhance women's income−earning capacity and de−emphasize child care responsibilities; on the other hand, proponents of the "child welfare" school tended to view women as instruments to produce healthy children, while down−playing the need for poor women to work. This valuable book edited by Leslie and Paolisso, shows how only recently bridges have begun to be built between these two schools leading to policy recommendations aimed at improving *both* the status of women *and* the welfare of children. This increasing collaboration has come about as the nature of women's work in developing countries has changed − with more women working away from home earning cash incomes − and as recognition of the importance to the household of female income has increased.

The book brings together work from several researchers who are trying to unify women's welfare and development concerns. Following two overview papers by Joanne Leslie and Susan Joekes, case studies are presented from Chile, Guatemala, Honduras, Kenya, Panama, Peru and the Philippines.

The net effects on a child of its mother taking up employment outside the home has been debated throughout the 1980s. Some studies demonstrate positive effects through higher incomes earned translating into enhanced food security and better nutrition. In others, the net effect is negative as time necessary for child feeding and care is eroded, suitable caregivers are not available and/or the increases in income are not controlled by the earner. Results are situation–specific and the case studies do tend to show that concepts of both work and welfare need to be disaggregated to arrive at meaningful and useful results. Regarding work – its nature, location, facilities, time spent and income earned are all highly important descriptive variables. Nutritional status is just one measure of child welfare, along with dietary intake, morbidity, cognitive development etc.

The caregiver is another important intervening variable.

There are many significant benefits of collaboration for both "welfare" and "development" fields, as described in the introductory chapter. Notions of women as either mothers only or workers only would be dispelled, allowing a better understanding of survival strategies; a more welfare–oriented focus would bring intra–household resource utilization into the picture, as well as the part that child welfare plays in a woman's choice of work. For the "welfare" school, the constraints faced by women in adopting new health practices or utilizing health services would be revealed, and the household food security gains of appropriate women's work appreciated.

The book clearly shows that there need not necessarily be a dilemma in aiming to improve both women's economic status and the immediate welfare of their children. As noted by Joanne Leslie and Mayra Buvinic in their introduction: "At the core of each study included in this volume is the question of whether women's work, particularly recent increases or changes in women's labor force participation, may have a detrimental effect on the welfare of children in the Third World. The findings vary considerably depending on the specific characteristics of women's work in the study population, the particular measure(s) of child welfare used, and the theoretical and methodological approach taken. In fact, one of the conclusions that emerges most clearly from examining the studies presented in this volume is the importance of disaggregating both the concepts of women's work and of child welfare so that research results can be interpreted more meaningfully. Key characteristics of women's work – such as type of work, location of work, time spent working, income earned, and work–related benefits – as well as key aspects of child welfare – such as morbidity, nutritional status, cognitive development, dietary intake, and caregiver – need to be defined and measured separately.... each [study] makes a serious attempt to disaggregate both concepts, to investigate specific linkages, and to reach conclusions that go beyond the simplistic assertion that women's work has negative or positive consequences for child welfare." And, among the conclusions: "...[the book] suggests the possibility of building a broad base of support for strategies that enhance both women's economic opportunities and child welfare, such as interventions to improve the health and nutritional status of women, work–based or community–based child care, and increased access to family planning."

S.R.G.

Child Nutrition and Poverty in South India

by Barbara Harriss, 130 pp.
Concept: New Delhi, A/15–16 Commercial Block, Mohan Garden, New Delhi–110015.

This book makes instructive reading for anyone concerned with nutritional advocacy or policy–making. It deals with the political economy of nutrition in the South Indian state of Tamil Nadu during the mid–1980s. At this time, nutrition featured prominently on the agenda of the then Chief Minister. Several nutrition–oriented programmes, funded partly or wholly by the state, were under way at this time, including the (Chief Minister's) Noon Meals Scheme (NMS) and the Tamil Nadu Integrated Nutrition Programme (TINP). The Public Distribution System (PDS) which disbursed subsidized grain was also relevant, as, it soon becomes clear, was policy on alcohol.

Following Schaffer, Harriss sets out to examine food and nutrition policy with the premise that "policy is what it does". The policy process is conceptualized as having three simultaneous activities: establishing agendas (what is to be done), enacting rules of procedure and access (who should benefit) and the distribution and allocation of resources (what actually happens).

In the past, agendas have been characterized by sectoralism i.e. "if there is a nutrition problem, we need a nutrition policy". A related issue is how solutions are determined by how a problem is "labelled" or classified. For example, supplementary feeding programmes are commonly labelled as nutrition interventions, as is nutrition education and food fortification. Through such labelling, the formation of agendas in nutrition becomes exclusive and excluding –the nutritional effects of "non–nutritional" policies are not considered.

The Public Distribution System (PDS) is one such policy. Subsidized food grains are made available to middle income and poor households (who hold ration cards) through a network of fair–price shops. There are several objectives including restraining open–market grain prices, turning over buffer stocks, providing employment to rural shopkeepers. Despite the calorie content of a full cheap quota being 2,300 per household per day, the PDS is not considered a nutrition intervention. Another "non–nutritional" influence on nutrition is liquor. Alcohol consumption both reduces the potential shareable calories within a household, and represents a very lucrative revenue source for the state. Within a year of the state government coming to power on a prohibitionist ticket, prohibition was lifted in 1981, and alcohol sales rocketed from Rs. 85 million to Rs. 1,080 million within a year. Harriss points out that this money could have bought an extra 1,500 calories (from coarse grains) per household per day. In Tamil Nadu, at least, policy on alcohol is very relevant to nutrition.

The book goes on to contrast the Noon Meals Scheme with the Integrated Nutrition Programme (TINP) and describe the social impact of the PDS and alcohol policy, both at the level of the State and two contrasting villages, where 142 households were surveyed. The food–energy economy in rural Tamil Nadu is characterized, and the rules of access to these interventions examined.

Harriss employs military metaphors in assessing the Noon Meals Scheme – "if the target were the children of malnourished households then the weapon hits 3 out of 5 school aged children and 4 out of 5 pre–schoolers.....the cost of this accuracy is akin to the cost of saturation bombing to root out guerrillas". Nearly 70% of beneficiaries were not in need of the nutritional supplement, while the 40% of school–aged children from nutri–tionally vulnerable households who do not benefit are from the poorest households, least able to send their children to school. The rules of access specify school–aged children and the elderly as

eligible, despite a large nutrition survey in the 1970s clearly showing pre−school children, adolescents and pregnant and lactating women as most in need. The priority attached to the NMS resulted in rice being diverted from the PDS during a drought, effectively penalizing about 50% of rural households without eligible children, who nevertheless were eligible for fair−price rice.

Nutrition was on centre stage, both politically and bureaucratically, in Tamil Nadu in the 1980s, as the most basic aspect of human welfare. The State government did not hive off responsibility for nutrition to a "nutrition department" with limited powers and scope of action. The Noon Meals Scheme involved departments of revenue, agriculture, food, health and welfare. As Harriss concludes, pressures to improve its design need to be assessed in this light. This book provides a valuable insight from a nutritional perspective into the dynamics of policy formulation, the inter−play between different policies, and the political aspects of nutrition−relevant actions. As such, it should be sought by nutritional advocates and policy−makers alike.

S.R.G.

To Cure All Hunger

Food policy and food security in Sudan
208 pp., April 1991

Simon Maxwell from the Food Security Unit at the Institute of Development Studies, University of Sussex, has edited this book with a number of other contributors. With their substantial experience of Sudan, they challenge conventional wisdom on food insecurity analysis. The book discusses famine in Sudan which in their view need never have happened if the already existing knowledge could be applied. Their conclusions have applications in other parts of the world facing famine and food insecurity.

Copies may be obtained at Pound Sterling 11.94 (including postage and packing) through contacting IT Publications Ltd, 103−105 Southampton Row, London WC1 B 4HH, UK. Tel: 0712−436 9761.

M.L.

Anthropometric Standardization Reference Manual, (1991)

Abridged Edition, Timothy G. Loh−man, Alex F. Roche, and Reynaldo Martorell (Editors). Human Kinetics Books, Box 5076, Champaign, Illinois. 90 pp., 2nd edition.

While almost all reference manuals are, generally speaking, useful to those working in the related areas, this one is especially valuable. *Anthropometric Standardization Reference Manual* as the title implies, tackles a long−standing problem faced by many researchers and clinicians dealing with measuring human beings − that is a lack of consensus among experts on a set of standardized procedures to follow. Human anthropometry is widely used as a research tool by many investigators engaged in various areas of research. For this reason there already exists an extensive amount of data in the literature on human body's measurements. However, anyone who has ever tried to use, interpret or compare such data has experienced a painstaking and challenging task because often published data contain diverse descriptions for a set of measurements reported, different procedures followed by various investigators, and the data reported are not in comparable formats. The above manual is prepared to help with this chaotic situation. The manual's objective, as cited in the preface, is "to serve as a comprehensive set of measurement procedures, and to provide a standardized set of descriptions that can be used across disciplines, for example, epidemiology, exercise and sport science, human biology, human nutrition, medicine, physical anthropology, and physical education."

For each dimension included in this manual the purpose of the measurement under study, recommended technique (illustrated by appropriate photographs and drawings), previous description of the dimension, its reliability and sources of reference data are cited. Full reference citations are given at the end of the book. An appendix to the book gives the equipment and their suppliers. This abridged edition does not contain sections on Applications and Special Issues (such as right versus left side, measurement error, and equipment availability) which were included in the first edition of this reference manual published in 1988. The descriptions and recommended procedures contained in this recent volume cover 47 dimensions in five chapters, written in an easy−to−read manner. The notes given under the purpose of each measurement help in selecting the most suitable parameter depending on the purpose of the study, while the reliability of each measurement gives the expected between−measurer differences based on the data from the literature.

What is not given in the manual is a range of expected values for each measurement under normal conditions by age, sex, etc. to help in interpretation of obtained data. While such complementary data would be very useful particularly for the beginners in the field, this information is, nevertheless, available elsewhere.

Anthropometric Standardization Reference Manual is an authoritative source of standardized anthropometric procedures which should be widely used by those engaged in human anthropometry to help solve present constraints in collecting and reporting anthropometric data.

To order a copy please write to: Human Kinetics Books, A division of Human Kinetics Publishers, Inc., Box 5076, Champaign, IL 61825–5076. Tel:1–800–747–4457.

M.L.

How to Weigh and Measure Children. Assessing the Nutritional Status of Young Children in Household Surveys, (1986)

by United Nations Department of Technical Cooperation for Development and Statistical Office, National Household Survey Capability Programme. New York.

This well designed and illustrated manual, published by United Nations, has met a critical need of health and nutrition programs all over the world. Anthropometric measurements are an important part of population surveys for assessing the nutritional status of children. They are used widely to assess the nature and magnitude of the nutrition and health problems of individuals and groups ranging from single communities to large, country–wide, population groups (e.g. national health and nutrition surveys) for diagnostic, planning and program evaluation purposes. Given its usefulness to provide child's nutritional status indicators, anthropometric measurements have also become an important component of household surveys. Such measurements are increasingly used for individual growth monitoring of children in primary health care systems. Regardless of the research or service purposes of anthropometric measurements, there is always a need to obtain accurate and reliable data on which to make proper judgements about the nature and appropriateness of children's physical growth. The quality of data obtained largely depends on the accuracy of measurement instruments and techniques.

While great emphasis has been placed on anthropometry as part of surveys or as a means for individual growth monitoring, there was no adequate training manual objectively describing the anthropometric procedures. Since there are so many steps to each measurement, unless done properly, measurement error can easily occur which may render the results invalid. Generally, there has been an underestimation of the level of effort necessary to properly do anthropometric measurements and a misconception that such measurements are "easy" to do. In the United Nations manual each step of the measurements procedures is presented in a simple to understand manner and clearly illustrated in detail with excellent photographs and drawings.

This unique publication, with over 100 photographs and 24 illustrations, is a step–wise, cookbook procedural manual describing the anthropometric measurements of weight (using widely available hanging spring dial scales), standing height, recumbent length and mid–upper arm circumference. The presentation is straight forward and simple, with attention given to small, but extremely useful details of measurement. Some basic education and training principles are incorporated in the manual; each sentence, which is 21 words or less, begins with an imperative (e.g. "Hold", "Place", "Remove", etc.) and there is only one task to accomplish per sentence. Both photographs and graphic illustrations are placed directly within the text (i.e., after every few sentences that depict the steps just described). Although there are nearly 100 pages to the manual, it is easy to read because of the clear presentation, simple language, and creative use of photographs and illustrations which make it flow.

A very useful part of the manual is the "Summary Procedures" section which is located in two places: at the beginning of the manual and as an Annex that is located inside back flap of the cover as a separate section where each of the four anthropometric procedures are described in one page summary with a graphic drawing. The annex can be removed easily for use or to be photocopied and is also available for purchase separately. Other annexes are useful, particularly for survey planners, directors and trainers, such as age assessment techniques, quality control and anthropometric standardization procedures. While the manual contains information for both the trainer and the field worker, in practice, the main body of the manual may be useful for survey planners, directors and trainers while the Annex I "Summary Procedures" is a handy tool for interviewers (enumerators, anthropometrists, measurers, etc.) in the field.

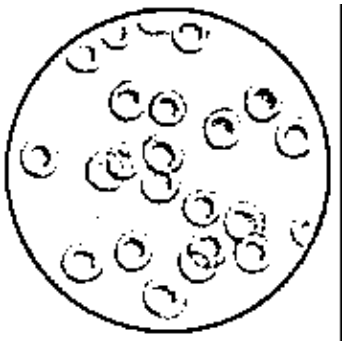
The manual is a carefully designed and well assembled guide which is a reflection of the extensive experience of its author, Irwin Shorr, a well known nutritionist who has worked in several countries worldwide on anthropometric training for large scale national and regional household surveys, growth monitoring programs, etc. He also took many of the photographs that appear in the manual from different countries and directed the remaining photography and graphic art work.

This manual, published in 1986 and available in English, French and Spanish, has had great popularity and demand from a wide range of users. It was initially distributed for free, which made it available to a number of people, but is now a priced publication. In fact, it may now be rather too expensive for new users (currently US$25.00 plus handling and shipping) which would make it hardly affordable for many potential users, particularly from developing countries where it is badly needed. If its current cost were more affordable (i.e. not greater than US$10.00), the manual would certainly be more readily available to the many potential users in both developed and developing countries.

Jose O. Mora M.D.
Senior Associate, International Science and
Technology Institute (ISTI)
1129–20th Street, NW Suite 706, Washington,
DC 20036, USA

Functional Significance of Iron Deficiency, (1990)

Annual Nutrition Workshop Series, Volume III, Center for Nutrition, Meharry Medical College Fall.



This is the proceedings of the workshop held at the Kresge Learning Resource Center, Meharry Medical College, Tennessee, from 25 to 27 October 1989.

The document is edited by Cyril O. Enwonwu, Professor of Family and Preventive Medicine and Director of Center of Nutrition. It contains the keynote address delivered by Dr N.S. Scrimshaw, and 15 other papers discussed at the workshop on the following topics: dietary habits of blacks and other ethnic minorities in the US with special reference to iron status; iron deficiency diagnosis; dietary factors influencing bioavailability of dietary iron; maternal iron deficiency and pregnancy outcome; iron deficiency: pedia–tric epidemiology; iron deficiency coexisting with sickle cell anemia; iron deficiency, thyroid function, and ther–moregulation; immunity and infection in iron deficiency; iron overload in different population groups; malnutrition, work performance and the role of iron; iron in the central nervous system; relationship of brain iron to dopaminergic neurotransmission and to the genesis of Parkinson's disease; iron deficiency: long–term effects on learning; iron deficiency and childhood lead poisoning; iron deficiency – research priorities.

For information on how to obtain a copy please contact: The Office of Public Re lations, Meharry Medical College, 1005 D. B. Todd Boulevard, Nashville, Tennessee 37208.Tel: 615–327–6037, Fax: 615–327–5958. M.L.

Alternative Agriculture (1989)

Committee on the Role of Alternative Farming Methods in Modern Production Agriculture, National Academy Press, Washington DC, 427 pp.

US Federal policies on agriculture have traditionally made a plentiful food supply a higher priority than protection of the resource base. For more than four decades, the productivity of crop and livestock farms have been increased principally through the heavy use of pesticides, drugs and synthetic fertilizers. This has led to

water pollution with pesticides and nitrates from fertilizers, soil erosion, increasing pest resistance to pesticides, and unsolved problems of pesticide residues in food–stuffs.

In this important book, the Committee on the Role of Alternative Methods in Modern Production Agriculture has reviewed the dimensions and structure of US agriculture, its problems, and some of the alternatives available to farmers to resolve them. Evidence is presented to show that farmers that apply little or no chemicals to crops can be just as cost–effective in production as their more conventional counterparts. The goals of "alternative agriculture" include reducing input costs, preserving the resource base, and protecting human health. Alternative systems emphasize management, biological relationships, such as those between the pest and predator, and natural processes, such as nitrogen fixation instead of chemically–intensive methods. The objective is to sustain and enhance rather than reduce and simplify the biological interactions on which production agriculture depends, thereby reducing the harmful off–farm effects of production practices.

The Committee came up with four major findings:

> i) farmers adopting alternative agricultural practices in the US were generally deriving significant sustained economic and environmental benefits;
>
> ii) as a whole, federal policies work against environmentally benign practices and the adoption of alternative agricultural systems, particularly those involving crop rotations, certain soil conservation practices, reductions in pesticide use and increased use of biological and cultural means of pest control;
>
> iii) a systems approach to research is essential to the progress of alternative agriculture – farmers need to know the type of interactions between crop rotations, tillage methods, pest control and nutrient cycling;
>
> iv) farmers adopting alternative methods have been innovative in developing a wide variety of integrated practices and methods suited to their specific needs, limitations, resource bases and economic conditions.

Alternative farming is not easy. It requires *more* information, trained labour, time and management skills per unit of production than conventional farming. On the other hand, it uses *less* synthetic chemical pesticides, fertilizers and antibiotics per unit of production. Reduced use of such inputs lowers production costs and lessens agriculture's potential for adverse environmental and health effects without necessarily decreasing (and in some cases increasing) per acre crop yields.

The Committee suggests that federal policies that economically penalize farmers who adopt alternative methods, need reforming. The pursuit of further crop yield increases regardless of consequent environmental degradation should no longer continue to be promoted. Despite the need for further research into the off–farm consequences of on–farm practices, this much is becoming clear.

The report comprises two parts. In part one, there are chapters on "Agriculture and the Economy", "Problems in US Agriculture", "Research and Science" and "Economic Evaluation of Alternative Farming Systems" while in the second part, eleven case studies of alternative farming experiences in the US are presented. Drawing on this material, the Committee concludes with a series of detailed recommendations on farm and environmental policy, and research and development.

S.R.G.

The Health of the Nation (1991)

A Consultative Document for Health in England, HMSO: London, June 1991, 112 pp.

NCH Poverty and Nutrition Survey of Britain (1991)

National Children's Home, 85 High–bury Park, London N5 1UD, June 1991, 15pp.

"People may be living longer, but many still die prematurely or have the quality of their lives – especially in their later years – impaired by avoidable ill–health". This is the starting point of *The Health of the Nation* – a discussion document which sets out for consultation (until 31 October 1991) the British Government's

proposals for the development of a health strategy for England. A health strategy is felt to be valuable in that it clarifies aims and responsibilities, focuses actions and sets a framework against which progress can be measured. Its stated ultimate purpose is to "further the span of healthy life of the people of England". The major policy objectives are to identify the main health problems, to focus equally on prevention and treatment of disease, to recognize multiple influences on health, and corresponding widespread opportunities and responsibilities for action, to recognize that concerted action requires co−operation at national and local level, within and outside the National Health Service, to secure a balance between central strategic direction and local flexibility and initiative, and to optimally use human and economic resources.

The crux of the strategy is the setting of targets in "no more than five or six" key areas. The key areas are chosen on the basis of whether the problem is a major cause of premature death, whether an effective intervention is possible, and whether targets can be set and progress monitored. Of the 12 areas that meet these criteria, about half of them are highlighted by the report. These include coronary heart disease, stroke, cancers, smoking, eating and drinking, and health of pregnant women, infants and children. Heart disease is the main single cause of premature death in England, and a possible target suggested is the reduction by 30 per cent of the total deaths below age 65 by year 2000. Other targets include similar levels of reduction within the decade.

For the area of "eating and drinking", the report states that nutritional defi ciencies *"no longer present a major public health problem in England",* although unhealthy dietary habits do significantly contribute to the development of heart disease, stroke and probably some cancers. Targets here (all by year 2005) include ensuring that at least 60 per cent of people derive less than 15 per cent of food energy from saturated fatty acids, reductions of adults classified as obese to 7 per cent, and reductions in the proportions of adults consuming more than "sensible" limits of alcohol to one in six men and one in 18 women.

Since the green paper was launched in July, there has been a lively and heated debate about whether the healthy diet proposed can actually be afforded by low−income families on state support. This partly came about as a result of the findings of an earlier publication (June 1991): the *NCH Poverty and Nutrition Survey,* which clearly concludes that a healthy diet is too expensive for some poor families in England. This is in direct contrast to the Government's assertion that nutritional deficiency is no longer a problem. It also reveals the marked lack of socio−economic differentiation in the statistics on which the strategy is based – the effects of poverty and social inequality are hardly touched on. After the NCH survey release, it was pointed out *(Guardian* 6 June 1991) that the Government's own figures on the diet and nutritional status of school−children in 1989 (Department of Health Report No. 36, HMSO, 1989) showed that in families receiving state support the children were significantly shorter in height than their better−off peers – clear evidence of nutritional inadequacy.

Results of the NCH survey (of 354 low−income families with under−five year old children sampled from 52 NCH centres throughout Britain in December 1990) contradict the argument that it is ignorance, not lack of money, that prevents families eating more healthily. The results starkly illustrate how difficult it is to provide a nutritionally healthy diet for children at present UK Income Support levels. The key findings speak for themselves:

> – 1 in 5 parents said they had gone hungry in the last month (December 1990) as they did not have enough money to buy food, while 44% had gone short of food in the past year to ensure other members of the family had enough;
>
> – 1 in 10 under−fives had gone without food in the last month due to lack of money;
>
> – two−thirds of the children and over half of the parents were eating nutritionally poor diets;
>
> – the cost difference for a family of three of a healthy compared with an unhealthy shopping basket was on average 5 pounds per week – or 20% total weekly expenditure on food of families on Income Support. It is virtually impossible for low−income families to have a healthy diet;
>
> – poor diet is correlated with low food expenditure and there is no evidence that parents are ignorant about what constitutes a healthy diet.

The report's recommendations are clear and directed to the British government: Income Support needs raising to a level that will ensure ability to provide a healthy diet, and within this, a specific food element needs to be identified based on the cost of providing a healthy diet from corner stores (not supermarkets which

require transport). Grants should be provided to purchase essential cooking facilities, qualitative standards for school meals need re–introducing, and the housing crisis in Britain addressed, as many of the poorest families live in Bed and Breakfast accommodation without kitchen facilities.

S.R.G.

Agricultural Policies in Europe

How they interface with food and nutrition policies FAO, 1991

As Nutrition Consultants' Report Series No. 84, this report by Professor J. Marsh describes the objectives of food and agricultural policy in both western and eastern Europe, gives the successes and failures of policies actually implemented, and explores the implications of adopting dietary patterns as suggested by present nutritional wisdom. The report – presented at the First European Conference on Food and Nutrition Policy held in Budapest, 1–5 October 1990 – discusses how nutritional issues may play a role in future policy formulation.

While the report is about Europe, it is also of interest to developing countries, many of which have populations already experiencing similar threats to health as those in developed countries.

Enquiries and requests for copies should be addressed to the Nutrition Planning, Assessment and Evaluation Service, Food Policy and Nutrition Division, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy.

M.L.

Guidelines for Control of Maternal Nutrition Anaemia

INACG

The International Nutrition Anaemia Consultative Group (INACG) has just released both French and Spanish translations of *Guidelines for the Control of Maternal Nutritional Anemia,* the English version of which became available over a year ago. Iron deficiency anaemia accounts for well over half the total number of anaemia cases and leads to numerous problems – increased risk during pregnancy, reduced resistance to disease, decreased work productivity from exhaustion, and potentially decreased cognitive development in children. The guidelines released by INACG outline short and long–term strategies for controlling prenatal nutritional anaemia, in support of the goal adopted at the 1990 World Summit for Children to reduce iron deficiency anaemia in women by one third of the 1990 level.

To obtain a copy contact: INACG Secretariat, International Life Sciences Institute –Nutrition Foundation, 1126 16th Street, NW, Washington. DC 20036 USA.

M.L.

Vitamin A Intervention Studies (VITAL), USAID

VITAL New (May 1991, vol. 2, No. 1), has included a table on "Update and Summary of Vitamin A Intervention Studies" by country, listing known studies completed in the 1980s and those currently under way or planned. For each study included, data on the study aims, donor agency, age group and current status of the intervention (as of March 1991) are provided. This is perhaps the most complete collection of data on vitamin A intervention trials.

The Vitamin A Field Support Project (VITAL), as part of its information gathering and dissemination strategy. provides valuable information resources to those working in the area of vitamin A (see *SCN News* No. 6, p. 51). It publishes *VITAL News* three times a year by support from the Office of Nutrition, Bureau for Science and Technology, United States Agency for International Development (USAID).

To order a free copy of *VITAL News* write to The Managing Editor, *VITAL News.* 1601 N. Kent Street, Suite 1016, Arlington. Va. 22209, USA. Tel: 703–841 0652: Fax: 703–841 1597.

M.L.

Micronutrients and Immune Functions, (1990)

Edited by Adrianne Bendich and Ranjit K. Chandra, Annals of the New York Academy of Sciences, Volume 587, pp. 1–319.

Given their key role in metabolism and nutrition at so many levels, it should not be surprising that micronutrient deficiencies impair immune responses. More exceptional is that, until recently. less attention than merited has been focused on this field. This book reviews the State of the Art in nutritional immunology through 24 presentations given at a conference sponsored by the New York Academy of Sciences. Five sections overview vitamins and immune function, clinical significance of.micro–nutrient status and immune functions. minerals, micronutrient interactions. infant nutrition and micronutrient safety at high levels of intake.

In line with research activity, greatest emphasis is on vitamin A, vitamin E, vitamin C, zinc and iron. But there are also two comprehensive articles dealing with selenium and copper, as well as a useful discussion of antioxidant micro–nutrients by Bendich. The interrelationships of micronutrients and immune functions is a complex field –for example while beta carotene is an effective quencher of free oxygen intermediates. vitamin A (whose major precursor is beta carotene) has a limited ability to scavenge free radicals. Iron and vitamin A are probably the two fields in which the practical implications of deficiencies on immune systems – and the other side of the picture, supplementation and the impact of control interventions – remain the most controversial. The trace element zinc has also been largely ignored until recently, and yet may well be critical in some situ ations of malnutrition as well as immune response. Iodine deficiency, though both highly prevalent and a prime goal for elimination, remains an area where more needs to be known about effects on immune responses.

It is clear from these contributions that we are beginning to piece together the sites of action of micronutrients on immune system cells. But there are still large gaps in knowledge. This book is both a very useful summary of the present position, and a pointer to future directions.

Dr N. Cohen
EPI, WHO, Geneva

Too Far to Walk: Maternal Mortality in Context, (1990)

by Screen Thaddeus and Deborah Maine, Columbia University.

This multidisciplinary literature review was undertaken within the Program on Prevention of Maternal Mortality established in 1987 in the Center for Population and Family Health of Columbia University in New York. The aim was to see what is already known which can be applied to the challenges faced by the Safe Motherhood Initiative. With information dissemination as an essential component of the programme, the findings have recently been published. The document – the first major publication from this programme – includes information useful to policy makers, programme planners and researchers.

A great deal of maternal mortality is directly caused by obstetric complications which are, in most cases, treatable with timely medical interventions. The points of departure for this activity were, therefore, the factors responsible for delayed treatment, i.e. the interval between the onset of an obstetric complication and its outcome. The docu– ment does not consider all possible factors that contribute to maternal mortality – many background factors e.g. nutritional status contributing to maternal deaths are not included. The document is framed around elements causing three phases of delay: seeking care, arrival at a health facility, and provision of adequate treatment. It contains the article abstracts, a list of journals consulted, keywords reflecting major concepts discussed in the article, and the findings of this review together with their programmatic implications for preventing maternal mortality. Giving examples of projects to reduce maternal deaths, various options for similar efforts are offered using existing resources. Also available to those interested is a computerized database, which contains short abstracts of the studies reviewed. For this, PROCITE, the bibliographic

software used to enter, edit and retrieve selected articles will be required.

Programmes to reduce unnecessarily high maternal mortality will benefit immensely from this document, as will those trying to improve health care services – their accessibility, utilization, quality and effectiveness.

To order a copy of this monograph at US$8.50, or for further information please write to: The Prevention of Maternal Mortality Program, Center for Population and Family Health, Columbia University School of Public Health, 60 Haven Avenue, New York, NY, 10032, USA.

M.L.

World Development Report (1991)

World Bank

The central theme of the new WDR is the relation between government and markets. Lawrence Summers, the World Bank's chief economist, has talked *(The Guardian* 8 July) of an emerging new "market–friendly" consensus on economic development – one that nevertheless recognizes that governments need to "invest in infrastructure and provide essential services to the poor", where markets are inadequate or fail altogether. Governments should support rather than supplant competitive markets. The Bank believes per capita incomes in develop ing countries could rise by 3 per cent a year, or 5 per cent with the right mix of policies. Democracy is also stressed, as being a prime precondition for such growth. The best help the developed world can give to the development process, according to the Bank, is to roll back restrictions on trade and to address the debt crisis, with more countries being made eligible for commercial debt and debt reduction.

S.R.G.

Human Development Report (1991)

United Nations Development Programme

The new UNDP report proposes $20 billion be spent a year to achieve universal primary education, basic health care, family planning, safe water and the elimination of serious malnutrition and abject poverty by the year 2000. The money would come from a 3 per cent cut in the military spending of industrialized countries and a freeze on developing countries' military expenditure. The ball is put in the court of powerful Western agencies and governments. Dr Mahbub ul–Haq, the report's project director, argues for human development criteria for prioritizing aid; currently less than 9 per cent of all aid is earmarked for human development goals, while total aid amounts to less than half of the officially agreed target of 0.7 per cent of donor GNP.

The report suggests an urgent need for reform in technical assistance – too much money is being spent on funding foreign experts, too little on institution–building in developing countries. Donors also prefer to fund capital–intensive schemes (requiring donor technology and expertise), rather than less–glamorous recurring social spending on non–project development.

The Human Development Index (HDI) of last year's first UNDP report has been improved on here, with both "developed" and "developing" countries being ranked with respect to a scale combining life expectancy, adult literacy and basic purchasing power. New scales measure gender disparities, income distribution and freedom, and may substantially modify a country's rank on the HDI. Dr ul–Haq hopes that eventually donors will use such an index as the basis for decisions on aid to developing countries.

S.R.G.

Agriculture and Forestry Statistics in Computer–Readable Form

FAO

The Food and Agriculture Organization (FAO) offers standard tapes giving data in computer–readable form to users of the FAO Production Yearbook, the FAO Trade Yearbook, the FAO Fertilizer Yearbook, and the Yearbook of Forest Products. Each annual series on the standard computer file starts with the year 1961 and runs to the latest year published in the Yearbook. The FAO Production Yearbook standard file provides users with all time series reported in the "Land", the "Crops", the "Livestock Numbers and Products" and the "Means of Production"sections of the Yearbook. The standard tape also provides data on certain commodity groups

not shown in the Yearbook, e.g. "Meat, indigenous, total" and "Milk, total". Annual population data are also included on the tape by country/country group. The FAO Trade Yearbook standard file provides users with all time series (52,000) reported in the "Trade in agricultural products" and "Trade in agricultural requisites" sections of the yearbook. The FAO Fertilizer Yearbook standard tape provides users with all time series (about 7000) on production, international trade, consumption and prices paid by farmers reported in the yearbook. The Yearbook of Forest Products standard tape provides users with all production and trade time series (about 40,000) reported in the yearbook.

Data on food (from AGROSTAT) – e.g. food balance sheet results – are now also becoming available on diskette for use with microcomputers.

The cost of each standard tape is US$500 (subject to revision) or the equivalent in Pounds sterling or French francs. For further information contact: Computer Service Centre, Food and Agriculture Organization of the United Nations, Via delle Terme di Caracalla, 00100 Rome, Italy.

M.L.

The Impact of Development Policies on Health

A Review of the Literature

by Cooper Weil, D.E., Alicbusan, A.P., Wilson, J.F., Reich. M.R. and Bradley, D.J. World Health Organization, Geneva (1990). Sw. fr. 31/–(Sw. fr. 21.7 in developing countries)

This review considers the impact on health of development policies in five areas outside the health sector, all of which are closely linked to economic growth i.e. macroeconomic, agricultural, industrial, energy, and housing policies.

The type of adverse short–term health impacts of macroeconomic adjustment policies have been well documented in the past. The components of adjustment policies are often those which particularly affect the poor e.g. real wage reduction, food price increases, and cuts in government expenditures on social services. Several policies have been implemented in recent years in an effort to alleviate detrimental impact. In Sri Lanka, well targeted food subsidies were used; Brazil, Chile, and Zimbabwe all restructured their health care system and put more money into programmes designed to raise the standard of living of the poor e.g. the construction of more sanitation facilities. There are opportunities for avoiding negative health impacts on the poor during adjustment (see, for example, *SCN News* No. 6 p. 59).

Regarding agricultural policies, irrigation may be a necessary stimulant for agricultural development, but it can also contribute to the spread of disease. Today its effects on health are better understood. Pesticides can have an adverse effect on the health of both humans and their livestock through the handling and consumption of toxins introduced into food and the atmosphere. There is the added problem of disease vectors which become immune to the pesticides used to control them. An increasing need remains for the health and nutrition effects of specific agricultural interventions to be examined, and to look into whether and how local research centres have considered such linkages. Case studies focusing on how planners try to reduce risk and promote health in development of new agricultural policies would be informative.

Health problems related to developing countries' industrial policies are numer ous and worsening in many cases. Indoor air pollution, caused by the burning of certain fuels, the reduction in food prepared because of the scarcity or expense of fuels (caused by the high demands of industry), health risks from industrial power stations, including hydroelectric ones, long–term environmental degradation – these are all important concerns that need to be addressed.

Both existing knowledge and recent data on health linkages differ between the five policy areas. In some sectors there are important reviews leading to recommendations, although often these are general and have not dealt in depth with likely health costs and benefits.

The review is selective; for example, policies on population, education and transport are not examined, although these are mentioned as warranting future attention. Throughout, likely causal associations between policy choice and health outcome, as well as knowledge gaps, are identified before moving on to consider the type of policy measures that could mitigate negative health effects. Vulnerable groups are highlighted, as is the potential for constructive intersectoral collaboration, the lack of which has often restricted previous research. The review specifically does not offer an operational framework for action; rather it seeks to

encourage a new awareness of development–health linkages as well as providing information for policy discussions and outlining areas for research.

The type of relationship between various development policies and health, at the level at which decisions can be made to mitigate negative impacts, is country–specific. Thus, while this book provides a valuable overview of the problem, it recognizes that true benefits accruing from the better design and implementation of development policies need country–level analyses by relevant sectors.

S.R.G.

Food and Nutrition in the Arabian Gulf Countries,

An Annotated Bibliography. First edition 1990. Public Health Directorate, Ministry of Health. Bahrain; FAO.

This document provides information on the food and nutrition situation in the Arabian Gulf countries of Bahrain, Kuwait, Oman, Saudi Arabia and United Arab Emirates, and is of interest to researchers in human nutrition, food sciences, and related areas. The abstracts of papers and reports published from 1974 to 1989 are annotated or directly reproduced and arranged under the six main headings of: composition of foods; food consumption patterns; infant feeding practices; nutrition anthropometry; nutrition related diseases; nutrition education and communication; food control; and others.

The document is compiled by Abdul–rahman O. Musaiger, Head of the Nutrition Unit, Public Health Directorate of the Ministry of Health in Bahrain, and reviewed by E. Boutrif, with support from the Near East Regional Office of the Food and Agriculture Organization of the United Nations. As a first attempt to summarize the available literature on food and nutrition in the Arabian Gulf countries, this is a very useful compilation of the existing information for those research scientists working or interested to seek data in these areas.

For more information contact: The Nutrition Unit, Public Health Directorate, Ministry of Health, Bahrain.

M.L.

Manual of Nutrition and Dietetic Practice for the Caribbean

The Caribbean Food and Nutrition Institute (CFNI) has published the *Manual of Nutrition and Dietetic Practice for the Caribbean* in 1990, covering the recent advances made in the field of clinical dietetics. While this is, in fact, an up–to–date version of the *Diet Manual for the Caribbean* published and revised in 1977 and 1980 respectively, it includes a whole lot more than the previous editions.

This manual represents the pioneering effort of a number of dedicated nutritionists, dieticians and physicians in the Region to compile diets for normal and therapeutic nutrition utilizing indigenous food. It covers dietetic issues relevant to both health and disease conditions providing a coverage of clinically relevant situations where diet has a part to play in the management of diseases and in the prevalent complications, as well as presenting practices for normal healthy living.

Copies can be ordered from: Caribbean Food and Nutrition Institute, UWI Campus, P.O. Box 140, Mona, Kingston 7, Jamaica, W.I., at US$20 and US$40 for developing and developed countries respectively. Limited supplies of materials requested by the Permanent Secretary or Chief Technical Officer in ministries in CFNI member countries will be provided free of charge. Bona fide students are entitled to purchase at half price.

M.L.

Media Promotion of Breastfeeding: A Decade of Experience (1989)

by Cynthia P. Green. Academy for Educational Development, USAID.

This publication of the Academy for Educational Development's Nutrition Communication Project, reviews and summarizes breastfeeding promotion efforts in over 25 countries. It includes sample communication materials which were used to reach audiences in different cultural settings. This document is aimed at planners who wish to learn from past successes, and to avoid the pitfalls in implementation of breastfeeding promotion programmes. The report contains data from around the world showing that declines in breastfeeding can be reversed, and that the most successful programmes have been those which were tailored to women's

concerns. It focuses on issues that must be addressed in promoting breastfeeding, and includes sections on market research, message strategies, and important target groups. The document, developed by the USAID sponsored Nutrition Communication Project, (a) explores the conceptual issues underlying how breastfeeding is promoted, (b) reviews the role of popular media, (c) provides guidelines on how to apply communication design principles to breastfeeding, and (d) makes practical recommendations for future programmes.

Copies are available at no charge to individuals from developing countries through the Clearinghouse on Infant Feeding and Maternal Nutrition, APHA, 1015 15th Street, N.W., Washington, D.C. 20005. Those interested from developed countries may purchase a copy for $10 directly from the Academy for Educational Development (AED), 1255 23rd Street, N.W., Washington, D.C. 20037. Tel: 202–8621900; Fax: 202–8621947.

M.L.

Nutrition in Public Health, (1990)

A Handbook for Developing Programs and Services

This handbook is written to answer the recurring question: What is it that public health nutritionists really do? Thus the purpose of this book, as cited in the preface, is "to define and describe the scope of public health nutrition and the potential opportunities for nutrition services in health agency programs". A broad overview of key concepts is given in 25 chapters. With 14 annexes and a clear set–up this book should contribute greatly to the administration of public health nutrition programmes. It is edited by Mildred Kaufman, Professor and Chair, Department of Public Health, University of North Carolina, Chapel Hill, and published by ASPEN Publishers.

To obtain a copy please write to: Aspen Publishers, Inc., Rockville, Maryland, USA.

M.L.

Infant and Child Nutrition, (1991)

A Manual for Health Workers, College Tutorial Press.

"This manual was primarily designed as a practical guide to health workers concerning infant, toddler and preschool feeding and nutrition. It does not attempt to document current research, although it is based on scientific knowledge currently available."

"There are many conflicting ideas and opinions concerning good nutrition during childhood, and these lead to confusion and anxiety amongst many health workers. The manual provides practical and sensible guidelines for the feeding of infants and young children. This will enable health workers, nurses and doctors, in both developing and industrialized communities, to give confident and well–informed advice to mothers." This is how the book is introduced by its author Pauline Kuz–wayo. Senior Lecturer in the Department of Human Nutrition, Medical University of Southern Africa, in the introduction section of the manual.

The manual describes in the simplest possible way some key aspects of feeding young children. It is richly supplied with clear drawings which makes the reading pleasant and comprehensive.

Copies can be ordered at R15.00 (GST and postage included) from the College Tutorial Press, 7 Glynnville Terrace, Lower Gardens, 8001, PO Box 2081, Cape Town 8000, or from local bookshops. Tel: 021–45 2041/2051/2052.

M.L.

The ARF Story: A Compendium of Research on Amylase–Rich–Foods (1980–1990), (1990)

Department of Foods and Nutrition, Faculty of Home Science, University of Baroda, Baroda, India.

This compendium of research on Amy–lase–Rich Foods (ARF) has been prepared by the Department of Foods and Nutrition of M.S. University of Baroda on the occasion of the IDRC sponsored National/International Workshop on ARF Technology on 12–13 October 1990. It brings together the experience gathered on ARF Technology during ten years of research and field testing. As well as containing

summaries of the research work completed or under way, the document pictorially describes simple steps for making ARF.

A decade's research at the Department of Foods and Nutrition, University of Baroda has demonstrated that ARF preparations made out of germinated grains, can, in small amounts, effectively liquify viscous gruels enabling infants (up to 24 months) to eat more (see also SCN News No. 6). The research team has been successful in transferring this technology to the mothers in slums and demonstrated its beneficial effect on child health.

For copies please write to Professor Tara Gopaldas, Project Leader, Infant Foods (India) Project, and Dean, Faculty of Home Science, MS University of Baroda, Baroda 390 002, India.

M.L.

Famine and Food Security in Africa and Asia: Indigenous Response and External Intervention to Avoid Hunger
(1991)

Edited by H.G. Bohle, T. Cannon, G. Hugo, F.N. Ibrahim, Bayreuther Geo–wissenschaftliche Arbeiten, Vol. 15.

The proceedings from the First International Famine Workshop (November 1989) of the International Geographical Union Study Group on Famine Research and Food Production

Systems, have been published recently. The four sections of the proceedings include: I – Introduction; II – Famine process: vulnerability and indigenous coping strategies; III – Famine prediction: early warning systems and food crisis management; and IV – Famine prevention: food security, famine policies, and the role of research.

Copies at US$15 (DM25) may be ordered from Druckhaus Bayreuth, Theodor–Schmidt–Str. 17, D–8580 Bayreuth, Germany.

M.L.

NU – News on Health Care in Developing Countries

This publication by the International Child Health Unit, Department of Pediatrics of Uppsala University, discusses current health care issues and exchanges information focusing on developing countries. It is produced three times per year, with support from the Swedish International Development Agency (SIDA), mostly in Swedish.

The first issue of NU in 1991 published in March, was a special issue devoted to a debate on population growth and child mortality. Since the discussion is international, the debate section has been published in English. The debate –introduced by Y. Hofvander, NU chief editor – started when Dr Maurice King questioned the general assumption that decreased child mortality leads to decreased birth rate, in an article entitled "Health is a sustainable state" published in the *Lancet* (Sept. 15, 1990). His most controversial point which aroused considerable criticism is that actions which will help children to survive, e.g. oral rehydration therapy and vaccination, should be avoided to prevent survival into a miserable life in an ecologically–disturbed environment.

In several "Letters to the Editor" in the *Lancet* and elsewhere his statement and conclusions have been scrutinized.

To bring out relevant facts and arguments, Dr King has been invited, in this special issue of NU. to summarize his ideas in the light of published criticism with Mr Jolly. UNICEF, responding. Also included are nine other views plus a reprint of the King's original *Lancet* paper.

To get a copy and for free subscription to NU please contact: The International Child Health Unit (ICH), Department of Pediatrics, Uppsala University. University Hospital, entrance 11, S–75185, Uppsala, Sweden. Tel: 018–66 5996; Fax: 018–50 8013.

M.L.

Addressing the Human Dimension

In nutrition sciences, agroindustries, and international agriculture research IDRC–285e, 1991.

The need for research on food systems beyond considerations of farm production has been recognized by the International Development Research Centre (IDRC) since its inception in 1970. An area which requires further elucidation is the linkages between production and post–production processes and the means to preserve better quality food in order to feed adequately the rapidly growing world population. This recent IDRC publication is based on a paper by Dr Richard Young presented at a workshop in Rome. The workshop brought together a group of experts to develop recommendations on improving food–crop utilization and agro–industrial development. The target beneficiaries, it is suggested, should be directly involved in the research and development processes within the relevant sectors. The book. thus, focuses on people as the main component of the food systems and processes and recognizes the need to strengthen the links between farmer and consumer through multi–disciplinary research. It emphasizes the major role of small–scale agroindustries in providing employment and generating income, which is essential to eliminating malnutrition. The author believes that "the social, human, and nutritional consequences of food–processing ventures and food–system changes must be predicted at the outset through the application of relevant research". The components of such research and the means by which it may be incorporated into international agricultural research systems are then discussed in some length. The book covers the main issues related to the development of small–scale agroindustries and experiences, and gives constructive recommendations. It also cites the literature on actual research and development in these areas.

For information and to order a copy please contact: IDRC, Head Office, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9.

M.L.

List of Free Materials in Family Planning/Maternal and Child Health

This is compiled by P. Maglaque and C. Murphy, Programme for International Training in Health (INTRAH), the University of North Carolina at Chapel Hill. It is supplied to institutions in developing countries and to international organizations and agencies.

For copies please write to the Programme for International Training in Health, School of Medicine, the University of North Carolina at Chapel Hill, 208N. Columbia St, CB$8100, Chapel Hill, North Carolina, 27514, USA.

M.L.

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.