



STANDING COMMITTEE ON NUTRITION

SCN NEWS

a periodic review of developments in international nutrition

SCHOOL-AGE CHILDREN  
*their health* and  
NUTRITION



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# United Nations System

## STANDING COMMITTEE ON NUTRITION

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

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

*This issue of SCN NEWS was edited by Andrea D Moreira, MPS ID  
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# CHAIRMAN'S ROUND-UP



This issue of *SCN News* features a comprehensive review of the nutrition and health status of school-age children, an initiative of the SCN Working Group on Nutrition of the School-Age Child chaired very ably during 2000-2002 by Don Bundy of the World Bank. For many decades a neglected age group, the nutritional well being of children six to 18 years reflects cumulative deficits brought about by poor access to food and health care as well as a poor home environment. This article provides up-to-date information on a range of nutrition and health indicators, as well as a summary of programme approaches that are likely to work. This review will provide important input for discussions convened by the Millennium Development Project and its task force on education and gender.

The international community is building a new and coherent attack on global poverty, centered around the Millennium Development Goals. The MDGs are eight commitments drawn from the Millennium Declaration and endorsed in September 2000 by all member states of the UN. One of my priorities as SCN Chair during these two years will be to articulate the roll of nutrition in the achievement of the MDGs. The SCN Steering Committee has already begun some of this work. Another high priority will be working with the SCN Working Group on Nutrition, Ethics and Human Rights, chaired by Urban Jonsson, to advocate for the inclusion of nutrition in the new voluntary guidelines on the human right to food, mandated by the World Food Summit-5 years later. The SCN and the nutrition community more broadly have taken true leadership in the human rights arena -- the voluntary guidelines will provide a necessary tool to implement the right to food at country level.

One of the important aspects of the SCN's work over the past 25 years has been to draw attention to emerging issues and debates in the field of nutrition. The upcoming annual symposium, *Mainstreaming Nutrition to Improve Development Outcomes*, will address both the challenges and the opportunities for incorporating nutrition thinking into development processes. Improved nutrition is important in its own right, it also strongly influences development outcomes. How can the nutrition community mobilize people, organizations and resources to engage fully in the development mainstream? Dr. Speciosa Wandira Kazibwe, Vice President of Uganda, will give the keynote address on moving the nutrition agenda forward in governments in the developing world. The Governor of Tamil Nadu, Mr. Ramamohan Rao, will speak about the Tamil Nadu development strategy, and the role of nutrition in it. There will also be presentations by the SCN 5<sup>th</sup> Report Task Force, and by Venkatesh Mannar and Judith Richter on public/private partnerships. A panel discussion in the afternoon will examine how large-scale nutrition programmes can achieve national coverage and sustain impacts. The Symposium is on March 4 at the Swaminathan Foundation, Chennai, India.

Many readers are familiar with the SCN's advocacy briefs, a recent publication entitled *A Foundation for Development: Why Practitioners in Development Should Integrate Nutrition*, launched in Berlin in March 2002. This collection of briefs has received very positive review, both in terms of content and presentation. A Spanish translation is under way. The intention is to update this document and incorporate additional briefs on a regular basis. I am pleased therefore that the German Government has offered to provide support to the SCN Secretariat for this work. Hans Schoeneberger will work closely with the Secretariat on this. Another new activity of the Secretariat is a web-based information sharing platform on nutrition and HIV/AIDS. This provides access to key documents and published studies on 12 sub-areas, including human right, preventing transmission, delaying progression, nutrition interventions, household food security, and others. Andrew Tomkins, co-chair of the SCN Working Group on Nutrition and HIV/AIDS, has assisted very creatively with this work.

News that the World Food Programme and the World Bank are strengthening work in nutrition is most welcome. Dr. Tina van den Briel joined WFP/Rome last month as senior programme advisor, food technology and nutrition. Dr. van den Briel trained at Wageningen University where she recently headed the Department of Agricultural Production and Nutrition. She will advise WFP country offices on nutrition surveys, interventions and training. Dr. Meera Shekar will join the World Bank as Senior Nutrition Specialist in the Human Development Network. The key focus of the position is on capacity development in nutrition, monitoring and evaluation with a focus on the MDGs, and positioning nutrition within the larger framework of sector reforms, sector-wide approaches and poverty reduction strategies. For the past two years, Dr. Shekar served as Programme Coordinator, Early Child Development for UNICEF/Tanzania.

I look forward to seeing you in Chennai, if not before.

*Catherine Bertini*



# ADVOCACY IN PRACTICE

## Science, Peace and Sustainable Development

The world is facing today a trilemma, or a triple dilemma. Over 3b people are struggling to survive with an income of less than US\$2 per capita per day, while crying out for peace and equitable economic development. Countries in Southern Africa, Ethiopia and Afghanistan are in the midst of serious famines. There have been reports of children being sold for bags of wheat.

Thus, one aspect of the trilemma is the craving for peace and development that is equitable in social and gender terms. Another aspect, is the growing violence in the human heart. Terms like ethnic cleansing and biological and biochemical terrorism are being widely used in the media. The revival of smallpox is becoming a possibility. The nuclear peril has again raised its head. There are over 30,000 nuclear weapons in the arsenals of major and minor nuclear powers. The availability of large quantities of highly enriched uranium increases opportunities for nuclear adventurism.

The third aspect of the trilemma is the spectacular progress of science and technology, resulting in increasing technological divide between industrialized and developing countries. If access to technology has been a major cause of economic inequity in the past, the challenge now lies in enlisting technology as an ally in the movement for social and gender equity.

Contemporary developmental challenges, particularly those relating to poverty, gender injustice and environmental degradation are indeed formidable. However, the remarkable advances now taking place in information and communication technology, space technology, biotechnology, agricultural and medical sciences, and renewable and clean energy technologies provide hope for a better common present and future. Genomics, proteomics, internet, space and solar technologies, and nanotechnology are opening up uncommon opportunities for converting the goals of food, health, literacy and work for all into reality. It is, however, clear that such uncommon opportunities can be realized only if the technology push is matched by an ethical pull. This is essential for working towards a world where both unsustainable life styles and unacceptable poverty become features of the past.

Also, there is a growing mismatch between the rate of progress in science, particularly in the area of molecular biology and genetic engineering and the public understanding of its short and long term implications. There is an urgent need for institutional structures that can inspire public confidence that the risks and benefits are being measured in an objective and transparent manner. Scientists and technologists have a particularly vital role to play in launching an Ethical Revolution. The Pugwash movement, which I now have the privilege to lead, is an expression of the social and moral duty of scientists to promote the beneficial applications of their work and to prevent its misuse, to anticipate and evaluate the possible unintended consequences of scientific and technological development, and to promote debate and reflection on the ethical obligations of scientists in taking responsibility for their work.

Shall we renounce war and violence as methods of settling disputes, or shall we put an end to the human civilization? This is the question facing us today. We are witnessing a growing intolerance of diversity and pluralism in human societies, as, for example, in terms of religion, ethnicity, political belief, colour, culture, gender and language. In contrast, the goal of sustainable development—accepted in various

UN Conferences including the recently held World Summit on Sustainable Development in Johannesburg, as the only pathway to a happy human future—can be realized only if there is harmony between human kind and nature. It is obvious that

we cannot be non-violent to nature if we are going to be violent to each other.

It is also necessary to reflect on methods of giving meaning and content to the ethical obligations of scientists in relation to society. The World Conference on Science, held in Budapest in 1999, called for a new social contract between scientists and society. With a rapidly expanding intellectual property rights (IPR) atmosphere in scientific laboratories, the products of scientific inventions may become increasingly exclusive in relation to their availability, with access being limited only to those who can afford to pay. The rich-poor divide will then increase, since orphans will remain orphans with reference to scientific attention.

How can we develop a knowledge management system which ensures that inventions and innovations of importance to human health, food, livelihood and ecological security benefit every child, woman and man, and not just the rich? I propose that the UN explore the possibility of establishing an *International Bank for Patents for Peace and Happiness*. Scientists and technologists from all parts of the world should be encouraged to assign their patents to such a Bank, so that the fruits of scientific discoveries are available for public good. Such a *Patents for Peace and Happiness Bank* would stimulate scientists to consider themselves as trustees of their intellectual property, sharing their inventions with the poor in whose lives they may make a significant difference for the better. The Government of Bhutan has taken the lead in developing a *Gross National Happiness Index*, based on the economics of human dignity, love of art and culture and commitment to spiritual values. Making all well-to-do members of the human family regard themselves as trustees of their financial and intellectual property will be essential for fostering a human happiness movement.

We already have many philanthropic organizations for harnessing financial resources. Under UN auspices, a new organization, e.g. *International Bank for Patents for Peace and Happiness*, will help scientists and technologists practice what the great Indian spiritual and intellectual leader Swami Vivekananda advocated as the true pathway to human fulfilment: *In this life, give everything you can—give money, give food, give love or anything else you can—but do not seek barter.*

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## Foreword

Don Bundy

Lead Specialist of School Health and Nutrition, World Bank, and  
 Outgoing Chair of the SCN Working Group on  
 Nutrition of School-Age Children



The nutrition and health of school-age children is back on the global agenda. At the 27th Session of the SCN in Washington, DC (2000), an extraordinary meeting of the Working Group on Nutrition of School-Age Children resolved to promote more research and operational work on the nutrition of this age group.

In April 2000, a partnership of UN agencies, including UNESCO, WHO and UNICEF, with the World Bank and Education International used the World Education Forum in Dakar, Senegal to launch a joint effort to Focus Resources on Effective School Health, Nutrition and Hygiene (FRESH). This FRESH partnership emphasized the importance of hunger, malnutrition and ill health as constraints on both 'Education for All' and the second and third Millennium Goals of achieving universal primary education and gender equality in education access.

Since then more than 20 low-income countries have launched FRESH programmes targetting more than 45m school children. These programmes seek to ensure that all schools:

- ❑ have effective nutrition and health policies
- ❑ offer adequate sanitation and access to water
- ❑ deliver effective life skills messages about nutrition, health and hygiene; and
- ❑ provide access to nutrition and health services.

Similarly, the WFP, in partnership with bilaterals and civil society organizations, has sought to promote girls' access to school through a global Food for Education Programme. WFP, the World Bank and WHO are also active partners in the Partnership for Parasite Control, which seeks to ensure that children's nutrition is not compromised by worm infection. Representatives of the ministries of health and education of 21 countries have been trained in how to implement effective, school-based deworming programmes, and programmes have already begun in 19 of the 41 endemic countries in Africa.

While it is the countries themselves that have taken the lead in these operations, the Working Group secretariat has been an important catalyst. I would particularly like to acknowledge the contributions of Lesley Drake (Partnership for Child Development), Joy Del Rosso (Save the Children), Krishna Belbase (UNICEF) and Seung-hee Lee (World Bank).

The following report was developed in response to the second part of the mandate of the Working Group: to promote research and understanding of the nutrition and health of school-age children. The review confirms that much remains to be done for school-age children. And in handing over to the incoming Co-Chairs of the Working Group - Joy Del Rosso and Arlene Mitchell (WFP) - I am confident that much more will be done for them.

# School-Age Children: Their Nutrition and Health

Prepared for the SCN Working Group on Nutrition of School-Age Children  
Lesley Drake, Celia Maier, Matthew Jukes and Anthi Patrikios, Partnership for Child Development  
Don Bundy, World Bank  
Alison Gardner and Carmel Dolan, Nutrition Works

## Introduction

The success of child survival programmes and the expansion of basic education coverage have resulted in a greater number of children reaching school age<sup>a</sup> with a higher proportion actually attending primary school<sup>1</sup>. However, there is increasing evidence, with resulting international concern, that the high level of nutritional deprivation combined with the heavy burden of disease in this age group has negative consequences for a child's long term overall development. This has prompted an increased focus on the diverse needs of the school-age child.

An understanding and awareness of the heavy burden of malnutrition and disease among school-age children is growing although until recently there have been relatively few large scale surveys that document levels of morbidity in any detail. While a better picture of the health and nutrition status of this age group is being built, the true extent of the burden of ill health and malnutrition is still not fully known<sup>2</sup>.

The main nutritional problems facing the school-age child include stunting, underweight, anaemia and iodine deficiency and, on the basis of information from recent surveys, vitamin A deficiency. In countries experiencing the 'nutrition transition', overweight and obesity are increasing problems in the school-age child.

The main health problems facing school-age children are malaria, helminth infections, diarrhoeal diseases, respiratory infections and the direct and indirect effects of HIV/AIDS. Much of the disease burden derives from the poor environmental conditions in which children live including exposure to biological, chemical and physical hazards in the environment and a lack of resources essential for human health.

This paper addresses the most common nutrition and health problems in turn, assessing the extent of the problem; the impact of the condition on overall development, and what programmatic responses can be taken to remedy the problem through the school system. The paper also acknowledges that an estimated 113m children of school-age are not in school<sup>3</sup>, the majority of these children living in Sub-Saharan Africa and South-East Asia. Poor health and nutrition that

differentially affects this population is also discussed.

## Malnutrition

Malnutrition refers to disorders resulting from an inadequate diet or from failure to absorb or assimilate dietary elements.

Stunting (low height-for-age) is a physical indicator of chronic or long term malnutrition and is often linked to poor mental development. Stunting is a cumulative process of poor growth that primarily occurs before the age of three years and is not easily reversed. This infers that these first years of life provide a window of opportunity for effective nutritional programming. Underweight (low weight-for-age) is an indicator of both chronic and acute undernutrition. Wasting (low weight-for-height) is an indicator of acute undernutrition.

Few representative data are available on the levels of malnutrition in school-age children, however, the available data on school-age children follow the regional pattern of the more extensive representative data from surveys of preschool children.

### *Stunting, Wasting and Underweight*

**PRECHOOL CHILDREN:** The prevalence of stunting, underweight and wasting varies by region and sub-region throughout low income countries<sup>b</sup>. The Africa region has the highest estimated prevalence of stunting (20.2-48.1%)<sup>c</sup> and has the lowest rate of improvement. In East Africa sub-region, rates of stunting are increasing. The prevalence of stunting in Asia (32.8-43.7%)<sup>d</sup> is also high, particularly in South Central Asia, although rates of stunting continue to improve throughout this region. In Latin America and the Caribbean, the prevalence of stunting is significantly lower (9.3-24%)<sup>e</sup> than the other two regions and is improving, except in the Central America sub-region.

For preschool children, the prevalence of underweight and wasting follow similar regional patterns to the prevalence of stunting. Estimates for prevalence of underweight pre-school children in different regions of

<sup>b</sup>Stunting, underweight and wasting refer to <-2 z-scores of the NCHS reference median for height-for-age, weight-for-age and weight for height respectively unless otherwise indicated.

<sup>c</sup>Estimated prevalence and number of stunted prechildren for year 2000. de Onis, Frongillo & Blossner, 2000 (WHO Global Database on Child Growth and Malnutrition, 2000)

<sup>d</sup>Ibid.

<sup>e</sup>Ibid.

<sup>a</sup>Children of school age are defined here as 5-14 years of age. WHO defines adolescents as children aged 10-18 years of age. It is common for adolescents to be attending primary school and thus many of the studies of primary school children will also include adolescents.

Africa in the year 2000 range from 14 to 36.5% underweight; Asia 28.9 to 43.6% and Latin America and the

Caribbean 3.2 to 15.4%<sup>f</sup>. Although estimates of prevalence of wasting are not available for all sub-regions, overall estimates for wasting in preschool children by region are available for 1995: Africa 9.6%, Asia 10.4% and Latin America and the Caribbean 2.9%<sup>g</sup>.

**SCHOOL CHILDREN:** Stunting is widely believed to occur mainly in early childhood (mostly by three years of age), and through a cumulative process. Children stunted at school-age are likely to have been exposed to poor nutrition since early childhood and that the degree of stunting tends to increase throughout the school-age years. However, children can exhibit catch-up growth if their environment improves<sup>4</sup>. This suggests that interventions in school-age children can supplement efforts in the preschool years to reduce levels of stunting and related effects on children's health and education.

Underweight among school-age children, like stunting, can reflect a broad range of insults such as prenatal undernutrition, deficiencies of macro- and micronutrients, infection and, possibly, inadequate attention by caregivers. Wasting, which reflects acute malnutrition, is not as common as either stunting or underweight in school-age children. Nevertheless, wasting rates can change rapidly in situations of acute food crisis, with school-age children, adolescents in particular, becoming severely malnourished in such situations.

Recent studies on school-age children have shed new information on stunting, wasting and underweight for this age group:

- one of the largest studies<sup>5</sup> of anthropometric status of rural school children in low income countries (Ghana, Tanzania, Indonesia, Vietnam and India) found the overall prevalence of stunting and underweight to be high in all five countries, ranging from 48 to 56% for stunting and from 34 to 62% for underweight. Second, in all countries there was a trend for z-scores<sup>h</sup> for height-for-age and weight-for-age to decrease with age, thus as children got older they became progressively shorter relative to the reference population. Third, the boys in most countries tended to be more stunted than girls and in all countries boys were more underweight than girls

- a longitudinal study of changes in height and

<sup>f</sup>Estimated prevalence and number of underweight preschool children for year 2000. (WHO Global Database on Child Growth and Malnutrition 2000: Forecast of Trends).

<sup>g</sup>Prevalence of wasting in preschool children for 1995. de Onis and Blossner, 2000 (in WHO Global Database on Child Growth and Malnutrition, 2000.)

<sup>h</sup>Low-birth-weight infants are more likely to become stunted children. Stunted children tend to become stunted adults and, stunted females of childbearing age tend to have low-birth-weight infants (SCN1997).

weight of school-age children on Pemba Island, Zanzibar<sup>6</sup> showed the prevalence of stunting increased with age (14% prevalence in seven year olds increasing to 83% in 13 year olds) and peaked in girls at age 12 then declined when they entered their pubertal growth spurt. In boys, however, the prevalence of stunting rose steadily up to age 13 years and then slowly declined. Boys accumulated a height deficit of 11.9cm and girls a height deficit of 8.5cm compared to the reference population<sup>6</sup>

- a recent cross sectional survey of the nutritional status of adolescent boys and girls in Bangladesh found that 67% of adolescents were thin (BMI < 5th percentile of WHO reference) and 48% were stunted (defined as height-for-age < 5th percentile of the NCHS and WHO reference data). Whereas, thinness was found to decline in prevalence with age from 95% at age 10 years to 12% at age 17 years, the prevalence of stunting increased from 34% at age ten years to 65% at age 17 years<sup>7</sup>. Stunting was also found to increase with age in a second study with younger girls reported to have a prevalence of just 2% stunting while 16% of older girls were stunted<sup>i</sup>

- a study in Brazil of the gender differences in growth of school-age children suffering from helminth infections found that 21% of school-age children were stunted and 13% were underweight. Both indices of nutritional status worsened as the study population got older, particularly for boys. The later onset of puberty and the growth-spurt in boys was controlled for in the growth data analysis, but boys remained significantly more malnourished than girls<sup>9</sup>.

- in a recent prospective cohort study of school-age children in Bangladesh, diarrhoea was found to retard weight gain and slow linear growth, although respiratory infections did not have the same effect<sup>10</sup>

- another study from an impoverished rural area of Guatemala that had recently benefited from a poverty alleviation programme, identified sanitation and housing conditions as risk factors for growth faltering in school-age children. Adult women's body mass index was also identified as a risk factor for stunting in school-age children<sup>11</sup>

- three recent studies from Chile also link growth deficits in school-age children to socioeconomic conditions:

- in a cross sectional study of indigenous Chilean school children, improved social conditions were related to improved growth, but this was not observed among the non-indigenous school children<sup>12</sup>
- a case control study identifying the risk factors of short stature among Chilean children entering school, reports similar risk factors associated with short stature (and poverty) independent of parents' heights, suggesting

<sup>i</sup>Standard deviations about the mean.

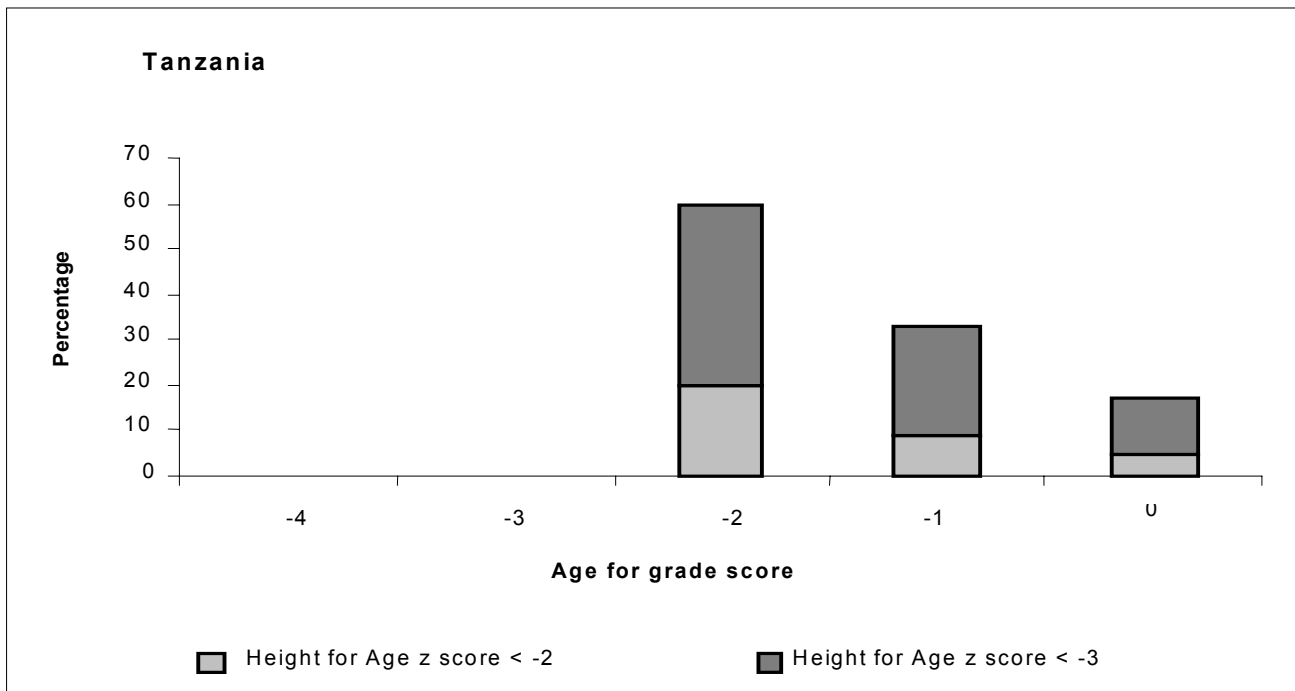


Figure 1a

that genetic factors have limited impact on height at this age<sup>13</sup>. The authors conclude that in countries similar to Chile, in order to decrease the prevalence of growth deficits, reducing poverty and its consequences is critical<sup>14</sup>

- another cross sectional study from Chile concluded that the higher prevalence of stunting among an indigenous population of Mapuche school children was not genetic, but reflected socioeconomic conditions<sup>14</sup>. The study found no significant differences in growth deficits among school children of Mapuche ancestry compared to non-Mapuche ancestry within poverty levels<sup>14</sup>.

□ the severity and prevalence of stunting and underweight have been found to increase with age, with older children diverging further from the reference medians for height until puberty. The evidence suggests that boys are more likely to be stunted and underweight than girls, and in some countries, more likely to be wasted than girls<sup>7,5</sup>. This may be due to a bias in the school population. It is also suggested that it could reflect delayed onset of puberty

□ it appears that although children (of both sexes) show evidence of growth into late adolescence, full 'catch-up' growth is not occurring and linear growth retardation persists throughout the school years. Non-intervention studies of catch-up growth in children show moderate levels of improvement, with 25-32% of the children stunted at age 2 years no longer stunted by school-age or pre-adolescence<sup>15,16</sup>

□ in another longitudinal study, comparing pre-school stunting to stunting in adolescence, stunted girls exhibited a significant delay in sexual maturation and showed evidence of catch-up growth between the

ages of five and 17 years<sup>17</sup>. The girls' delay in sexual maturity demonstrates that stunted children of both sexes have the possibility of catch-up growth after age 17 years. The stunted girls on average had a 1.6 year delay in menarche compared to the tallest girls<sup>17</sup>

□ in a study from rural Bangladesh, menarche was associated with better nutritional status as indicated by significantly higher mean heights (in menstruating girls ages 11-14 years) and weights (in menstruating girls ages 13-15 years) compared to non-menstruating girls of the same ages<sup>18</sup>

□ evidence suggests that in adolescence, children in deprived environments grow as much, or more than the NCHS reference population and that during the childhood period, tremendous variation in growth exists between populations<sup>19</sup>

□ in Chile, a country undergoing the 'nutrition transition', height deficits have been compared between children entering first grade in 1987, 1990, 1993 and 1996. Overall, height deficits have declined in both boys (from 10.6% in 1987 to 7.3% in 1996) and girls (from 7% in 1987 to 5% in 1996), although the overall height deficit in boys was found to be greater than for girls in each period studied. Stunting was found to increase with age: 2.2% of 5-6 year olds were stunted compared to 13.1% in children over 8 years old<sup>20</sup>; and

□ rather large height deficits can accumulate during the relatively long childhood period of about 8 years. Whilst growth can be improved during the childhood period, growth improvements observed in studies of one year or less duration have been disappointing<sup>19</sup>. Longer-term interventions need to be conducted to determine if gains in growth can be sustained long enough to become significant.

Previous health research on the school-age group was school-based and focused primarily on enrolled chil-



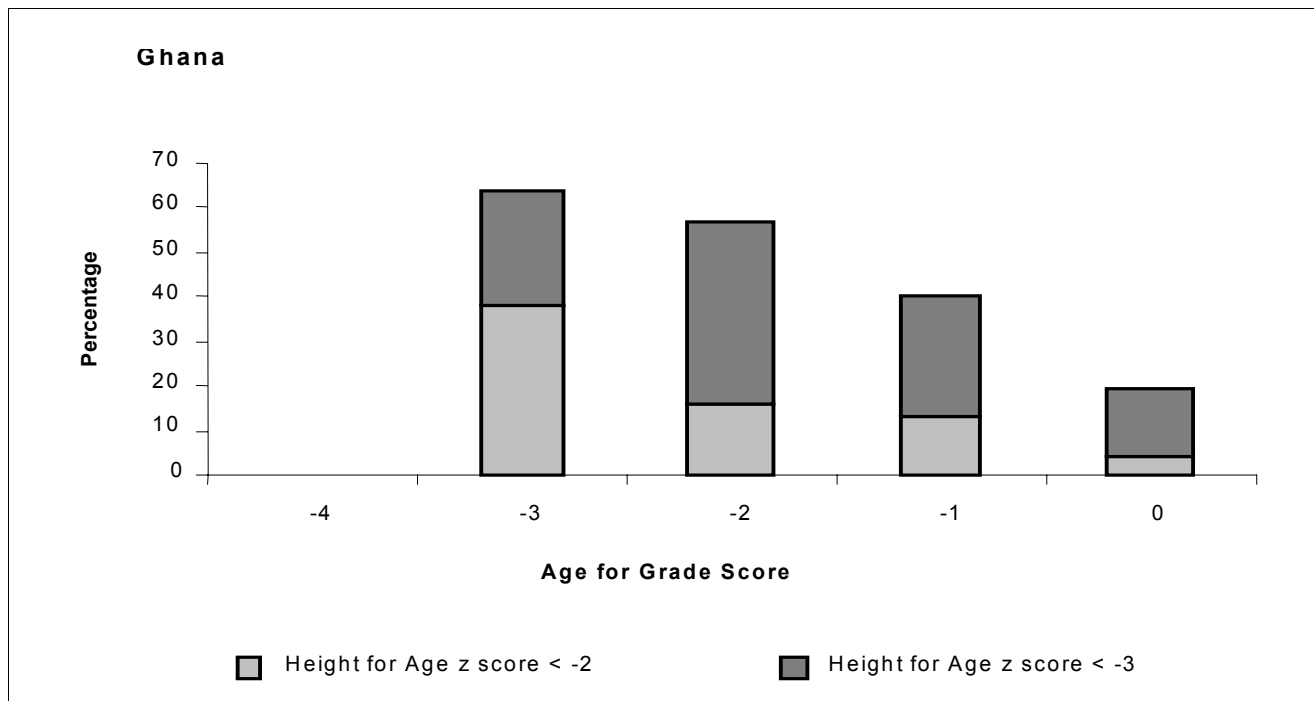


Figure 1b

dren; little was known about the health and nutritional status of out of school children. From the mid-90s several studies have focused on the health status on out-of-school children.

□ one study in Ghana compared the health of enrolled and non-enrolled children in primary school and showed that there were considerable differences between enrolled and non-enrolled children<sup>21</sup>. Non-enrolled children of both sexes were significantly smaller in height than enrolled children of the same age range. Just over half (51%) of children aged six to seven years who were not enrolled in primary school were stunted in comparison with only 19% who were enrolled in school. It is likely that many of the chronic health problems encountered in the six to seven year old children studied are the product of disease and poor nutrition before they enrolled in school.

Important questions are raised from these studies that reflect the need for more information on the patterns and determinants of growth in this age group. First, it is important to identify whether the height deficits accrued during the primary school years are made up through longer pubertal growth and at what stage boys and girls stop growing in height. Second, the functional implications of linear growth retardation in school-age children needs to be more clearly understood. Third, the question as to what extent school-age stunting is preventable through school-based interventions needs to be addressed<sup>6</sup>.

*Impact of Undernutrition on Children's Education* The studies of the effect of undernutrition on cognitive ability although not entirely conclusive, indicate that chronic undernutrition is associated with lower achievement levels in school children<sup>22</sup>.

Recent studies have found:

□ that severe stunting in the first two years of life is

strongly associated with lower test scores in school-age children (age 8-11). However, deficits in children's scores were smaller at older ages, suggesting that adverse effects may decline over time. In addition, lower test scores were related to later enrollment, increased absenteeism and repetition of school years among stunted children. These findings<sup>1</sup> indicate that stunted and non-stunted children can benefit similarly from education<sup>23</sup>

□ a negative association between indicators of chronic malnutrition and language and mathematics test scores in a cross sectional study of 3,055 Vietnamese school children when indices of malnutrition to educational test scores were compared<sup>24</sup>; and

□ short stature has been associated to late enrollment for primary school children in Tanzania and Ghana (Figures 1a & b)<sup>25</sup>.

#### *Micronutrient Deficiencies*

Nutritional anaemia, particularly deficiencies of iron, iodine, and vitamin A are major problems for school-age children in low income countries. It has been shown that such deficiencies can negatively impact on growth, increase susceptibility to infection and also impair the mental development and learning ability of school children.

**IRON DEFICIENCY AND ANAEMIA:** Iron deficiency (ID) is the most common nutritional disorder in the world and is estimated to affect more than 2b people of whom 1.2b suffer from iron deficiency anaemia (IDA)<sup>26,k</sup>. Insufficient intake of iron rich foods is the major cause of ID. It can also be caused by parasitic infections (particularly hookworm and malaria) and defi-

<sup>i</sup>The major work carried out in the field of adolescent nutrition previously was a study of 11 developing countries conducted in 1994. Anaemia and stunting were found to be the largest nutritional problems.

<sup>k</sup>The diagnosis of anaemia in school-age children is complicated because different thresholds apply to the four different age and sex categories contained within the school-age population.

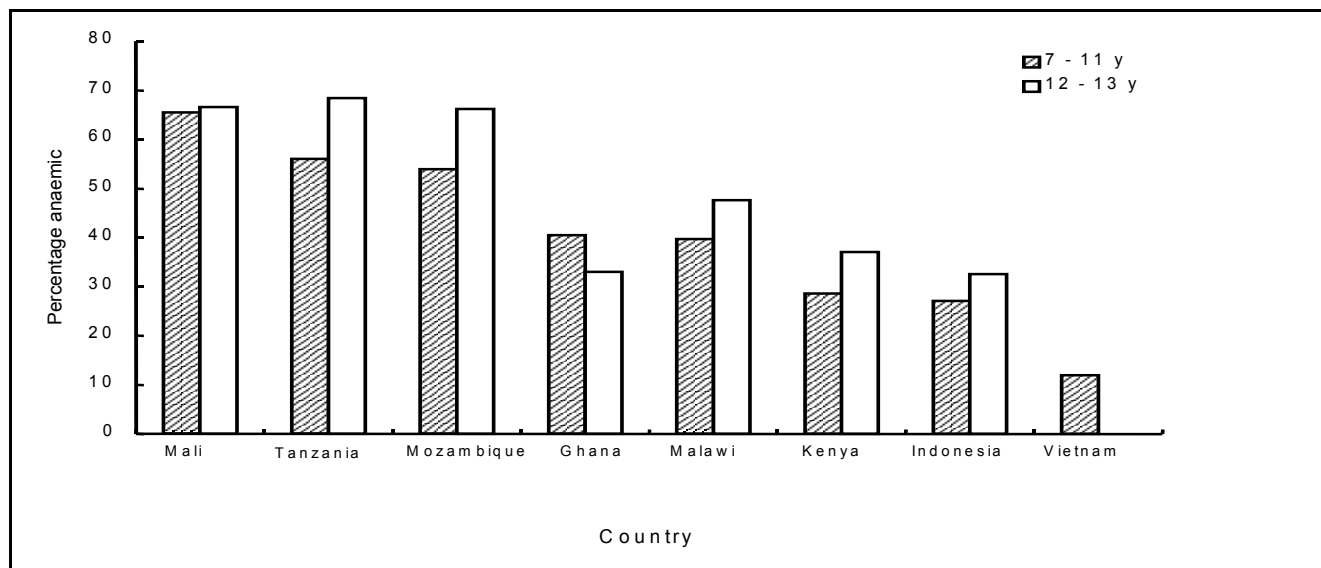


Figure 2 Prevalence of anaemia in school-age children in eight countries in Africa and Asia.

Source: Partnership for Child Development, 2001a.

ciencies of other nutrients<sup>27,28,29</sup>.

There is little evidence to suggest any recent decrease in the prevalence of anaemia<sup>30</sup>. It is estimated that 53% or 210m school-age children suffer from IDA<sup>31,32</sup>. The highest prevalence is reported in Asia (58.4%) followed by Africa (49.8%)<sup>33</sup>.

Recent studies and surveys have tried to capture the prevalence of IDA in school children:

- in a survey of nearly 14,000 rural school children in Africa and Asia, the prevalence of IDA was more than 40%<sup>1</sup> in five African countries (Mali, Tanzania, Mozambique, Ghana, and Malawi) amongst children aged 7-11 years and in four African countries amongst children aged 12-14 years. In the two Asian countries studied, the overall prevalence of IDA was found to be considerably lower than in Africa (around 12% in Vietnam and 28% in Indonesia among 7-11 year olds). Children aged 7-11 years were found to have lower mean haemoglobin concentrations, while IDA was found to be more common in the older age group. Girls were also found to have lower haemoglobin concentrations than boys, although the overall prevalence of IDA was higher in boys, particularly in the 12-13 year age group (Figure 2). An association between late enrollment in school, as compared to enrolling closer to the correct age, and a higher prevalence of anaemia was also found<sup>34</sup>

- an in-depth survey of 2,998 children ages 8-9 and 12-13 years in Ghana and Tanzania revealed that 77% of children in Tanzania and 41% of children in Ghana were suffering from IDA<sup>2</sup>

- in a study of 1,210 primary school girls aged 7-14,

in Riyadh, Saudi Arabia, an anaemia level of 55.4% was found. The highest level (71.4%) was found among 14 year-old girls<sup>35</sup>

- in a study of adolescent males and females in Bangladesh, extremely high levels of anaemia were identified in both females (98%) and males (94%)<sup>m</sup>. At age 17, 100% of females were anaemic<sup>7</sup>, and

- in a survey of 6,486 adolescent students (12-15 years) in East Java, Indonesia, anaemia levels of over 25% in girls, 24% in pre-pubertal boys and 12% in pubertal boys were detected. Higher levels of anaemia were found among adolescents of lower socio-economic status. In this study as well, puberty increased the risk of anaemia among girls<sup>36</sup>.

There is substantial evidence that IDA in children is associated with decreased physical development, impaired immune function, poor growth and increased fatigue. IDA also affects cognitive function and school achievement (a comprehensive review is provided by Grantham-McGregor and Ani, 2001)<sup>22</sup>.

- in Thailand, large differences were found between school children with anaemia and/or iron deficiency and iron replete children in their performance on a Thai language test and a test of general reasoning ability, yet not in arithmetic scores<sup>37</sup>

- Soemantri (1985) found smaller differences between Indonesian school children with IDA and iron replete children in their performance on a range of school exams, although the children did not differ in a test of concentration. Both exam performance and concentration was improved by iron supplementation<sup>38</sup>

- iron supplementation improved the performance of Indian school children on tests of memory and visual/motor coordination<sup>39</sup>.

<sup>1</sup>Two thirds of body iron is functional iron, mostly haemoglobin (Hb). The remaining iron is stored by the body as ferritin and haemosiderin. The three stages of iron reduction are: 1) iron depletion measured by a reduction in serum ferritin which is not related to functional impairment, 2) iron-deficient erythropoiesis which is referred to as iron deficiency (ID) without anaemia and 3) iron-deficiency anaemia (IDA), the most severe level of iron deficiency.

<sup>m</sup>An IDA prevalence of >40% is defined by WHO as a severe public health problem

**IMPACT OF SUPPLEMENTATION ON IDA:** The main focus of IDA reduction programmes has been young children and women of reproductive age. Recent studies have emphasized the high prevalence of iron deficiency and anaemia in school-age children. This has resulted in an increased programmatic response for this age.

However, there is conflicting evidence concerning the beneficial effect of iron supplementation on growth in children. Some studies have shown that daily supplementation improves growth and appetite, while others have not found any beneficial growth response:

- results from one study indicate that four months of daily supplementation with 3 mg ferrous sulphate per kilogram of bodyweight of non-iron replete, non-anaemic children results in decreased weight gains<sup>40</sup>

- a recent review study of infants, pre-school and school children concludes that iron supplementation has significant impact on the linear growth in anaemic children<sup>41</sup>

- a case-control study of the effects of providing weekly doses of 400 mg of ferrous sulphate for three months on the iron status and growth of adolescent schoolgirls in Tanzania was conducted. Weekly iron supplementation was found to result in a significant increase in serum ferritin (but not haemoglobin) and a significant increase in weight gain compared to adolescents given a placebo. No gain in height was found<sup>42</sup>

- in a randomized controlled trial of non-anaemic school-age children receiving 3mg ferrous sulphate per kg bodyweight or a placebo, weekly for 18 weeks, the treatment group did not show any significant change in haemoglobin, however the control group showed a significant decrease in haemoglobin concentrations. Changes in weight were not significantly different between the treatment and control groups. In this study, weekly iron supplementation of non-anaemic school-age children prevented significant decreases in haemoglobin without negatively effecting weight<sup>43</sup>.

In recent years, a number of studies have suggested that weekly iron supplementation is as effective as daily supplementation in raising haemoglobin levels, however, there is a still a need to further assess the effectiveness of weekly supplements under programme conditions to ensure that compliance is achieved.

- findings from a study of school children in Bolivia suggest that iron supplementation (3-4mg/kg ferrous sulphate) for five days per week is as effective as weekly supplementation over the course of 16 weeks<sup>44</sup>

- a recent study in 60 non-formal schools in Mali found that supplementation with 65mg iron and 250 µg folic acid weekly for 10 weeks improved haemoglobin concentration by 3.9 g/L in comparison with a placebo group<sup>45</sup>. All children were given deworming treatment and vitamin A supplements prior to the trial

- one of the few studies from Africa that has examined the impact of weekly supplementation with

400mg of ferrous sulphate for four months on the iron status and growth of adolescent schoolgirls found a significant increase (>50%) in serum ferritin levels in the group receiving iron supplements<sup>42</sup>

- a study of reducing anaemia in adolescent schoolgirls in Peru tested both daily and intermittent iron supplementation (60mg of ferrous sulphate) over a 17 week period. It was found that while both supplementation schedules resulted in improved iron status, daily supplementation resulted in the greatest increase in haemoglobin concentration and significantly reduced the prevalence of anaemia<sup>46</sup>

- an experimental community trial was conducted to observe the effect of a communication programme on compliance with weekly iron supplementation (65 mg elemental iron + 250 µg folic acid) in urban Tanzanian adolescent schoolgirls. A total of 237 girls, aged 14-17 were randomly recruited from five schools. Girls in schools 1 and 2 received iron and folic acid tablets weekly for eight weeks and weekly communication sessions, school 3 received the same supplement without the communication sessions and schools 4 and 5 served as the control schools. In the group receiving supplementation and communication, the prevalence of anaemia decreased significantly. The prevalence of anaemia did not change significantly in schools 3 and 4 but increased significantly in school 5. The observed compliance in the schools receiving the communication sessions was 75 and 94% compared to 50% in the school without the communication sessions. These results suggest communication strategies can influence compliance with iron supplements and thus help to reduce anaemia in adolescents<sup>47</sup>; and

- studies from Indonesia<sup>48</sup> and Malaysia<sup>49</sup> have demonstrated improvements in the iron stores of adolescent schoolgirls supplemented once weekly. In the Indonesian study, the group who received retinol along with the iron supplement benefited most in terms of increased iron stores.

**IODINE DEFICIENCY AND IODINE DEFICIENCY DISORDERS (IDD):** Iodine deficiency affects an estimated 1.6b people worldwide and estimated 60m school-age children. The consequences of iodine deficiency include severe mental retardation, goitre (a condition involving the enlargement of the thyroid gland and a disruption of normal thyroid production), hypothyroidism, abortion, stillbirths and low birthweight and mild forms of motor and cognitive deficits.

Recent studies in school-age children have found very high levels of goitre and iodine deficiency. School-age children are often the target population of IDD assessments because of their physiological vulnerability and their accessibility.

- recent studies of IDD in school children have been carried out in Egypt, Swaziland and South Africa. Overall prevalence rates of between 35 and 70% have been found indicating a severe public health problem

in each of areas studied<sup>50,51,52</sup>.

□ in Calcutta, India, after having implemented a universal iodized salt programme for several years, a monitoring survey reported 23% of male school children and 32% of female school were moderately to severely iodine deficient<sup>53</sup>.

**IMPACT ON CHILDREN'S MENTAL DEVELOPMENT & EDUCATION:** Iodine deficiency is the leading cause of preventable intellectual impairment worldwide. A number of studies comparing children living in iodine-deficient areas with those living in iodine sufficient areas have found that the iodine deficient children have poorer levels of cognitive development and school achievement<sup>54</sup>.

□ observational studies carried out over the past 30 years (reviewed by the Partnership for Child Development, 1996)<sup>55</sup>, have found that school-age children living in iodine-deficient areas have lower IQs and poorer cognitive and motor function than school-age children living in iodine-sufficient areas

□ in a study of school-age children suffering from mild and moderate iodine deficiency in Bangladesh, it was found that hypothyroid children performed worse than normal children in reading and spelling<sup>56</sup>.

□ a study of the association between hypothyroidism and cognitive and motor function and school achievement in Bangladeshi school-age children found that the hypothyroid children performed worse in reading and spelling than non-hypothyroid children. These differences were observed after controlling for biological, socio-cultural and socio-economic conditions. In addition it was found that stimulation and the availability of materials were also significantly associated with improved reading, spelling and mathematics. This study concluded that children suffer a range of disadvantages in addition to iodine deficiency and if they are to benefit fully from education, a comprehensive approach to their health and nutrition problems is needed<sup>56</sup>; and

□ in Benin, a randomized control trial was implemented on an iodine-deficient population of 196 school children. Due to the availability of iodized salt to the study population during the intervention, participant results were split post hoc based on improved iodine status measured in urine samples. Results indicate that children with improvements in urinary iodine status (from capsules or iodized salt) had significantly better test scores, particularly on tests of abstract reasoning and verbal fluency compared to children without improvements in iodine status. As the tests included time limits for response, these findings may indicate an improvement in the level and or speed of task performance. These results may indicate a "catch-up" effect as well. The group of children whose urinary iodine concentrations were unchanged during the intervention showed less progress even though their io-

dine status was, on average, better than the improved group both initially and at the end of the study<sup>57</sup>.

Universal iodization of salt is seen as the permanent and sustainable solution to the global IDD problem. Iodization of salt is the preferred approach for supplementation in iodine deficient populations. It is now mandatory for manufactured salt to be iodized in most countries, however, this does not guarantee the elimination or reduction of IDD. In many countries a persistence of goitre in school children is being observed despite near universal iodized salt consumption.

In areas where iodized salt is not available and where the prompt correction of IDD is urgent, iodized oil can be administered to school children inexpensively and simply, maintaining iodine levels for a period of twelve months.

□ in Guatemala where the purchase of iodized salt has been problematic, IDD education through schools has been piloted. It was found that a participatory education module appeared to result in an increase in the purchase of iodized salt at the household level<sup>58</sup>

□ in South Africa, where mandatory iodization of salt was introduced in 1995, a study of the effects on school

children in an endemically goitrous area after one year found that iodine deficiency was virtually eradicated. The overall goitre rate, however, did not decline<sup>59</sup>

□ in China, a randomized clinical trial was implemented comparing iodine interventions in 205 school children aged 8-10 with low to moderate levels of iodine deficiency. Group A was provided iodized salt with an iodine concentration of 25 ppm; groups B and C purchased iodized salt from the market, while group C was provided with an iodized oil capsules at the beginning of the study. The salt iodine level for group A was stable, however for group B and C the salt iodine levels ranged from 13-47 ppm. The children in Groups A and C responded more quickly than group B, with a higher percentage decline in iodine deficiency, as measured in abnormal thyroid volumes<sup>60</sup>; and

□ in a recent trial conducted in an area of endemic goitre, the response of oral iodine supplementation in anaemic and non-anaemic goitrous children was compared. In the children with iron deficiency anaemia their response to oral iodine was impaired<sup>61</sup>. The results of this study suggest that iron deficiency anaemia in children limits the effectiveness of oral iodine supplementation.

**VITAMIN A DEFICIENCY (VAD):** Mild or sub-clinical VAD<sup>n</sup> causes impaired immune function, increased severity of some infections and an increased

**Little is known about the occurrence or effects of VAD in this age group.**

<sup>n</sup>A plasma retinol concentration <10µg/dl and < 20µg /dl are cut-off values defined by WHO for severe and marginal deficiency respectively.

risk of mortality from infectious diseases and is widely recognized as an important cause of blindness in children. It is estimated that 85m school-age children are at increased risk of acute respiratory and other infections because they are deficient in vitamin A<sup>62</sup>. VAD also affects iron metabolism so that with any iron supplements taken, subsequent improvement in iron status may be limited when vitamin A status is low.

School-age children have not been considered an 'at-risk' group for VAD in the past. Little is known about the occurrence or effects of VAD in this age group. However, the small number of recent studies conducted, suggest that VAD is a public health problem in school-age children.

□ in Bangladesh, which achieves vitamin A supplement coverage of over 90% in underfives, evidence suggests that VAD may be a larger problem among school-age children than pre-school children<sup>6</sup>. An article reviewing VAD studies in Bangladesh noted that although the extent of clinically evident VAD among school-age and adolescent children has decreased slightly in the last two decades, it remains a significant problem, with deficiency levels higher in boys than girls<sup>63</sup>. Working adolescent girls from urban areas appear to be the most severely affected group<sup>63</sup>

□ in Bangladesh, a study of adolescent health and nutrition status found that 2.1% of the children surveyed had eye changes (conjunctival xerosis and Bitot's spots), indicating severe VAD<sup>7</sup>

□ a study of the effect of micronutrient-fortified biscuits on the nutritional status of primary school children from South Africa, found that 40% of the children had sub-clinical VAD<sup>64</sup>

□ a second study of the effect of providing fortified soup to school children in South Africa found that between 23.7% and 46.7% of children were marginally vitamin A deficient (<30µg/dL)<sup>65</sup>

□ in Mexico, almost half of school children surveyed were found to be deficient in vitamin A, and over 6% had low serum retinol levels (<0.35mol/L)<sup>66</sup>

□ a study of the relationship between serum retinol concentrations and helminth infection among primary and pre-school children in South Africa found that 23.5% had low serum retinol concentrations<sup>67</sup>

□ a recent assessment of the vitamin A status of school children in Tanzania, Ghana, Indonesia and Vietnam found that that VAD was a severe public health problem in Tanzania (30% deficient in vitamin A), a moderate problem in Ghana and a mild problem in Indonesia and Vietnam according to WHO criteria<sup>68</sup>

<sup>6</sup>Personal communication, A. Hall, Country Director, Helen Keller International, Bangladesh.

□ in Cameroon, a study of the relationship of the effect of the parasite, *Onchocerca volvulus* on plasma vitamin A levels in 261 school children reported sub-clinical vitamin A deficiency in over 80% of the children. Children with onchocerciasis had significantly lower vitamin A concentrations in their plasma compared to children without infections<sup>69</sup>

□ a recent study of the prevalence of vitamin A deficiency in northern Ethiopia among 824 school-age children reported a xerophthalmia rate of 5.8%. Serum retinol concentrations were deficient in 8.4 and low in 51.1% of the children. A significant difference was noted between sexes only in vitamin A reserves; girls had significantly lower vitamin A reserve than boys<sup>70</sup>

□ in a recent cross sectional study of anthropometric indices, micronutrient status and prevalence of parasite infections of 579 school children (8-10 years old) in KwaZulu-Natal, South Africa, vitamin A deficiency levels of 37.7% (serum retinol < 20 ug/dl) was found<sup>71</sup>; and

□ a case control study involving 105 children with nightblindness in rural Bangladesh found that affected children were 5.4 times more likely to have a low mid upper arm circumference, indicative of protein energy malnutrition, and associated with a low intake of low intake of beta-carotene-rich and vitamin A-containing foods as well as with low serum vitamin A.

Food-based approaches, including fortification, are the preferred long term strategy to prevent VAD. However, for the short term, providing vitamin A supplements, multiple micronutrient supplements or vitamin A fortified foods to school-age children may be effective strategies to prevent VAD in this population.

In the Philippines, a randomized double-blind, controlled trial evaluating the effect of a vitamin-A fortified wheat flour bun was implemented with 835 children ages 6-13 attending four rural schools. The children in the experimental group consumed buns five days a week for 30 weeks fortified with 33% of the RDA for vitamin A. Results were stratified based on initial serum retinol levels. The children with marginal-to-low initial serum retinol levels significantly improved their vitamin A status with daily consumption of vitamin A-fortified buns. These results suggest that fortified foods can improve vitamin A status in deficient school-age children<sup>72</sup>

**MULTIPLE MICRONUTRIENT DEFICIENCIES:** Single micronutrient deficiencies seldom occur in isolation, but instead, interact and tend to cluster. For example, iron deficiency and VAD often coexist in the same populations (see below). Providing vitamin A supplementation can both improve vitamin A status,

**...deficiencies of other micronutrients can suppress the growth response after zinc repletion.**

as well as, iron metabolism in deficient populations. Further, vitamin A food fortification programmes produce similar results.

School-age children, like most populations in low income countries, suffer from multiple micronutrient deficiencies. Data are not available on the extent of the problem in school-age children. However, inference can be made from data on pre-school children; 13 to 27% of pre-school school children are estimated to have two or more micronutrient deficiencies suggesting that 100m pre-school children are affected<sup>30</sup>.

Given the frequent overlap and clustering of micronutrient deficiencies, multiple micronutrient supplementation or fortified foods may be a cost-effective strategy to address nutrient deficiencies in school-age children, in addition to synergistic effects between certain micronutrients.

□ in one study in China, children supplemented with zinc and other micronutrients had the largest improvements in growth and cognitive function; growth improved with micronutrient supplementation, but showed little change with only zinc supplementation<sup>73</sup>. These results are consistent with other studies and suggest that deficiencies of other micronutrients can suppress the growth response after zinc repletion

□ in a recent study of the relationship between vitamin A, iron status and helminth infection among Bangladeshi school children, children with low serum retinol levels had significantly lower ferritin and haemoglobin levels that those with higher serum retinol levels<sup>74</sup>

□ in a randomized double-blind control trial with 830 primary school children from Tanzania, the odds of stunting were significantly reduced by provision of a micronutrient-fortified beverage. Anaemia was reduced nearly by half in the intervention group as well<sup>75</sup>. The children drank one serving of the beverage, fortified with 30-120% of the RDA for several micronutrients for six months on each attended school day.

□ in Tanzania, a randomized controlled trial of the effects of dietary supplements on anaemia, and on the weight and height of 136 anaemic school children from low socio-economic backgrounds was conducted. The supplements were administered for three months in local corn meals. Although vitamin A supplementation increased haemoglobin levels and growth parameters significantly, the group of children who received the combined vitamin A and iron supplements had the greatest improvements compared with the placebo group in all indicators. The low cost and simplicity of this study suggest that vitamin A and iron supplementation have a role in the prevention of IDA and growth retardation<sup>76</sup>

□ a randomized, double-blind, controlled study of the effects of dietary supplements on anaemia in teenagers was conducted in urban Bangladesh. Participants were provided weekly supplements for 12 weeks. Compared with the placebo, the iron, folic acid and vitamin A supplement reduced anaemia by 92%, iron deficiency by 90% and vitamin A deficiency by 76%. For young women not deficient in vitamin A, there was not a significant difference in the response of haemoglobin to iron than to iron plus vitamin A. Those with the lowest baseline haemoglobin had the greatest increase in haemoglobin<sup>77</sup>

□ giving micronutrient deficient school children in South Africa biscuits fortified with iron, iodine and beta-carotene has been shown to significantly improve their micronutrient status. The prevalence of low serum retinol concentrations decreased from 39.1% to 12.2 %, anaemia declined from 27.8% to 13.9% and low urinary iodine concentrations declined from 97.5% to 5.4%. The biscuit was given in the morning for a period of 215 days at a cost of just US\$0.7 per child, per school year<sup>64</sup>

**Television viewing was associated with an increased risk of obesity...**

□ in a case-control study of 66 school children (aged 10-12) in India, those identified as deficient in iron and vitamin A were fed biscuits made

with cauliflower leaf powder (a source of iron and vitamin A) for a period of four months. After the intervention, the experimental group had significantly higher haemoglobin and serum retinol levels. Initially 27.27% of children in the experimental group had normal nutritional status compared to 42.42% post intervention<sup>78</sup>; and

□ in a randomized control trial of the effect of anti-helminthic treatment and micronutrient fortification in 579 South African school children aged 8-10 years, children were randomly allocated into six study groups, half who received anti-helminthic treatment at baseline. Each of the two groups were further divided into three groups and given biscuits (for 16 weeks) either unfortified, fortified with iron, or fortified with iron and vitamin A. There was a significant treatment effect of vitamin A on serum retinol levels, as well as, a suggested additive effect between vitamin A fortification and de-worming, i.e. vitamin A supplementation with de-worming had a greater effect on vitamin A status than vitamin A fortification alone. At baseline 34.7% of the children were vitamin A deficient and 15.5% were anaemic. Significant cognitive treatment effects were not found in either of the groups that received biscuits fortified with multiple micronutrients. The impact of this intervention may have been limited by its short duration (16 weeks), low burden of micronutrient deficiency and low prevalence of stunting in the study population<sup>79</sup>.

## School Feeding/Food for Education Stakeholders Meeting, October 2000

### *Lessons related to the rationale for school feeding programmes:*

- Nutritional benefits: There is little evidence to suggest that school feeding programs have a positive impact on nutrition for participating children. In some instances, parents may provide less food at home, and the school meal simply replaces a home meal rather than adding food to the child's diet.
- Impact on education and the link between hunger and learning: Much evidence suggests that children who are hungry or chronically malnourished are less able to learn, regardless of the setting. But the converse – that children in school feeding and food for education programmes are better able to learn – only holds true when the food is accompanied by other inputs related to school quality.
- Impact on attendance: The evidence strongly suggests that school feeding programmes can increase attendance rates, especially for girls. School feeding or take-home rations serve as incentives for enrolling children in school and encouraging daily attendance. This is likely a short term solution, however, because if there is no change in the quality of schooling (or increase in intrinsic demand for education) attendance will likely drop once the food incentive is removed.

### *Programmatic lessons learned:*

- Relationship to education reform: School feeding must take place within the context of broad, national school reform programmes. These reforms should focus on other essential inputs to education and learning such as teacher development, curriculum reform, and student assessment.
- Burden on governments and education ministries: National ministries of education should not be encouraged to 'take on' school feeding at the expense of the other educational inputs, as it is difficult politically to refuse food aid.
- Working through communities: Getting the community involved from the beginning, and giving them ownership of school feeding programmes greatly increases the chances for the programme's success and sustainability.
- Complementary inputs: To overcome the reliance on outside food sources such as school feeding programmes, it is necessary to focus on complementary health and nutrition inputs to accompany the school feeding, such as: nutrition and health education, micronutrient supplementation and deworming.
- Targeting: There is evidence that providing national coverage is not cost effective for national school feeding programmes. Targeting the most underserved, food insecure areas, with relatively low rates of school attendance (where the reason for lack of attendance is related to lack of income and not lack of a facility) seems to make the most sense. Regional coverage is often necessary to avoid children transferring to schools as a result of the school feeding. Within the selected regions, girls can be specifically targeted with take-home rations. Areas particularly hard hit by HIV/AIDS could also be targeted.
- Testing innovations: There should be room to design food-for-education programmes as true pilots, with the flexibility to test new methods of food delivery. USAID/Haiti, for example, has been experimenting with nutrient-rich snack biscuits made from surplus grains, which reduce the need for cooking and other preparations at the school and also provide micronutrients.

*Source: USAID (2000) School Feeding/Food for Education Stakeholder's Meeting. October 3, 2000.*

### *Overweight and Obesity*

Overweight<sup>†</sup> and obesity is becoming increasingly prevalent in low income countries where improvements in socioeconomic conditions and rapid urbanization are causing a 'nutrition transition'. A rapid shift in the composition of diet (higher fat and lower carbohydrate), reduced activity patterns and a subsequent shift in body composition characterize this transition.

Countries undergoing a 'nutrition transition' have high levels of stunting, which is believed to be a risk factor for obesity. This may be explained by the relationship of stunting to undernutrition. Evidence from animal and human studies suggests that with malnutrition in utero and in early life, endocrine development may be affected, resulting in hormonal alterations and a predis-

position to metabolic disorders and obesity<sup>80,81,82</sup>. It is suggested that the increased risk of obesity among stunted children will lead to considerable problems with obesity in children in low income countries over the coming decades<sup>83,84</sup>.

Although there is a growing body of data on obesity and overweight in this age group, few data are available on the true extent of overweight among school-age children in low income countries. Nationally representative data are lacking and few countries have repeated surveys, thus trend data are limited. Furthermore, there are methodological concerns, the use and interpretation of weight-for-height indices based on children from the US has been questioned in populations with significant levels of stunting<sup>85</sup>.

In 1995, an estimated 17.6m children in the low income countries were overweight<sup>86</sup>. The overall prevalence of overweight in the pre-school population is

<sup>†</sup>Overweight is defined as BMI (body mass index) between the 85th and 94th percentiles, and obesity is defined as, at or above the 95th percentile of the NCHS/CDC BMI-for-age percentile curves, (Barlow and Dietz, 1998).

low, at 3.3%<sup>86</sup>. Available data suggest that the problem of obesity begins in preschool children, becoming more evident among school-age children<sup>85</sup>. In Sub-Saharan Africa and in South Asia obesity is rare. However, in the more developed countries of Latin America, the Middle East, Central Eastern Europe, the Commonwealth Independent States and North Africa, obesity is as prevalent as in the United States. Northern Africa and Central America, areas undergoing rapid nutrition transitions, have both problems of stunting and overweight among children.

In school-age children, the following has been observed:

- in Chile, 20.7% of school-age children were reported to be overweight and 13.5% obese in 1995<sup>20</sup>

- a study of school-age children (and pre-school-age) in four countries undergoing the nutrition transition (Russia, China, Brazil and South Africa) found that the prevalence of child overweight ranged from 10.5% to 25.6% (weight-for-height at or above the 85<sup>th</sup> percentile). Boys in Russia have an overweight prevalence comparable with boys in the US (11.8% >95<sup>th</sup> percentile). Stunting is also common in these countries affecting between 9% and 30% of all children and a significant association was found between stunting and overweight status in all four countries<sup>83</sup>

- from China, urban-rural combined data comparing the level of overweight school children from 1991 to 1995 indicate increases of 6 to 9.8% for boys and 5 and 7.6% for girls over this time period. Increases in dietary fat intake and lower levels of physical activity have been attributed to the increasing levels of obesity<sup>87</sup>

- in a study of nutritional status of Kuwaiti elementary school children (6-10 years old) the level of obesity (defined as z-scores >2) was significantly higher for boys (15.7%) than girls (13.8%). Stunting was found to be higher in boys as well, 9.5% compared to 4.6% in girls. In comparing results of this study (1995) to a previous study (1985), obesity levels have increased significantly from 12.9% to 21.9% (above the 95<sup>th</sup> percentile weight-for-height)<sup>88</sup>. In the US, 13% of similarly aged children (6 -11 years old) were above the 95<sup>th</sup> percentile<sup>89</sup>. These results indicate that Kuwaiti school children have a higher prevalence of obesity than US school children

- in a study of an urban low-income population in Brazil, although wasting (10.2%) was the most prevalent form of malnutrition, adolescent girls had stunting levels of 11% and an obesity rate of 5.5%. Girls suffered more from stunting and overweight/obesity than boys did. These results suggest that improved living conditions in urban areas in populations 'adapted' to chronic food shortages may increase the susceptibility to obesity<sup>90</sup>

- a representative study of 10 to 13 year old school children from both private and public schools in the urban area of San Jose, Costa Rica found that the

prevalence of overweight was similar in both groups, with 31% overweight (85<sup>th</sup> to 94<sup>th</sup> percentile BMI reference curves). These findings suggest that overweight is equally a problem among children from lower income families as among children from families with higher incomes<sup>91</sup>

- in a cross sectional study of school children 9 to 16 years old from a low to middle income town in the Mexico City area, found that 24% of the children were obese (defined as >85<sup>th</sup> percentile BMI reference curves). Television viewing was associated with an increased risk for obesity, a 12% greater risk for each additional hour of daily TV viewing was estimated. Participating in physical activity, particularly vigorous physical activity was found to protect against obesity<sup>92</sup>; and

- a longitudinal study of 2,252 primary and secondary school children in Hat Yai, a urban area in Thailand, found that overweight in males increased from 12.4% in 1992 to 21% in 1997, however, the percentage of overweight in females decreased from 15.2% to 12.6%. Over the 5-year period of the study, children who were overweight during childhood were 12 times more likely to be overweight during adolescence than their non-overweight classmates. A family history of obesity, a monthly income greater than 5,000 baht, a low exercise level and one or more parents with high a BMI level were associated with overweight tracking. This study supports the importance of early intervention to prevent the persistence of overweight into adolescence and adulthood<sup>93</sup>.

#### *Short Term Hunger and School Nutrition Programmes (SNP)*

There is increasing evidence of the negative consequences for children suffering from short term hunger, particularly in children who are not fed before going to school. Children who are hungry are more likely to have difficulty concentrating and performing complex tasks, even if otherwise well nourished<sup>32</sup>. In recent years there has been some doubt about the value of stand-alone school feeding programmes in terms of their impact on either nutrition or education. However, the value when implemented in the right context should not be underestimated.

In 2000, a School Feeding/Food for Education stakeholders meeting brought together top practitioners and experts from USAID, USDA, the World Bank, UNICEF and other organizations who either administer or implement SNPs<sup>94</sup>, who reviewed the current situation. Some of the main conclusions of this meeting are found on the previous page.

Recent studies show the impact of what alleviating short term hunger can have on children's education:

- a project in Indonesia that piloted the integration of deworming with a SNP found that combining these interventions has an even greater impact on growth than when food alone was provided. In India, school children participating in a SNP were also provided with treatment for geohelminths. This resulted in a re-



Disease type	Morbidity (no. of cases each year)	Mortality (deaths each year)
Diarrhoea	>4,000m	2.5m
Amoebic dysentery	48,000	70,000
Cholera	145,000	10,000
Roundworm	250m	60,000
Hookworm	151m	65,000
Whipworm	43.5m	10,000
Guinea worm	70,000	none
Trachoma	600m	none
Schistosomiasis	200,000	20,000

Table 1 Morbidity and mortality associated with various water and sanitation related diseases.

duction in helminth infection from 71% to 40% with minimal additional costs<sup>62</sup>

□ an evaluation of a SNP in Jamaica examined the effects of the school meal on achievement, attendance and growth over a period of two semesters. It was found that the provision of breakfast resulted in higher school attendance and greater achievement in arithmetic although no weight gain was found<sup>95</sup>

□ a second study in Jamaica examined the effects in the short term on the cognitive function of children of differing nutritional status. It was found that cognitive function improved in undernourished children when they received breakfast while no difference was observed in well-nourished children<sup>96</sup>

□ the same study also found that providing breakfast only benefited children's classroom behaviour if they attended well equipped and organized schools. The behaviour of children in poorly organized schools given breakfast deteriorated.

□ a recent study (case-control) in Mexico, evaluated the impact of a School Breakfast Programme. It examined the effects of school breakfast on the attention, memory and motor skills of 300 students, aged 4-6 years from impoverished areas. Children who received breakfast showed significant improvements in response, speed and fine motor skills when compared to the control group. Performance in verbal behaviour and short-term memory were not improved. The difference in these results as compared to other studies may be explained by the younger ages of the students in the study<sup>97,98</sup>; and

□ another recent study (case-control) evaluated the impact of a mid day meal (MDM) programme in 60 primary schools in India. It reported significantly

higher enrollment, attendance, and retention rates with reduced drop-out rates among MDM programme children<sup>98</sup>.

## Health Problems

The poor, particularly children in low income countries, carry the greatest burden of morbidity and mortality. Much of this burden results from hazards within their homes or their immediate environment<sup>99</sup>. High levels of malnutrition, and its known synergistic relationship exacerbate their vulnerability to disease particularly diarrhoeal disease, helminth infections, acute respiratory infections (ARIs) and malaria. For the urban poor in low income countries, there is a double jeopardy as they find themselves exposed to both "traditional" diseases of poor sanitation and overcrowding and the "modern" diseases of chronic heart and lung disease. School-age children living in poor urban areas are also at a high risk of injury from road traffic accidents.

For children in low income countries, many of the health problems of childhood are associated with lack of clean water and poor sanitation (Table 1).

### *Diarrhoeal diseases*

Diarrhoea is the passage of loose or liquid stools, more frequently than is normal for the individual. It is primarily a symptom of intestinal infection, caused by a wide range of viral, bacterial and parasitic organisms. One of the most common means of infection is through water contaminated with human faeces. If severe or persistent, the fluid loss and dehydration associated with diarrhoea may be life threatening, especially in infants and young children, the malnourished, or people with impaired immunity.

The total global number of diarrhoeal episodes may be as high as 4000m<sup>100</sup>. WHO estimates that 3.3m children die from intestinal infections such as cholera, typhoid or infectious hepatitis every year. The total number of diarrhoeal episodes may be as high as 4000m (Table 1)<sup>100</sup>. Most of the diarrhoeal disease burden occurs in children in developing countries, with under-fives at greatest risk<sup>101</sup>. Approximately 90% of the diarrhoeal disease burden is related to environmental factors of poor sanitation and lack of access to clean water and safe food<sup>102</sup>.

A recent review of 144 different interventions demonstrated the impact on morbidity of general water, sanitation and hygiene interventions:

- 36% median reduction of diarrhoea from the safe disposal of faeces
- 35% median reduction of diarrhoea from hand-washing with soap after contact with stools
- 20% median reduction in diarrhoea from protection of water from faecal contamination; and
- 26% median reduction in diarrhoea from the integration of hygiene education or promotion in water projects<sup>103</sup>.

<sup>97</sup>The researchers noted that the students improved in the skills appropriate for their age level.

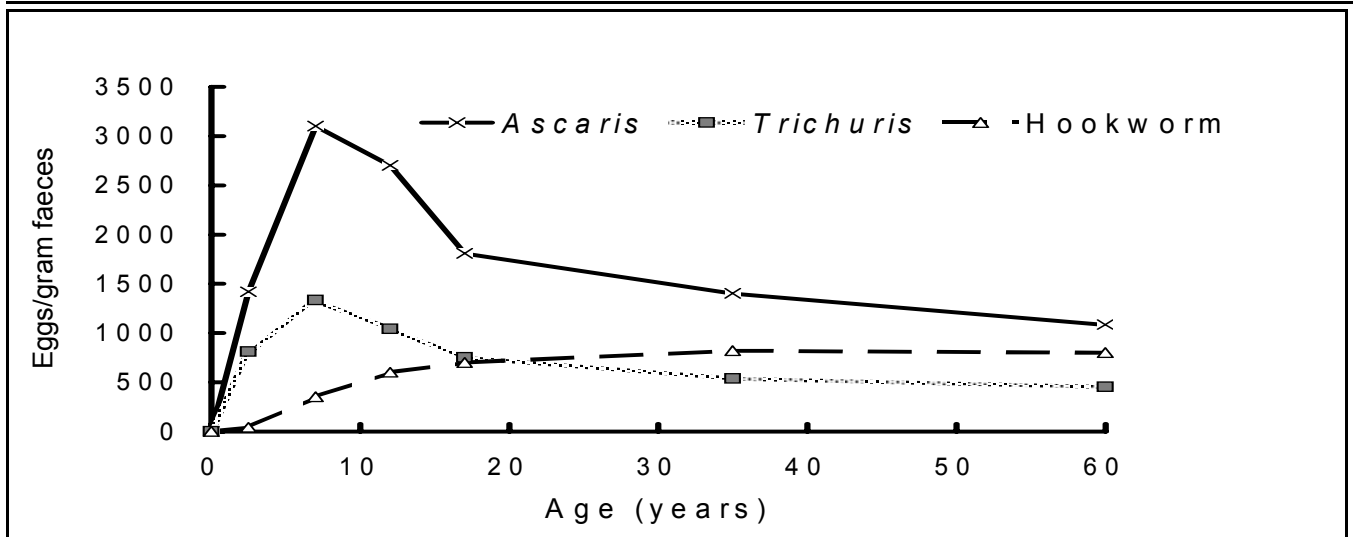


Figure 3 Intensity of geohelminth infection, by age. Source: adapted from Bundy et al. 1992.

**DIARRHOEA PREVENTION** Since inadequate access to clean water, lack of adequate sanitation facilities and poor hygienic practices are high risk transmission factors for diarrhoeal diseases, there has been increased emphasis on hygiene promotion programmes as a means of changing behaviour and reducing the incidence of diarrhoeal diseases.

□ a study of hygiene related behaviour in families in rural Nicaragua found a consistent relationship between almost all hygiene practices (hand washing, food handling hygiene, disposal of faeces, etc.) and incidence of diarrhoea, with an association between number of years of schooling and better hygiene behaviour<sup>104</sup>

□ in Burkina Faso, a study looked at a three-year programme of hygiene promotion behaviour, targeted at mothers of young children. The study found that mothers who had been in contact with the programme showed a significant increase in behaviours such as hand washing with soap after cleaning a child's bottom or using the latrine. The authors concluded that hygiene promotion programmes can change behaviour, and are more likely to be effective if sustained over time, using locally appropriate channels of communication<sup>105</sup>; and

□ a further approach to diarrhoea prevention has been examined in Pakistan. Flies are known to be a potential source of spreading diarrhoeal diseases, through contact with faeces and food. Although fly control has previously been classified as an ineffective prevention measure by WHO, this study found that villages treated with insecticide during the 'fly season' had an incidence of diarrhoea that was 23% lower than untreated villages. Although long term routine spraying is inappropriate (expense and risk of insecticide resistance), as a short term measure, selective fly control during the 'fly season' might be useful in some circumstances<sup>106</sup>.

**SCHOOL SANITATION AND HYGIENE** Hygiene promotion in schools is a primary intervention because

of the potential high risk of disease transmission if facilities are either non-existent, in a poor state of repair or incorrectly used. In addition, studies show that school-age children can provide effective links with their peers (child to child) and the wider community in communicating important hygiene messages as well as promoting improved sanitation. Encouraging safer behaviour through participatory hygiene promotion has been shown to be more effective than traditional didactic measures, especially when linked with parallel efforts promoting hygienic behaviour, safe water and sanitation projects within in the community<sup>107</sup>.

In many schools, facilities are either poor or absent. The aim of any school sanitation, hygiene and water programme is to combine hardware and 'software'. The former revolves around the construction of facilities and their subsequent maintenance and use, while the latter focuses on necessary and appropriate learning experiences to encourage safe practice at school, home and throughout later life. As well as assisting with the construction, maintenance and cleaning of facilities in the school environment, studies reveal that promoting latrine construction through school children can be a successful medium for promoting construction in the wider community<sup>102</sup>.

Hygiene promotion is now seen as an intrinsic element of any water and sanitation initiative and, in the context of school health, is now a central focus for school sanitation and hygiene programme<sup>107</sup>.

This approach has the following key elements:

- the safe, efficient and hygienic disposal of faeces, particularly child faeces
- the safe, efficient and hygienic management of water from extraction, through transport and storage to use (particularly for drinking and hand-washing); and
- the regular and effective use of water (with a scouring agent like soap or ash) for hand-washing after contact with stools<sup>108</sup>.

These three are generally considered to be the most important behavioural domains because they carry the

greatest potential risk both on a personal and a communal level. There is increasing recognition of the importance of promoting safe hygiene behaviour among school children not simply because of its importance in the immediate school environment but also because of the communication opportunities and potential influence on the family and future families<sup>102</sup>.

In addition to the obvious health benefits and timesavings (particularly affecting young school-age girls), such programmes can also have an influence on school enrollment and attendance. The lack of adequate, separate sanitary facilities in schools is one of the main factors preventing girls from attending school, particularly when menstruating.

□ in Bangladesh, a school sanitation programme increased girls' enrollment by 11%, a level that is beyond the reach of conventional educational reform<sup>109</sup>.

#### Helminth Infections

Parasitic helminth infections are a major public health problem throughout the world with over a quarter of the world's population infected with one or more of the most common of these parasites: roundworm (*Ascaris lumbricoides*), whipworm (*Trichuris trichiura*) and hookworm (*Necator americanus* and *Ancylostoma duodenale*); and the schistosomes: *Schistosoma haematobium* (urinary) and *S. mansoni* and *S. japonicum* (intestinal)<sup>110,111,112</sup>. Infection with intestinal worms is by a simple faecal-oral route. Infection with schistosomes is through contact with contaminated water (e.g. wading, bathing or swimming in ponds, rivers or lakes) that also contains fresh water snails that act as intermediate hosts.

Prevalence of these infections rises to a maximum in childhood and settles to a stable asymptote in the adult population. However, for the age-intensity (or worm burden) profile, there is a marked convexity, such that it is the school-age child who has the most intense infections (the greatest worm burden). As morbidity is directly related to the intensity of infection, it follows that it is this age group who is particularly susceptible (Figure 3)<sup>113</sup>. A similar picture is seen for *Schistosoma* age-infection patterns.

**HELMINTH INFECTIONS IN THE SCHOOL-AGE CHILD** It is estimated that over 35% (320m) of school-age children are infected with roundworm; 25% (233m) with whipworm and 26% (239m) with hookworm<sup>114,115,112</sup>. As the intensity of infection is the central determinant of the severity of morbidity, it is the school-age child who is most at risk; for girls and boys aged 5-14 years in low income countries, intestinal worms alone account for an estimated 12 and 11% respectively of the total disease burden of this age group, making this the single largest contributor to the disease burden of this group<sup>110</sup>.

As numbers of worms build up over time, many of the health problems caused by these worms are chronic and can be long lasting. In addition polyparasitism is a common occurrence; children may be infected concur-

rently with several parasite species<sup>116</sup>. Children with chronic worm infections and large numbers of worms may be stunted and underweight, which can lead to long term retardation of mental and physical development, even death in severe cases. Worms can also contribute to malnutrition through inappetance and malabsorption and anaemia through loss of blood.

The most significant infection causing blood loss is hookworm infection. This may be caused by blood loss at the site of feeding; exacerbation of bleeding by the secretion of an anticoagulant; interference of uptake of iron in the duodenum; impaired appetite (with moderate to heavy infections).

□ data show a relationship between infection intensity and haemoglobin levels: as infection intensity increases (as indicated by an increase in egg output, i.e. eggs/gram of faeces), haemoglobin levels decrease<sup>28,117,118</sup>

□ a recent study of school children in East Africa suggests that the degree of IDA caused by hookworm infection depends not only on the intensity and duration of infection and iron stores of those infected but also on the species of hookworm. *Ancylostoma duodenale* was found to be more important in the prevalence of IDA than *Necator americanus*<sup>119</sup>.

The school-age child, but also pregnant women and preschool children, are most at risk from hookworm-attributable anaemia. Attributable fraction analyses indicate:

□ for the preschool children: the anaemia of 14% of infected children and 28% of heavily infected children was attributable to hookworm infection<sup>28</sup>

□ among school-age children, the proportion of anaemia attributable to hookworm infection in all cases of iron deficiency anaemia in school-age children was 41% increasing to 57% for moderate to severe anaemia<sup>120</sup>; and

□ a study estimating the percent of cases attributable to hookworm infection in pregnant women estimated that 29% of all anaemia and 41% of moderate to severe anaemia was caused by hookworm infection<sup>121</sup>.

Whipworms can cause a degree of blood loss as a result of dysentery and mucosal damage, although it is likely that this is only of significance in severe infections. An association has been shown between anaemia and the roundworm, although how this is facilitated is unclear – possibly through malabsorption or inappetance.

*Schistosoma* infections can also lead to blood loss. *S. haematobium* eggs reach the external environment by being pushed from capillary vessels surrounding the bladder through into the bladder lumen, being subsequently released with host urine (*S. mansoni* eggs via the intestine). This activity leads to tissue damage and blood loss.

However, there has been uncertainty about the effect of *S. haematobium* on anaemia. Studies have shown that infection with *S. haematobium* can cause blood loss al-

### Drug Treatment for Helminth Infections

The WHO recommends mass treatment of children in schools where the prevalence of infections is 50% or greater. Reinfection often occurs after 4-6 months, suggesting that school children need to be regularly treated in highly endemic areas. In areas where hookworm infections are endemic (prevalence >20-30%) and where anaemia is prevalent, WHO also recommends hookworm control strategies to improve the health and nutritional status of girls and women.

Dosage: 1 dose of 400 mg albendazole  
1 dose of praziquantel at 40mg/kg body weight

A recent assessment of the use of praziquantel and albendazole/mebendazole for women of child bearing age, and for pregnant and lactating women, concluded that these drugs may be used for such women, and that these women should not be excluded from treatment programmes.

though it has not been clear whether, at a population level, this causes reduced haemoglobin concentrations. Multiple infections (polyparasitism) in school-age children make the study of this relationship particularly difficult.

□ a recent study conducted in urban and rural areas of Tanzania compared the importance of *S. haematobium* and hookworm infections as a cause of anaemia in school-age children (7-12 years). The majority of children were infected with helminths, suffered from anaemia, were infected with malaria and were malnourished. The study found that although infection with *S. haematobium* per se was not significantly associated with anaemia in children with heavy infections, approximately one third of anaemia could be attributed to the parasite<sup>122</sup>.

Many studies have focused on the comparison of the prevalence and intensity of schistosomiasis between enrolled and non-enrolled children.

□ a study in Egypt found that the prevalence of infections with *S. haematobium* and *S. mansoni* were higher in non-enrolled school-age children<sup>123</sup>.

□ a study in Nigeria showed that although more out-of-school children were infected than those in school, the difference was not statistically significant<sup>124</sup>.

□ a study in Zanzibar showed that non-enrolled children had a higher proportion of heavy intensity infections which were twice that of enrolled school-age children<sup>125</sup>

□ in Ghana, it was shown that adolescent non-enrolled boys were more heavily infected with *S. haematobium* than their school-going counterparts<sup>21</sup>; and

□ a different study in Tanzania, however, did not find any difference in the prevalence of parasitic infections between enrolled and non-enrolled school children, but non-enrolled children were more stunted, wasted and anaemic<sup>126</sup>.

These studies suggest the hypothesis that non-enrolled children may have worse health than children in school may be true for some indicators of health status, but that consistently finding worse health cannot be expected. More comparative research is needed.

**IMPACT OF HELMINTH INFECTIONS ON EDUCATION** Establishing the linkages between helminth infection and cognitive development in school-age children is complex. Several studies have

shown that children with moderate to heavy parasitic helminth infections are associated with lower test scores of cognitive function and of educational achievement. However, convincing evidence of a causal link between helminth infection and cognitive function is yet to emerge.

□ in a recent cross-study of school children that controlled for biological, socioeconomic and educational factors, helminth infection was associated with cognitive impairment. Children with heavy *S. haematobium* infections had significantly lower scores than uninfected children on short term memory and reaction time tests<sup>127</sup>

□ a detailed review of the major studies into the effects of helminth infection on cognition concluded that although the majority of studies have demonstrated an association, many of these studies are not able to conclude whether cognitive impairment is actually caused by infection or simply co-occurs with it<sup>128</sup>

□ a review of randomized treatment trials concluded that there was no evidence of improvement in cognitive function following deworming<sup>129</sup>

□ however, treatment does appear to improve cognitive development in children who suffer from the heaviest parasitic loads and who are undernourished<sup>130,131</sup>; and

□ a more recent helminth treatment study in Tanzania, implemented new cognitive measures of learning ability rather than measuring developed cognitive skills. The study showed that treatment did not result in immediate improvement. However when children were both treated and taught how to do the tests, their performance improved significantly more than children who were taught but not treated<sup>132</sup>. These results suggest that removing the causes do not necessarily remove the symptoms; in addition to treatment, affected children may require remedial stimulation to catch up<sup>133</sup>.

**CONTROL OF HELMINTH INFECTIONS** Improved sanitation and hygiene provides the long term solution to controlling helminth infection. However, evidence showing the negative impact of helminth infections and the recent development of inexpensive drugs has led to an increase in mass control programmes<sup>134,135</sup>. However, helminth infections are not necessarily evenly distributed, however. A recent analysis of prevalence surveys in Africa has found that

the distribution of schistosome infection is largely independent of the distribution of geohelminths. This highlights the need for a cautious approach to combined control in areas where one infection is much lower in prevalence than another<sup>136</sup>.

The expected beneficial effects of de-worming include improved growth, appetite, fitness, cognitive performance and iron stores. Recent information also suggests that deworming can contribute to the reduction of VAD. The precise mechanisms by which these improvements occur, however, are unclear<sup>137,r</sup>.

Treating helminth infections may have become more critical with recent evidence suggesting that the chronic immune activation caused by helminth infections makes the host more susceptible to HIV infection and enable the virus to replicate more rapidly<sup>138,139</sup>. Evidence also suggests that chronic helminth infections may account for the higher prevalence of tuberculosis in low income countries and may compromise the development of protective immunity upon vaccination<sup>138,139</sup>. However, this is an area of controversy and is currently under debate<sup>140</sup>.

Deworming may also improve school attendance.

- in a recent study of the effect of treating helminth infection on school attendance, within six months there were significant improvements in attendance that continued for the study duration of 2 years. Due to the impact of mass treatment on the transmission of infection, untreated children (attending treatment schools) had improved attendance as well<sup>141</sup>.

Recent studies of the effect of de-worming on growth have, as with previous studies, reported varied impact. Research suggests helminth infection suppress children's appetites and that treatment results in weight gains. However, improved height gains have not consistently occurred in treatment trials. The intensity of infection, the regularity and duration of treatment and nutritional status have all been identified as important factors that influence programme impact. Overall the growth and nutritional deficits caused by these infections have been shown to be reversible through appropriate treatment.

- in Guatemala, school children who were given two treatments for very high levels of *Ascaris* infection (91%) were found to have modest increases in weight gain 6 months after the initial treatment<sup>142</sup>
- a more recent evaluation study from East Africa into the effect of a school-based de-worming programme on growth after one year found that linear

growth improved in children who received twice or thrice yearly treatment. Children who were less stunted and who were younger (less than ten years) benefited the most<sup>143</sup>

- in Venezuela, a study of the effect of monthly anthelmintic treatment on school children resulted in a significant decrease in the proportion of children who were at or below the 10th percentile for height/age and an increase in the proportion above the 50th percentile after one year. At follow-up, eight months after the treatment, 55% were re-infected with *Ascaris*. Those with the highest rate of re-infection were found to be stunted or underweight children<sup>144</sup>
- in a randomised, double-blinded control trial in Brazil of 353 school children, those with mild to moderate *S. mansoni* infections were randomly allocated to treatment or placebo group. One year later, treated boys had significantly higher measurements of weight, triceps skinfold thickness, mid-arm circumference, arm muscle area, and body

mass index than untreated boys. These results indicate that, at least in boys, chronic *S. mansoni* infection even at low intensity is detrimental to short term growth and development<sup>145</sup>

- a study from Indonesia that looked at the effect of treating *Ascaris* in school children did not find any beneficial effect on growth five months after treatment<sup>146</sup>
- in a study that examined the effect of treatment for helminth infections on growth, appetite and physical activity in 149 Indonesian schoolboys, the treatment group was given a single dose of albendazole, measurements were taken at baseline and six months after treatment. Results indicate that treatment for helminth infection may increase growth, appetite and activity level six months after treatment in areas where malnutrition and helminth infections are endemic. De-worming treatment is recommended every four to six months in endemic areas, thus improved growth six months after treatment is an important indicator of impact<sup>147</sup>
- a recent study comparing the impact of twice-yearly and thrice-yearly de-worming with no de-worming on the iron status of school-age children found that the incidence of moderate and severe anaemia was significantly reduced in the twice-yearly group by 23% and in the thrice-yearly group by 55%. The programme impact, conferred the greatest benefit to those at the greatest risk from severe IDA<sup>148,s</sup>

**Globally the malaria situation is serious and worsening...**

<sup>r</sup>A study into the effect of helminth infection on the resting energy expenditure of school-age children in Gambia concluded that the deleterious effect of helminth infection on growth is most likely to be due to a decrease in food intake and in intestinal absorption than to an increase in energy expenditure (Stettler et al.,1998).

<sup>s</sup>Note that a reason given for the failure to reduce mild-moderate anaemia is that deworming alone does not increase the body's storage of iron but protects against severe iron loss. It is also argued that there is a trade off between growth and iron in that growth requires iron and if growth is occurring then iron stores will remain low.

- A case control study of school-age children in Tanzania found that a combined single dose treatment for schistosomiasis and Ascaris resulted in a significantly reduced intensity of infection in almost half the treatment group. The greatest impact of the combined treatment was on children who were anaemic and heavily infected with hookworm<sup>118</sup>
- in Tanzania, cross sectional studies involving anaemia evaluation and parasitological examination were implemented before and at 10 and 15 months following deworming of school children. The baseline study reported a high level of anaemia, 54%; attributable fraction analysis suggested that hookworm and schistosomiasis were responsible for 6% and 15% of anaemia cases, respectively. Fifteen months after de-worming (with albendazole and praziquantel), the prevalence of anaemia was reduced by a quarter and moderate to severe anaemia was reduced by nearly a half. Analyses from this findings, suggest that school-based deworming programs can prevent anaemia at a cost per case prevented over 15 months of between US\$6-8<sup>149</sup>
- a study of school children in China and the Philippines treated for geohelminths and schistosomiasis found a significant increase in haemoglobin levels in those who received a single dose of praziquantel<sup>150</sup>; and
- Beasley's study conducted in urban and rural areas Tanzania found that although infection with *S. haematobium* per se was not significantly associated with anaemia in children with heavy infections approximately one third of anaemia could be attributed to the parasite. These results lend weight to the argument of integrating control activities for schistosomiasis and helminths<sup>122</sup>.

Recent research shows that school based deworming programmes can reach out to those not enrolled in school and be effective.

- a study in Zanzibar showed that when a good communication network is established between teachers, parents, siblings and friends of school-age children that all children (irrespective of enrollment status) can easily, successfully and inexpensively be included in school based deworming campaigns<sup>125</sup>
- in countries where schistosomiasis is endemic, such as in Egypt, it has been shown that interventions in schools may not only improve the health of school attendees, but also can be an affordable way of extending services to out of school children<sup>151</sup>; and
- further research tested an intervention to extend routinely applied school-based treatment to out of school children and showed that out of school children can be reached at a relatively low cost<sup>152</sup>.

### Malaria

Malaria is probably the world's most important parasitic infectious disease, occurring in tropical and subtropical countries. It is caused by four species of Plasmodium parasite; *P. falciparum*, *P. vivax*, *P. ovale* and *P. malariae*. Several species of Anopheles mosquito can act as the definitive host, and it is transmitted via the bite of infected female mosquitoes, which breed in fresh (or occasionally brackish) water. The symptoms of malaria include fever, chills, headache, nausea, muscle aches, tiredness, vomiting, diarrhoea, anaemia and jaundice. In severe cases, it can also cause convulsions, coma, severe anaemia and kidney failure.

Globally the malaria situation is serious and worsening with mortality ranging between 1.5-2.7m and morbidity 300-500m annually. Although malaria affects 40% of the world's population, 90% of the burden is in Africa (south of the Sahara).

**MALARIA IN SCHOOL-AGE CHILDREN** Most studies to date have focused primarily upon pre-school children estimating that over 75% of all-age malaria mortality is experienced by this age group<sup>153</sup>. In contrast there are few empirical studies on mortality in school-aged children. However, recent preliminary estimates suggest mortality among school-aged children is between 5-14% lower than among younger children. This implies that malaria may still account for 10-20% of all-cause deaths among school-age children<sup>101</sup>.

School children who have not acquired exposure-driven immunity may be at particularly high risk of severe and fatal consequences when exposed to the disease in unstable transmission areas. However, these risks are balanced by the low, and often very seasonal, exposure to the parasite. Pregnant schoolgirls are also a particular high-risk group<sup>154</sup>.

Malaria is also an important cause of morbidity, but again, data is lacking, although recent data suggests that the risk of morbidity declines rapidly with age. Children aged 5-9 years experience between 0.25-2.3 malaria attacks per annum and children aged 10-20 years experience between 0.1-1.3 attacks per annum<sup>154</sup>.

Malaria can cause iron deficiency and anaemia. However, the effect of malaria on iron metabolism and anaemia is not fully understood, particularly in endemic areas where large numbers of school-age children are affected but are asymptomatic.

- in a recent cross sectional study from Nigeria, 228 school-age children were evaluated to determine the effect of low-level plasmodial infections on anaemia. The prevalence of anaemia increased when higher numbers of Plasmodium species were detected; and the prevalence of anaemia increased with the complexity and extent of Plasmodium species<sup>155</sup>. These results suggest that low-level plasmodial infections also contribute to anaemia.

**IMPACT OF MALARIA ON CHILDREN'S EDUCATION** Malaria accounts for between less than 3%

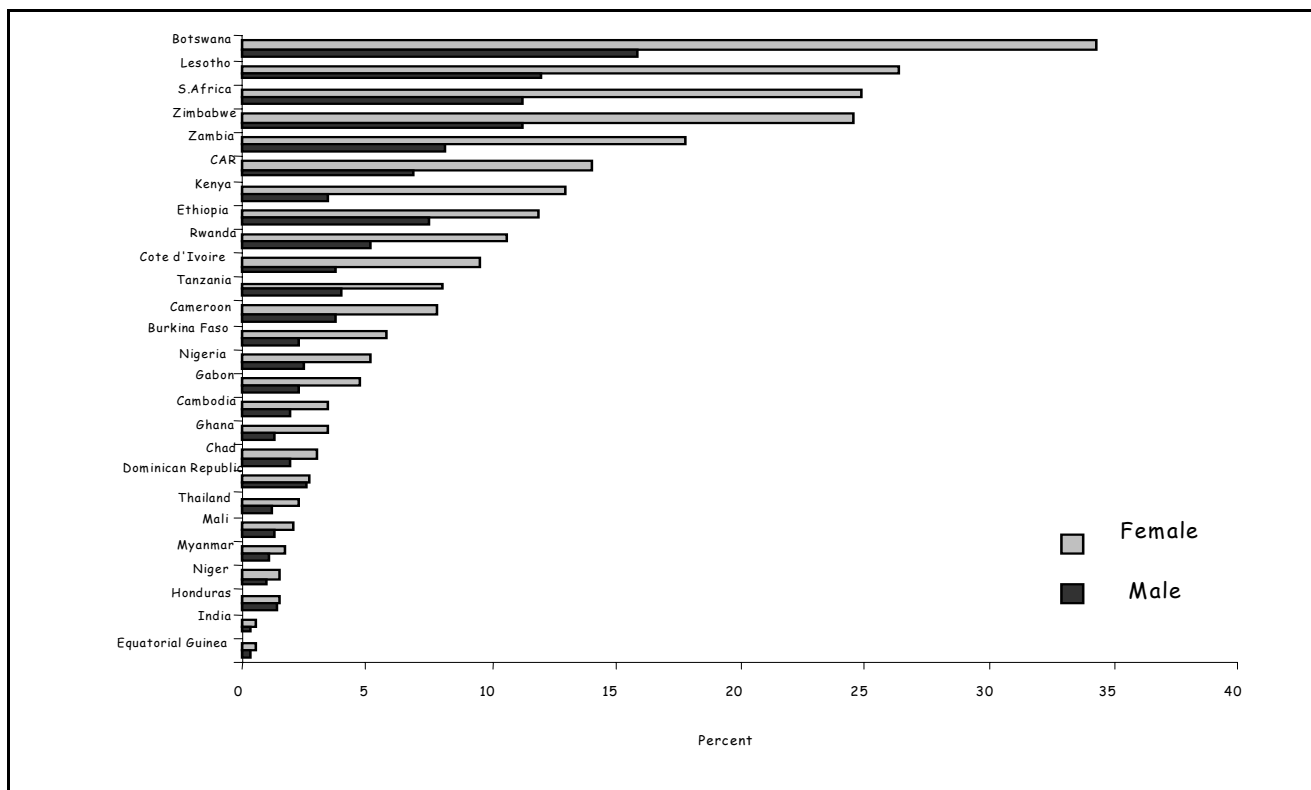


Figure 4 HIV/AIDS prevalence rates for young people, aged 15-24, by gender, selected countries, end of 1999. Source: UNAIDS 2000a in World Bank 2002. Prevalence rates are given as mid point between the UNAIDS' low and high estimates for each country.

and 8% of all reasons of absenteeism (0.001-0.021 days p.a.)<sup>156,157,158</sup>. However, of preventable medical causes of absenteeism malaria counts for a significant 13-50% of school days missed per annum. Under the assumption that each malaria attack contributes two to five days absence from school,<sup>159,157</sup> it is estimated that malaria is responsible for 4-10m school days lost (1% of all days lost in Kenya per annum)<sup>154</sup>.

The evidence also suggests that brain insult, as a consequence of cerebral malaria, in early childhood may have an effect on a child's cognitive and learning ability; residual neurological sequelae of 1-5% of children infected early in life<sup>153</sup>.

**IMPACT OF CONTROL ON MALARIA** The priority age group for malaria control is younger than school-age children<sup>154</sup>. However, WHO and the World Bank are working with the Roll Back Malaria Partnership to identify an effective, operational response to the issue of malaria control in school-age children.

Some interventions may be inappropriate for the school child.

- a study from Kenya where the provision through schools of chemoprophylaxis, mass drug administration, selective treatment of infections and fever management with diagnostics were considered unaffordable options<sup>154,160</sup>.

However, school-based malaria prevention programmes are a good example of how schools can make a contribution to community health. It is suggested that children can be important agents for change in

malaria control programmes. The promotion, by schools, of prompt and effective presumptive treatment provides an affordable control option. Skills based health education can give children the ability to recognize the signs and symptoms of malaria, to recognize the need to seek treatment, and to differentiate symptomatic from curative treatment.

Skills based health education through schools can also help promote a community wide understanding of malaria with particular emphasis on the need for community based control measures such as the use of impregnated bed nets. Schools can serve as a focus for synchronised impregnation of bed nets and distribution<sup>161</sup>.

*Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) and School-Age Children*  
Approximately 40m people throughout the world are now living with HIV/AIDS (with 70% of these people living in sub-Saharan Africa), including almost 3m children under the age of 15. The impact and repercussions of this global epidemic in every sphere of people's lives is now becoming apparent<sup>162</sup>.

HIV is a retrovirus that attacks and weakens the immune system. Although an infected person may look and feel well for many years, as their immune system weakens they become unable to fight infection and become more vulnerable to a range of serious diseases, such as tuberculosis, pneumonia and cancer, and to opportunistic infections (such as fungal infections) that would not normally affect people with healthy immune systems. AIDS is the term used for the group of health problems, such as weight loss, various infec-

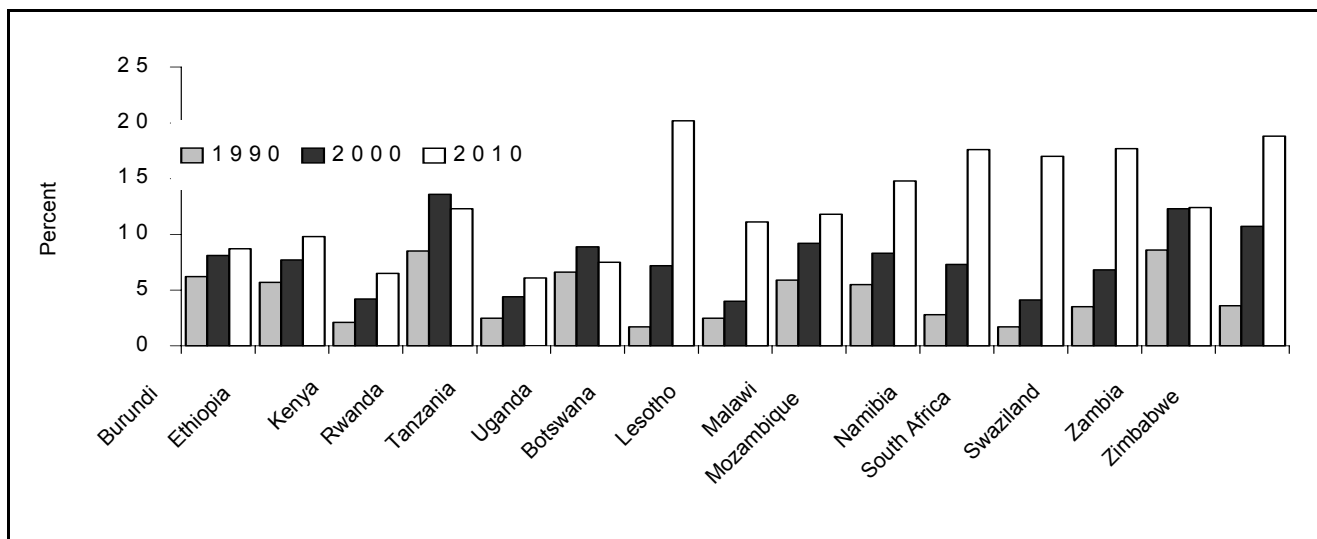


Figure 5 Estimated number of AIDS orphans (maternal and double) as a percent of all children under 15 years old. *Source: Hunter & Williamson, 2000 in World Bank 2002.*

tions, tumours and other health problems associated with HIV infection.

HIV is contracted and spread through sexual contact (unprotected vaginal or anal sex); direct inoculation of with infected blood (e.g. through contaminated needles) and from an HIV positive mother to her child (at birth or through infected breast milk).

#### PREVALENCE IN SCHOOL-AGE CHILDREN

Throughout the world, HIV infection prevalence is lowest in the 5 to 14 year old age group, and AIDS mortality does not have its primary effect on school-age children. The majority of children dying of AIDS are young children who have contracted the disease from mother-child transmission. An estimated 3.8m children have been infected with HIV since the epidemic began, and more than two-thirds have died. UNAIDS estimates that in 2001, 800,000 children under the age of 15 became newly infected with HIV, and that 580,000 children under the age of 15 died of AIDS, the vast majority of them in Sub-Saharan Africa<sup>163</sup>. During this time, approximately 2.4m adults (aged 15 to 49) died of AIDS.

Girls and young women are highly vulnerable to contracting HIV/AIDS for social, cultural, economic, and even physiological reasons (Figure 4, previous page). A lack of education increases this vulnerability, due to inequalities in status, power, and access to resources. Many girls and young women find that they have little choice and control over decisions about sex, and may be exposed to unprotected sex, often with older men. This may be in exchange for gifts, money or favours, or as a result of abuse, including by teachers<sup>163,164</sup>.

#### DIRECT AND INDIRECT EFFECTS OF HIV/AIDS

*Orphans and other vulnerable children* The relatively low prevalence of HIV/AIDS in school-age children means that the direct effects of AIDS related illness in this age group constitute a relatively small proportion of the total burden of disease. In contrast, the indirect

effects are enormous. Children may suffer both physically, socially and psychologically through death or illness of members of their family - including parents. In countries with the highest prevalence of HIV/AIDS, the concentration of AIDS in the working age adult population means that there are fewer adults to care for the increasing population of orphans and vulnerable children. This situation includes countries such as Botswana - where one in three adults are infected, Zimbabwe - where it is one in four, and countries such as Zambia and South Africa - where 20% of adults are infected.

One of the greatest impacts of the AIDS epidemic is on the children orphaned by AIDS. Before AIDS, an estimated 2% of children in Africa were orphans. Today, the proportion has risen to almost 15% of children in some African countries (Figure 5). It is estimated that 50% of these children were orphaned by AIDS. Over 13m children under the age of 15 have lost their mother or both parents to AIDS, most of them in sub-Saharan Africa. In less than 10 years time, the figure is expected to reach more than 25m<sup>162,164</sup>.

Orphans are amongst the most vulnerable people in society. They suffer the trauma of seeing one or both parents becoming ill and dying from AIDS. Many will have to change home several times as they move to live with other family members or relatives, who may themselves become ill and die. They also run a greater risk of becoming stunted and malnourished and may miss out on schooling, due to lack of funds.

□ a study in Cote d'Ivoire found that when a family member had AIDS, food consumption dropped by 41% as family income in turn fell by 52% - 67%, and expenditure on health care, for AIDS-related illness, quadrupled<sup>165,166,164</sup>.

HIV/AIDS does not affect only households with children orphaned by AIDS; it also affects the children living with HIV-positive parents or relatives. This



group of children serves as an indicator for the future orphan burden. The exact number is unknown and most countries have no estimates. Like the children who have lost their mothers or both parents, this group of children may be discriminated against, may lack basic health care and education, may experience physical and psychosocial stress, and may have little or no social and economic support. The children are frequently young: the mean age of orphaning is only 6.2 years<sup>167</sup>. They are also often forced to take on responsibilities far beyond their years, not only caring for other siblings but also for their parents - the people who they look to for love and support. An adult who has AIDS requires increasing help with everyday activities (which is expected from the child), but also suffers from frequent opportunistic infections such as uncontrollable episodes of diarrhoea, in conjunction with the slow debilitating effects of the HIV itself. The responsibility for caring for them frequently falls entirely on their young children. The psychological demands and effects on the child must not be underestimated<sup>168</sup>.

#### STRATEGIES TO PROTECT AND ASSIST CHILDREN

Children on the Brink 2002, outlines five key strategies for supporting orphans and other children affected by HIV/AIDS:

1. strengthen and support the capacity of families to protect and care for their children
2. mobilize and strengthen community-based responses
3. strengthen the capacity of children and young people to meet their own needs
4. ensure that governments develop appropriate policies, including legal and programmatic frameworks, as well as essential services for most vulnerable children; and
5. raise awareness within societies to create an environment that enables support for children affected by HIV/AIDS<sup>162</sup>.

For school-age children, especially vulnerable children, finding strategies to keep them in school, or to reach them in out of school situations, is one of the key lines in defence against HIV/AIDS, especially for girls. By remaining in education, girls may have the opportunity to reduce the social and economic vulnerability that exposes them to the higher risk of contracting HIV.

**HELPING ORPHANS AND OTHER VULNERABLE CHILDREN TO STAY IN SCHOOL** Initiatives to increase the capacity of communities to support orphans and other vulnerable children have been adopted in a number of countries. Governments and NGOs work with the local community in a number of ways to support orphans and other vulnerable children, such as: offering community-based child care, allowing children caring for other siblings to attend

school; persuading schools to accept more orphans; persuading guardians to send children to school; assisting vulnerable household with tasks such as tending crops or collecting firewood. In Zimbabwe the government supports a Community Based Orphan Care Project, that uses community volunteers organized by local village committees. The volunteers help ensure that orphans are well fed, housed and clothed, and if possible attend and remain in school. Other countries to adopt this approach include Zambia, Malawi, Uganda and Kenya.

The major obstacles currently limiting orphans and other vulnerable children's access to education are: lack of finances; increased family responsibilities; discrimination, stigma and trauma; scepticism about the value of primary education and poor educational quality<sup>169</sup>. A number of initiatives and proposals have been explored in Africa to try to overcome these obstacles<sup>170</sup>:

□ subsidy of prohibitive school-related expenses for individual children: In many cases school-related expenses, including textbooks, uniforms and PTA fees

are more prohibitive than actual primary school enrollment fees. In some countries programmes have been initiated by local and international NGOs to help subsidize individual children or groups of children, often by linking them with sponsors or a sponsorship organization. Countries includ-

ing Zambia, Zimbabwe, Malawi and South Africa currently have such schemes, helping to increase access to school for some of the most vulnerable children, who are currently excluded for financial reasons. Community support and involvement is critical for identifying the most vulnerable children and families in need of assistance

□ community schools: Community schools are run by the local community or churches. They do not charge fees and children are not required to wear uniforms. Local teachers are used, often on a voluntary basis. Such schools provide a more flexible approach to education, as timetables, days and terms of activity can be adjusted to local needs. Such schools are becoming increasingly popular in areas affected by AIDS, and have been adopted in a number of countries including Zambia, Uganda, Malawi, Mali and others; and

□ distance learning and interactive radio education: Distance learning using media such as radio, is an increasing option for attempting to reach out-of-school children and youth. In Zambia a pilot project is under way in several Districts, using a radio-based learning system to reach students who do not attend formal schools. The pilot programme provides lessons in mathematics and English language, with students meeting for a limited number of hours each day in community centres. Trained, literate community men-

**...the 'Memory Project'...aims to help HIV positive mothers prepare their children for the time when they will no longer be there...**

tors are matched with students to provide instructional support. Initial evaluation of the pilot programme has found it to be effective and popular<sup>171</sup>.

Any strategies to assist children in gaining access to education should not be directed only to children orphaned 'biologically' by AIDS. They should be directed to all vulnerable children, who include children infected and affected by HIV/AIDS, street children, children exposed to strenuous labour, children with disabilities, children engaged in trafficking, and children affected by armed conflict. These children are sometimes more vulnerable than the orphans<sup>162</sup>.

*Psychological and emotional distress* Besides the problems of adequate food, health care and education, an area that is too frequently neglected is the emotional distress of children living with a parent who is terminally ill, or who have lost one or both

□ one group that has sought to address this issue is the National Community of Women Living with AIDS (NACWOLA), in Uganda. They have started the 'Memory Project', which aims to help HIV positive mothers prepare their children for the time when they will no longer be there to give them parental love, guidance and support. Central to the project is the 'memory book', prepared jointly by the mother and child, containing mementos, written pieces and pictures of family members and family life, together with advice to the children on how to live and take care of each other<sup>172,168</sup>.

**SCHOOL-BASED PREVENTION PROGRAMMES** Schools are the main institutions able to reach a large number of children and young people, with the support and involvement of the local community. Schools have the opportunity to reach children before they become sexually active, and while they are open to adopting healthy ways of behaving and protecting themselves from infection. Schools can serve as the forum where adolescents can obtain accurate information on reproductive health and HIV/AIDS, together with the skills and support needed to help them protect themselves from infection.

However, at present there is still little hard evidence that school HIV/AIDS prevention programmes that fail to adopt the skills-based approach have a major impact on sexual behaviour.

□ a recent survey carried out in Botswana, Uganda and Malawi found that although the students in the survey schools were generally well informed about the causes and consequences of HIV/AIDS, this did not translate into major changes in behaviour. The researchers concluded that the economic, social and cultural pressures that led to unsafe sex amongst adoles-

cents remained as high as ever. They found that teachers often received little or no training in HIV/AIDS education and lacked the confidence, competence and commitment to teach these topics<sup>173</sup>.

In many countries, school-based reproductive health and HIV/AIDS education is often used as part of a wider strategy of community and national HIV/AIDS prevention programmes, and may be most effective in this context, especially when a skills-based approach is utilized.

**SKILLS-BASED HEALTH EDUCATION** Skills-based health education, including HIV/AIDS prevention, aims to help children develop the knowledge, attitudes, values, and skills- including interpersonal skills, critical and creative thinking, decision-making, and self awareness -needed to make sound health-related and social decisions.

According to major reviews covering 23 studies in the United States<sup>174</sup>; 53 studies in Europe, the United States, and elsewhere<sup>175</sup>; and 37 studies in other countries, including in Asia and Latin America<sup>176</sup>:

**If every girl and boy is to be able to complete a basic education of good quality, then school nutrition and health programmes are essential...**

□ school-based HIV/AIDS prevention adopting a life skills approach to health education is effective

□ behaviour change is possible if programs focus on specific behavioural goals, provide sufficient training and support for teachers, and use an age-appropriate and gender-sensitive design; and

□ programme impact occurs slowly and is significant, but not large. For example, AIDS prevention campaigns in Switzerland helped reduce the share of sexually active 17 year old boys from 65% in 1985 to 54% in 1997, while the share of sexually active 15 year old boys in the US fell from 33% in 1988 to 25% in 1995<sup>177</sup>. Note, however, that for the worst affected countries and those with large populations, relatively small and slow changes in behaviour could save the lives of millions of children.

These studies are encouraging:

□ a recent evaluation of an intensive, two-year, school-based health education programme in Uganda found that the share of students in their last year of primary school who reported being sexually active dropped from 42.9% in 1996 to 11.1% two years later. A control group exposed only to the national health education curriculum showed no significant decline during the same period<sup>178</sup>; and

□ effective life skills programs have also been shown to promote abstinence and help children and adolescents to delay first sex<sup>179,166,180,181</sup>.

There is, however, still a lack of broad evidence on the success of the skills-based approach in Africa, and few cases of large scale implementation of programmes, underscoring the need for greater monitoring and

evaluation of the impact of interventions in the continent most gravely affected by the epidemic<sup>164</sup>.

The UNAIDS Interagency Task Team (IATT) for HIV/AIDS is an initiative that seeks to share experiences among countries in sub-Saharan Africa with the intent to promote Education for All (EFA) and the Millennium Development Goals (MDG)<sup>182</sup>. In an attempt to document seeming good practice, the UNAIDS IATT have published a Sourcebook of school-based prevention programmes that summarizes 13 promising programmes from eight countries in sub-Saharan Africa. Programmes were evaluated (only in terms of content) against UNAIDS Content Evaluation Benchmarks.

### Addressing the Issues

This synthesis shows that a child's ability to attain her or his potential is directly related to the synergistic effect of good health, good nutrition and appropriate education. The evidence presented in this paper, and elsewhere, demonstrates the positive impact that simple interventions to combat malnutrition and ill health in the school-age population can have on health, nutrition and learning.

Improving the health and learning of school children through school-based nutrition and health programmes is not a new concept. However, many early programmes have been characterized as being heavily focused on disease prevention, being uncoordinated, lacking integration and poorly evaluated and disseminated. Most importantly, the traditional school nutrition and health programmes have been based in the better off schools and in urban centres. This situation appears to be rapidly improving as new policies and partnerships are being formulated which help ensure that programmes are socially progressive and specifically target the poor, girls and the most disadvantaged children.

This change in perspective is timely as countries and agencies seek to achieve Education for All (EFA) by 2015, and address the Millennium Development Goals (MDG) of Universal Basic Education and Gender Equality in Education Access. If every girl and boy is to be able to complete a basic education of good quality, then school nutrition and health programmes are essential to ensure that the poorest children, who suffer the most malnutrition and ill health, are also able to attend school.

In order to operationalize an effective response, education sectors need to develop an infrastructure and policy context for improving the nutrition and health of school children. A major step forward was taken when a framework to Focus Resources on Effective School Health (FRESH) was developed by UNESCO, WHO, UNICEF, Education International and the World Bank and launched at the World Education Forum in

Dakar in April 2000. Partners also include WFP, The Partnership for Child Development, and Save the Children US.

The FRESH framework provides the context for effective implementation of access to health and nutrition services within school health programmes. School based health and nutrition services, such as food for education, micronutrient supplementation and deworming, are most effective when they are supported by other strategies. These strategies include policies to provide a non-discriminatory safe and secure environment, provision of safe water and sanitation, effective referral to external health service providers and links with the community. The FRESH framework provides this context by positioning access to health and nutrition services among four core components that should be made available together for all schools:

- health related school policies
- safe water and sanitation
- skills based health and nutrition education
- access to health and nutrition services

These core components of the FRESH framework require school-community partner-

ships as the supporting strategies for the success of school health and nutrition programmes. These include effective partnerships between the health and education sectors, teachers and health workers, schools and community groups and between the pupils and those responsible for implementing school health and nutrition programmes.

Focusing initially on these activities allows concerted action by the participating agencies, and will ensure consistent advice to country programmes and projects. Because of the focused and collaborative nature of this approach, FRESH has increased the number of countries able to implement school health components of child-friendly reforms, and helped ensure that these programmes go to scale. The focused actions are seen as a starting point to which other interventions may be added as appropriate. The actions also contribute to existing agency initiatives. They are an essential component of the "health promoting schools" initiative of WHO and of the "child friendly" schools of UNICEF, as well as of many other global efforts to make schools effective, healthy, hygienic and safe.

The FRESH framework specifically addresses the need for nutrition and health services in schools. School-based nutrition and health services are effective and cost-efficient provided that the services are simple, safe and familiar, and address problems that are prevalent and recognized as important within the community. For example, improving meal timing or providing snacks can address student hunger during school,

**Positive experience by governments and civil society...are contributing to the creation of a toolkit of promising practices for malaria in schools.**

which seriously constrains learning and contributes to poor school performance. Similarly, semi-annual or annual oral treatments can be an effective means of addressing micronutrient deficiencies and worm infections. With treatment of worms, micronutrient supplementation is a cost-effective and simple method of reducing certain vitamin deficiencies in school-age children. School officials delivering simple health services in schools can easily correct these basic, yet pervasive, health deficiencies.

Technical documents have been produced by the agency partners in support of the FRESH framework, including:

- rationales for the four core FRESH activities
- a School Health Toolkit for teachers and programme implementers; and
- FRESH and its role in the Achievement of Education for All.

These technical documents are based on the current experience of researchers, policy makers and school health programmers and represent the 'best practice' for school health and nutrition programming.

As a result of concerted action by the participating agencies, national programmes using the FRESH framework have now been adopted by over 20 countries in sub-Saharan Africa, ultimately benefiting a target population of 45m school age children.

These school nutrition and health programmes provide an infrastructure and a context for the education sector to deliver a wide range of specific interventions. Partnerships of agencies are currently working to support intervention in some key areas.

The 'Food for Education' initiative of WFP and partners is working globally to address some of the nutritional, health and educational problems of school-age children. The initiative aims to alleviate short term hunger, improve the quality of student's diets, deworm and motivate parents to enrol their children, especially girls, in school and encourage them to attend regularly.

So far 80 managers from a total of 21 countries and 30 technical personnel have been trained and formed a Regional technical resource Team. Deworming activities within WFP supported school-feeding programmes have started in seven countries and reach 520,000 children. Activities in 14 other countries are being planned.

The 54<sup>th</sup> World Health Assembly's resolution set a global target of scaling up intervention to regularly treat 75% of school-age children (398m) at risk by 2010. To achieve this goal, WHO has taken the lead in developing a broad partnership that promotes the incorporation of deworming of school-age children into existing institutions and programmes, for both the education and health sectors<sup>183</sup>. The Partnership for Parasite Control (PPC) was launched in 2001, with the aim of mobilizing resources and promoting new synergy among public and private efforts for the control

of soil-transmitted helminths and schistosomiasis at the global and national levels. Working with the World Food Programme (WFP), the Canadian International Development Agency and the World Bank, WHO in 2001 trained representatives of the ministries of health and education of 21 countries, and deworming programmes have already begun in 19 of the 41 endemic countries in Africa.

WHO and the World Bank are working with the Roll Back Malaria partnership to identify an effective operational response to the issue of malaria in school-age children. Positive experiences by governments and civil society (especially Save the Children, US, and AMREF) in Senegal, Mali and Kenya are contributing to the creation of a toolkit of promising practices for malaria in schools.

An initiative of the HIV/AIDS affected countries and the UNAIDS IATT for HIV/AIDS and Education calls for a multi-partner effort from countries, development partners, civil society and the private sector to promote high level understanding and leadership, and the development of effective national responses across the education sector<sup>184</sup>. The initiative seeks to share experiences among countries in sub-Saharan Africa, and has two main objectives. First, to promote EFA and the MDG, which will ensure that every girl and boy has access to quality education despite the impact of HIV/AIDS on the education system. Second, to strengthen the capacity of the education sector to respond with timely actions to prevent students and teachers from being infected with HIV. The initiative aims to support country actions throughout Africa, and was launched in Kenya in November 2002. As part of this activity, and as previously mentioned, a consortium of countries and agencies has summarized 13 promising programmes from eight countries in sub-Saharan Africa and published a "Sourcebook of School Based Prevention Programmes".

Much remains to be done. But countries and agencies are now working actively to ensure that poor nutrition and ill health no longer hold children back from what may be their only opportunity to receive an education.

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## Commentary

### Health and Development of School-Age Children in an Era of HIV/AIDS: Future Imperfect

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This review highlights the main findings of the comprehensive update "School-age Children: Their Health & Nutrition" by Partnership for Child Development and NutritionWorks, from the perspective of the HIV/AIDS epidemic, which is ravaging much of the developing world. It examines the demographic and epidemiological impact of the HIV epidemic on the fragile social and developmental status of school-age children and explores options to reduce vulnerability and enhance the growth and development of this future generation of scholars, workers and leaders. The HIV epidemic is likely to have a dramatic impact both directly and indirectly, on the epidemiological status of school-age children, their potential for social development and life chances and opportunities for education, employment and ultimately their quality of life as adults. While their future may appear uncertain and imperfect, this review and several other major international and regional initiatives have highlighted key strategic and programmatic interventions, which if the political and financial commitments are made, are likely to establish a sane, more just and secure global environment for current and future generations of children.

This review clearly demonstrates the significance of the continuing morbidity and mortality associated with micro- and macronutrient deficits, parasitic, diarrhoeal and respiratory diseases, and the impact on physical, psychological and educational development of both school-going and out-of school children. It stresses the multi-factorial aetiology of many of these problems, and emphasizes the synergistic value of deworming and nutritional supplementation programmes, especially in combination with other preventive programmes such as immunizations and health education, in providing cost-effective, community-based interventions.

While health and education authorities could target such specific interventions through school-based programmes, there is a need to go beyond such "technical" interventions, to involve children and families in modifying their health seeking behaviours. This is further highlighted by the emerging problems of overweight and obesity co-existing with stunting, as part of a "nutritional transition"<sup>1</sup>. Particularly prevalent in middle income countries, this strongly suggests an important behavioural element, and presents important challenges to health-planners and policy-makers. The review mentions the "double jeopardy" of exposure to the "traditional" diseases associated with poverty and "modern" diseases associated with transitional life-styles. Thus, the review concisely summarizes the multiple dimensions of vulnerability facing school-age children. To this can be added a triple jeopardy and a further stage of vulnerability associated with HIV epidemic, especially amongst adolescents. A growing body of evidence suggests that sexual activity is starting earlier (much earlier amongst boys), with multiple partners and low condom use<sup>2,3,4</sup>. The review recognizes the unique nature of the impact of HIV on the nutritional and social status of school children - directly on the prevalence of the infection among children; and indirectly on affected families and communities and through orphanhood. HIV/AIDS constitutes an additional risk factor, increasing their vulnerability with the potential to reverse the gains from deworming and nutritional supplementation programmes.

An important theme that the review highlights is the increased susceptibility to HIV and tuberculosis (TB) infection, and compromised protective immunity after vaccination, because of the chronic immune activation due to helminth infections, allowing the virus/bacteria to replicate more rapidly. Piwoz et al, reviewed the interaction between HIV/AIDS and nutrition in African settings, and found that malnutrition increases the risk of HIV transmission and the progression of the disease and conversely HIV infection exacerbates malnutrition through its attack on the immune system<sup>5</sup>. This report recommends nutrition interventions (micro and macronutrients) to increase energy and protein intakes of HIV positive individuals to reduce their vulnerability to wasting, diarrhoea and other opportunistic infections to remain relatively healthy, reduce progression to AIDS and improve their quality of life. Other studies have also recognized the role of School Health Services (SHS) both in improving nutrition and in HIV/AIDS prevention efforts<sup>6</sup>.

In summary the review outlines the main areas of vulnerability facing school-age children, the impact on their nutrition, the potential changes in the demographic structure of families and communities, and their physical, social and psychological development; including possible interventions.

School-age children are indeed very vulnerable. While they are indeed victims for whom interventions must be designed, they nevertheless can also be very powerful agents of change. Interventions and programmes must seek

their active participation, and move beyond awareness to include behaviour modification as part of a broader range of interventions.

What are the implications of these changing epidemiological, demographic, psychosocial and behavioural paradigms for protecting school-age children? An important theoretical approach in understanding and developing interventions addressing the multiple areas of vulnerability facing children, is the concept of "risk transition" enunciated in the World Health Report 2002<sup>1</sup>. It has identified ten risk factors ranging from undernutrition (associated with poverty) and overweight, obesity, tobacco and alcohol consumption (associated with "over consumption"); and recommends that risk assessments of the major burden of diseases be undertaken to develop appropriate interventions. Risk transition as a strategic perspective, would provide a sensitive approach to integrating all the different dimensions of the nutritional, health and demographic transitions; while providing opportunities for focused, cost-effective interventions that would be valid over several generations. An important challenge for researchers and the public health community is to unravel the multiple risk factors and synergistic impact of different interventions. A longitudinal cohort study of school-age children, from 10 years up to 20 years, would provide a powerful evidence base of the individual and cumulative impact of all these risks and their transition over time, and serve as a base to monitor and evaluate interventions and population change.

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*Editor's Note: The following are excerpts related to food, nutrition and agriculture from the World Summit on Sustainable Development's Outcomes Document held in Johannesburg, 26 August – 4 September 2002. The full text, including the exact terms in which these commitments were made, can be found at [www.johannesburgsummit.org](http://www.johannesburgsummit.org).*

### **Key Commitments, Targets & Timetables**

#### *Sustainable development for Africa*

- ❑ Improve sustainable agricultural productivity and food security in accordance with the Millennium Development Goals, in particular to halve by 2015 the proportion of people who suffer from hunger.
- ❑ Support African countries in developing and implementing food security strategies by 2005.
- ❑ Support Africa's efforts to implement the New Partnership for African Development (NEPAD) objectives on energy, which seek to secure access for at least 35% of the African population within 20 years, especially in rural areas.

### **Key Initiative and Announcements**

#### *Agriculture*

- ❑ The United States will invest \$90m in 2003 for sustainable agriculture programmes.
- ❑ The UN has received 17 partnership submissions with at least \$2m in additional resources.

### **Cross-Cutting Issues**

Japan announced that it will provide at least 250b yen in education assistance over a five-year period and that it would extend emergency food aid amounting to US\$30m to save children in southern Africa from famine.

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# PROGRAMME NEWS

*Editor's Note: Unexpectedly, in this issue of Programme News anaemia has come to the forefront of many agencies' priorities and programmes. Five of the 21 contributions (INACG, Mexico-US, USAID, World Vision and Roll Back Malaria) are the updates of agency experiences or the research results of anaemia interventions. In the next issue of SCN News, we hope to report on the outcomes of the INACG symposium, Integrating Programmes to Move Iron Deficiency and Anaemia Control Forward in order to keep readers up-to-date on the progress of programmes and best practices.*

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## INTERAGENCY

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### ICRW-IFPRI

*The Agriculture and Nutrition Advantage Project: A multi-country effort to reduce hunger and malnutrition*

As reported in *SCN News 23* (Speakers' Corner, p.46), the International Centre for Research for Women (ICRW) and the International Food Policy Research Institute (IFPRI), with support from the US Agency for International Development (USAID), are implementing a four-year multi-country project that aims at fostering greater investment in strategies that maximize the contributions agricultural-based interventions make to nutritional outcome.

Working with partners in Ghana, Kenya, Mozambique, Nigeria and Uganda, the Agriculture and Nutrition Advantage Project will conduct country projects to build support for intersectoral approaches; launch an international policy dialogue to promote such approaches; and strengthen the capacity of technical specialists in advocacy, use of gender analysis and other gender-sensitive methods.

It is often in the implementation of food security and nutrition interventions that the conceptual links between agriculture, food and nutrition breakdown. Food security is too often formulated as food production, and little attention is given to determining whether agricultural activities contribute to alleviating hunger and improving overall nutritional status. As well as, nutrition is too often seen as a health issue, focusing on biomedical interventions that emphasize supplementation and fortification over food-based strategies linked to agricultural production. Moreover, both agriculture and nutrition communities tend to overlook the importance of gender analysis in their work. If hunger-related interventions do not address the different challenges men and women face as producers and caregivers, the interventions will have a limited effect.

In the Agriculture and Nutrition Advantage Project, each country team includes representatives from the agriculture and nutrition sectors and a gender expert. They have developed Plans of Action that will compile existing evidence or generate new evidence that demonstrates how to operationalize the links between agriculture and nutrition, with value added by gender analysis. They will use that evidence to advocate for changes in policies, resource allocations and programmatic approaches that bring agriculture and nutrition closer together. Teams will partner with communities and other relevant agents to influence key decision-makers in government, the private sector, donor organizations, and implementing agencies.

For example, the Nigerian team has conducted a nationally representative food and nutrition survey. Based on the findings, it will pinpoint geographic areas with the potential to reduce malnutrition through interventions that apply agricul-

ture, nutrition and gender strategies. A task force of team members, including nutrition and agriculture specialists, will then design pilot projects using these integrated interventions in 12 states.

In Uganda, the project will incorporate the Ugandan Government's decentralized structure, the new Plan for the Modernization of Agriculture (PMA), and the National Agricultural Advisory Service (NAADS) as a framework. The team will work with farmer groups and other community-based organizations (the lowest point of the decentralized system) to demand support from the NAADS for gender-sensitive agriculture and nutrition interventions. The goal is to identify factors that make the bottom-up demand-side work and advocate for including nutrition as a cross-cutting theme in the PMA.

The ICRW/IFPRI team is doing similar work with the intent of influencing key decision-makers in development agencies, such as the World Bank and USAID. Its advocacy objectives focus on tripling resources for gender-sensitive, agriculture-nutrition activities, and on persuading donors to hire nutritionists in their agriculture programs. It also aims to persuade key development practitioners to adopt practices that embody a gender-sensitive approach linking agriculture and nutrition to cut hunger.

Like their colleagues on the African-based teams, ICRW and IFPRI will compile existing and new evidence to use in their advocacy activities. A project website, currently under construction, will provide links to searchable databases, which include evidence of how the conceptual links between agriculture and nutrition have been operationalized and their results. An intranet capacity will also be available to allow the members of the extended project team to communicate with and learn from each other's work. An IFPRI study in Mozambique, Nigeria and Uganda will identify institutional factors that inhibit or promote links between agriculture and nutrition, including the use of gender analysis in the design, implementation and evaluation of policies and programs.

In addition to these activities, annual project workshops are being held to build synergies among the multi-country teams. They will also strengthen participants' abilities to serve as strong advocates for approaches that purposefully link agriculture and nutrition and are informed by the findings of gender analysis. The first workshop was held in Ghana, June 2002, and the next one will be in Uganda, July 2003. For more information, an Information Bulletin describing the Agriculture and Nutrition Advantage Project can be found on the ICRW website ([www.icrw.org](http://www.icrw.org)).

*Contact: Charlotte Johnson-Welch [charlotte@icrw.org](mailto:charlotte@icrw.org) for more information and a list of country team members.*

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**BRAZIL**


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*Brazilian Civil Society launches National Human Rights' Rapporteur Programme*

The Brazilian Platform on Economic, Social and Cultural Human Rights (PDHESC- Brasil), in partnership with United Nations Volunteer Programme (UNV) and the Brazilian State Secretariat on Human Rights, launched the National Economic, Social and Cultural Human Rights Rapporteur Programme in July 2002. The UN thematic Human Rights Rapporteurs' Programme inspired it and Brazil is the first country in the world to adopt such a programme. Civil society organizations and human rights defenders expect that it contributes to the full realization of human rights in Brazil.

From October 2002 to December 2003, six national rapporteurs will address the following themes: education; environment; adequate food, water and rural land; health; housing; and work. A tripartite committee chose the rapporteurs after a broad consultation with Brazilian society. The rapporteurs are not remunerated, but is provided with a full-time assistant from the UNV programme and travel money for two investigative missions. Further support will be provided by the civil society organization hosting the rapporteur.

The rapporteur's mandate includes the prerogative to carry out *in situ* investigative missions, to collect and investigate violation claims, to present violation claims at regional and national public hearings, and to elaborate independent analytical and propositive reports, incorporating gender, ethnic, racial and generational issues. The resulting reports will be presented to the National Human Rights Organizations Forum, to the National Human Rights Conference, held annually in the National Congress, to the National Council for the Protection of the Human Person, to the Inter-American Human Rights Commission, and to the UN Human Rights Commission. The published reports will become a source of recommendations for the monitoring of economic, social and cultural rights, and for the adoption of human rights oriented public policies.

The National Rapporteur on the Human Right to Adequate Food, Water and Rural Land is Flavio Luiz Schieck Valente, a Brazilian physician with an MPH degree from Harvard University. Dr. Valente was a professor of Nutrition and Public Health for almost 20 years and has dedicated the last ten years to NGO work in the field of nutrition and human rights, both at the national and international level. He has worked with the World Alliance for Nutrition and Human Rights and is presently a member of the SCN Steering Committee, representing civil society.

Dr. Valente has already started his mandate and will be carrying out missions to indigenous territories, agrarian reform settlements, urban slums, and semi-arid regions to investigate already presented violation claims. He will also be working in close collaboration with the UN Special Rapporteur on the Human Right to Food, Jean Ziegler.

The new Brazilian Government's priority to eradicate hunger within the next four years increases the timeliness of the newly appointed rapporteur.

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**CHNRI**


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**Child Health and Nutrition Research Initiative**

CHNRI is an international coalition of partners from universities, NGOs, foundations, international agencies, bilateral donors and research institutes established to improve child health and nutrition. The concept underlying CHNRI was developed as a result of several meetings convened by the Global Forum for Health Research in Geneva ([www.globalforumhealth.org](http://www.globalforumhealth.org)).

In order to achieve its goal, CHNRI engages in a number of activities, including: identifying priority research topics from the domains determining a child's well being, generating knowledge related to priority research topics, and strengthening the capacity of research networks responsible for implementation in child health and nutrition research in low and middle income countries.

CHNRI held a parallel session at Forum 6 in Arusha, Tanzania, between 12-15 November 2002. At the session, the three principal investigators conducting regional profiling and priority setting exercises in Latin America, Africa, and Asia presented their interim results and final steps to complete this mapping exercise. Each group will submit a final report by April 2003, which will detail the state of child health and nutrition research in their respected regions. This invaluable information can be used for identifying regionally specific research needs for future funding.

Contact Adnan Hyder, MD, Interim Secretary for CHNRI [hydera@who.int](mailto:hydera@who.int) for more information on how to become involved.

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**IAEA**


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**International Atomic Energy Agency**
*Impact on ageing on human energy, macro- and micronutrient metabolism and requirements*

By the year 2025 there will be 1.2b elderly people in the world, 60% of them in developing countries. In this context, the activities of the International Dietary Consultative Group are increasingly focusing on the health and nutrition problems of the elderly.

Large shifts occur in dietary patterns- mainly in energy metabolism- as populations become older. Even small increases in physical activity and/or small weight losses can have considerable metabolic effects (e.g. lowering the incidence of glucose intolerance). The impact of weight loss or gain on the overall health of ageing subjects in relation to the incidence of morbidity and mortality is attracting more research attention.

An earlier coordinated research project (CRP) on the application of nuclear techniques in the prevention of degenerative diseases (e.g. obesity, non-insulin dependent diabetes, and coronary heart diseases) in ageing and a technical cooperation (TC) project using isotopes in the evaluation of nutrition intervention programmes, have contributed to an understanding of several methodological issues related to the use of doubly labelled water (DLW). Development of improved obesity related measurements, such as methods to measure visceral fat and its relationship to diet and the physical activity of elderly subjects, is underway.

A meeting of consultants is scheduled for December 2002:

- to evaluate the overall scope of the proposed new CRP on ageing
- to suggest approaches for fine tuning nuclear-related and isotopic techniques for energy measurements with respect to macro- and micronutrients and examine the usefulness of nuclear and related isotopic techniques to measure visceral fat and total body fat, and determine the optimal method of collecting standardized, unbiased measures in diverse settings; and
- to harmonize validation of methods and sampling protocols for potential application in other emerging projects for a better understanding of human lipid metabolism.

Expected outcomes include recommendations on modifications of isotopic techniques necessary to meet the needs of the proposed new CRP on energy metabolism in elderly subjects.

#### *Causes and consequences of intrauterine growth retardation (IUGR) in developing countries*

IUGR, a condition where foetal growth has been constrained, is the main cause of low birthweight (LBW) in developing countries. Most LBW in industrialized countries is due to preterm birth. Approximately 30m infants born every year in developing countries suffer from IUGR.

Stable isotopes are invaluable in nutrition research since there is virtually no health risk involved in their use. They are preferred for work in humans, especially for target populations, such as infants and pregnant women. The tracer dilution technique using  $^2\text{H}_2\text{O}$  is the only appropriate reference technique to evaluate the nutritional status for these target populations in their own environment.

IAEA will convene a meeting in December 2002 to assess:

- nutritional factors related to IUGR
- issues related to practical approaches for monitoring maternal weight and weight gain during pregnancy (e.g. body composition assessment)
- harmonized methods and criteria for appropriate weight gain charts for women in developing countries; and
- the effectiveness of nutrition interventions aimed at reducing IUGR and its consequences.

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## ICWR

### International Center for Research on Women

ICRW has been invited by the World Bank to serve as the Secretariat for a new initiative on nutrition and gender issues. The World Bank Development Grant Facility has provided seed funding for this initiative.

Research findings suggest that to eliminate malnutrition over the long-term, interventions need to consider the important underlying gender issues, which constrain women's capabilities. Many poor women lack the authority to make decisions about household resources that could enhance nutritional status. For example, women may be forced to marry during their adolescent years leading to early pregnancy, poorer birth outcomes, and poorer micronutrient status. Studies also indicate that where women have more capabilities and are more empowered, nutrition outcomes such as

maternal and child nutrition are improved. It is plausible then, that improving the status of women could lead to improved pregnancy outcomes, and thus should help break the inter-generational cycle of malnutrition. To achieve this, programmes designed to tackle malnutrition need to intervene at key points in the life cycle, including adolescence.

The Secretariat will partner with a local hub in West Africa and later one in South Asia in an innovative and cross-sectoral approach among the nutrition, gender and development arenas. Overall, the programme aims to gain an understanding of how nutrition programmes can be enhanced by integrating a gender focus and how to enhance women's roles, decision-making capabilities, and control over resources to improve nutrition outcomes. Specifically, the use of action research will shed light on how to break the cycle of malnutrition by addressing the causes of poor foetal growth and low birthweight by focusing on results, and by developing new models for cross-sectoral collaboration. A focus of this initiative will be the unfinished agenda of women's and girls' nutrition.

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## IFPRI

### International Food Policy Research Institute

#### *Could Household-Level Dietary Diversity Be a Useful Indicator of Food Security?*

Household food security is an important dimension of well-being. However, obtaining detailed data on food security status – such as 24-hour recall data on food intake or acquisition for every member of a household – is time consuming and expensive. It also requires a high level of technical skill both in data collection and analysis. IFPRI has conducted research to determine whether household-level dietary diversity (HDD) could act as an alternative indicator of food security.

The analysis from ten data sets encompassed both low and middle-income countries, rural and urban sectors, seasonal data, and data on energy acquisition obtained using both seven-day recall on food consumption and 24-hour individual intake data. HDD was defined as the number of individual foods consumed in the previous seven days. The association between HDD and household per capita daily energy availability (total, from staples, and from nonstaples) was also tested using linear regression, as well as other measures of association (correlation coefficients, contingency tables, and receiver operator curves). The authors further tested the results using a food-group household dietary diversity indicator.

The results showed that for every 1% increase in dietary diversity, there was an associated 1% increase in per capita consumption; a 0.7% increase in total per capita energy availability; a 0.5% increase in household per capita daily energy availability from staples; and a 1.4% increase in household per capita energy availability for nonstaples. These associations were found in both rural and urban areas, across seasons, and did not depend on the analytical approach used or on the dietary diversity measure (individual foods or food groups).

Looking across all data sets, the magnitude of association between HDD and household energy availability increased

with the mean level of household per capita energy availability. Accordingly, dietary diversity would appear to show promise as a means of measuring food security and monitoring changes and impact, particularly when resources available for such measurement are scarce.

*Could Individual-Level Dietary Diversity Be a Useful Indicator of Individual Dietary Quality?*

Our review of the literature focused on the measurement of individual-level dietary diversity (IDD) in developing countries to determine if there is evidence of an association between IDD and individual dietary quality. If so, this may suggest that IDD could be a useful indicator of dietary quality (defined here in terms of adequate intake of energy and nutrients)? Further, is there evidence of an association between child IDD and nutritional status and growth?

Although only a handful of studies in developing countries specifically tested the association between IDD and nutrient adequacy, findings did confirm the well-documented positive association. On average, individuals with higher dietary diversity consume higher amounts of energy and other essential nutrients. This is true in spite of wide variations in measurement approaches and indicators used, and in the age of study subjects, their dietary patterns, and their general environmental and socioeconomic conditions.

IDD is also consistently associated with better child nutritional status in studies carried out in developing countries. A major weakness of many studies, however, is that they do not appropriately control for household socioeconomic (SES) factors. It is possible that the association between IDD and child nutrition is confounded by SES factors because, as demonstrated by IFPRI's multicountry analysis, dietary diversity increases with wealth, at least at the household level. If individual-level dietary diversity also increases with SES, a finding suggested by a few studies, then careful control for SES is necessary when analyzing the association between IDD and child nutrition.

*Dietary Diversity: key measurement issues*

A number of key measurement issues were identified in this review, which need to be addressed in future research to better understand dietary diversity and its potential usefulness as a measurement tool. These include the selection of food and food groupings, the consideration of portion size and frequency of intake, and the selection of scoring systems, cutoff points, and reference periods ensuring the validity and reliability of the indicators for the purposes for which they are being used.

*Key Research Priorities*

In addition to the methodological aspects identified above, IFPRI's work highlights the need for further research to continue to validate and test alternative indicators of dietary diversity for different purposes. Much of the needed validation work, especially at the individual level, could build on already existing data sets. The research should develop and compare alternative IDD indicators and test their performance in predicting individual nutrient adequacy among different age groups and in different populations and contexts. This would help determine whether IDD could be used as a valid and reliable indicator of individual dietary quality.

The potential of HDD indicators to accurately reflect household food security needs to be confirmed in field trials. Evidence from the multicountry analysis is sufficiently compelling to warrant field-testing of HDD tools to validate their performance in field conditions and test their reliability

and ease of use.

Finally, rigorous analytical approaches should be employed to disentangle the identified complex relationships between child-level dietary diversity, household socioeconomic factors, and child growth. It is particularly important for future programming efforts to understand whether IDD is associated with child growth, independent of socioeconomic factors. This will help programme managers and policymakers understand what levels of reductions in childhood malnutrition they can achieve from poverty alleviation and dietary diversification interventions, and whether they can expect a synergistic effect if they combine the two approaches.

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## IFAD

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### International Fund for Agricultural Development

*Launching a new training tool for impact assessment in rural development projects.*

IFAD, the Italian National Institute for Research on Food and Nutrition (INRAN) and the Government of Guinea have begun distributing a training video entitled: *Benchmark Assessment of Impact Indicators*.

The video illustrates how to plan and implement a benchmark assessment of selected impact indicators in the context of rural development projects. The indicators covered are directly linked to the Millennium Development Goals (MDGs) such as:

- prevalence of malnutrition in underfive years (underweight, chronic and acute)
- access to safe water supply
- access to adequate sanitation
- female literacy

The video is designed as a practical guide to help non-specialists become familiar with the basic concepts involved in benchmark assessments, and to provide step-by-step examples from an assessment carried out in Guinea.

The first major distribution took place in October 2002, at an implementation workshop for 50 IFAD-supported projects in West and Central Africa, involving project managers, government representatives and other partners from countries throughout the region. Plans are also underway to produce similar training videos in other regional, cultural and linguistic contexts.

Copies of the training video (in the original French language version or its English translation) can be made available for SCN member organizations on request.

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## INACG

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### International Nutritional Anaemia Consultative Group

The INACG Symposium, *"Integrating Programs to Move Iron Deficiency and Anaemia Control Forward"*, will be held on 6 February 2003, in conjunction with the XXI IVACG Meeting in Marrakech, Morocco.

The INACG Symposium programme includes plenary ses-

sions on:

- iron and infectious diseases
- update on issues related to iron deficiency and anaemia control, and
- reducing the prevalence of anaemia: planning and implementing a strategic communication approach

#### *INACG workshop*

INACG held the workshop, "Reducing the Prevalence of Anaemia: Planning and Implementing a Strategic Communication Approach" on 16-17 September 2002, in Cape Town, South Africa. Participating countries included Ghana, Eritrea and South Africa. Each country developed a pragmatic communication strategy for anaemia control for their country that can be tested and implemented. This overall approach and the country level strategies will be presented at the next INACG Symposium in Marrakech.

INACG also held an expert consultation 17-18 October 2002, in Zurich, Switzerland to develop guidelines for determining how much iron to add in fortification of staple foods, condiments, and complementary food supplements. The expert panel also discussed the minimum level of daily iron intake from fortification that is likely to have a useful nutritional effect. The rationale and examples for how to determine the amount of iron to add to staple food and condiments, with particular emphasis on cereal fortification, and how much iron to add to complementary food supplements for children aged 6-24 months will also be presented at the next INACG Symposium in Marrakech.

Contact: Veronica Triana [vtriana@ilsa.org](mailto:vtriana@ilsa.org) or visit <http://inacg.ilsa.org>

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## IVACG

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### International Vitamin A Consultative Group

*Improving the Vitamin A Status of Populations* is the theme of the XXI IVACG Meeting, which will be held on 3-5 February 2003 in Marrakech, Morocco.

This year's meeting programme includes:

- regional and global status of Vitamin A Deficiency (VAD)
- supplement economics, dosing schedules and safety
- biologic impact: dosing infants and mothers
- assessment of night blindness/dark adaptometry
- nutrient interactions
- dietary approaches to combating VAD; and
- integrated approaches and communication and behavior change

IVACG is pleased to welcome Dr. Kraissid Tontisirin, Director of the Food and Nutrition Division of FAO, to the IVACG steering committee.

Contact: Veronica Triana [vtriana@ilsa.org](mailto:vtriana@ilsa.org) or visit <http://ivacg.ilsa.org>

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## KUFOST

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### Kenya Union of Food Science and Technology

Following the Food Safety and Quality Management meeting in Nairobi, 20 July 2002, it was felt that there was a need to establish an adhering body to the International Union of Food Science and Technology (IUFoST). This initiative to form the Kenya Union of Food Science and Technology

(KUFoST) stemmed from the need to form an organization that will advocate for high quality, safe and nutritious food products in the market and will build capacity. In addition, the organization will strive to bring academia closer to the industry. It is academia-led, with membership across the board. Its major objectives are to:

- act as an advocate for a scientific approach to food issues and create an environment where food science and technology are key development issues
- bring topical food science and technology issues to public discussion
- develop partnerships with and link local and international food science and technology, and related organizations
- provide technical expertise and assistance to interested parties in policy formulation, research and programming in nutrition, food science and technology; and
- mobilize the government, NGOs, the private sector, donors and other stakeholders to increase resources allocated for sustainable food science and nutrition programmes.

The office bearers are:

President	Prof Ruth K. Oniang'o
President elect	Prof G.M. Kenji
Vice president	Dr Ciira Kiiyukia
Secretary	Mr Oiyie Shadrack
Asst. secretary	Ms Anne Wangalachi
Treasurer	Mr Joseph Mutuku
Asst. treasurer	Mr Mungai Kangunya
Public relations officer	Ms Angela Mwaniki

KUFoST and Kenya Coalition of Action in Nutrition (K-CAN), which is affiliated with the International Union of Nutritional Sciences (IUNS), will work together to ensure a wholesome approach to food issues. Having spearheaded the formation and affiliation of K-CAN to the IUNS, Professor Oniang'o accepted a request by Kenyan food scientists to do the same for them. KUFoST is looking forward to attend and participate in the IUFoST Congress XII in Chicago.

Contact: Shadrack Oiyie, Secretary, KUFoST [oiyies@yahoo.com](mailto:oiyies@yahoo.com)

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## MEXICO/USA

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### *Iron supplementation in non-anaemic pregnant women*

Researchers from the Instituto Nacional de Perinatología in Mexico, the Department of Nutritional Sciences and Toxicology at the University of California, Berkeley, and the Children's Hospital Oakland Research Institute (CHORI) have found that daily iron supplementation (DS) in non-anaemic pregnant women is significantly associated with high haemoglobin (Hb) levels (haemoconcentration), low birthweight and premature delivery compared to intermittent supplementation (IS).

A total of 220 singleton pregnant women were recruited in two consecutive studies, aiming to evaluate the effectiveness and safety of daily, weekly or twice weekly supplementation for preventing biologically significant "anaemia" [haemoglobin (Hb)100g/L at Mexico City's altitude], in maintaining iron status throughout pregnancy in non-anaemic pregnant women at gestational week 20 [Hb ≥ 115 g/L] and for supporting their infants' iron status and

growth.

In the first study, women received free tablets containing iron (60 mg), folic acid (200 mg) and vitamin B12 (1mg) and were randomly assigned to consume either one tablet per day or two tablets once weekly up to delivery. In the second study, two-tablet ingestion twice weekly replaced the weekly dose and was compared to daily supplementation. Women's adherence was stimulated every 4 weeks when routine antenatal care was given. Mothers and their infants' Hb and ferritin were evaluated up to 36 weeks of pregnancy and to 24 weeks postpartum by standard methods. Women were deemed anaemic by CDC standards adjusted for altitude or haemoconcentrated if Hb was >145 g/L.

Ninety seven DS and 103 IS women completed the protocol. The two DS groups did not differ significantly initially and at follow-up. Similarly, the weekly and twice weekly, IS groups did not differ significantly at basal and follow-up. The study found that DS' prevalence of gestational mild anaemia was significantly lower from weeks 28 to 36 than IS'. Importantly, no anaemic women in any group had Hb <103 at any time and anaemia had no negative consequences to mothers and infants. Yet, haemoconcentration was significantly more frequent among DS, reaching statistical significance at weeks 28, 32 and 36. In fact, women with haemoconcentration at gestational week 28 had a significantly higher risk for low birthweight and preterm births.

Plasma ferritin was significantly higher in DS than in IS from gestational week 24 to term showing a significant decline with time in both DS and WS. Median ferritin levels and incidence of levels >50 mg/L were significantly higher in four weeks postpartum in DS than in IS. In the second study, plasma copper and zinc levels were measured and progressively declined in the DS compared to IS women. Copper's decline reached significance.

In the postpartum, DS women remained with higher Hb and plasma ferritin levels for four weeks, but thereafter these values dropped so that by 12 weeks DS and IS were similar. Ferritin dropped at average rates representing 1 mg/day unexplained from lactational losses. This decline has been also noted amongst daily supplemented non-pregnant childbearing age women in different settings.<sup>1,2</sup> This suggests that either dietary iron absorption was essentially suppressed or that the "excess" plasma ferritin reflected an "inflammatory state" produced by a temporary iron overload condition that may have other as yet unexplored consequences in humans.<sup>3</sup>

At 24 weeks of age most infants' Hb, iron and nutritional status were normal and there were no differences by supplementation groups.

These findings should influence the way iron supplementation programmes in pregnancy are implemented, monitored and evaluated: excessive iron supplementation can result in high Hb levels at mid-pregnancy, which carries a risk of low birthweight and preterm deliveries; Hb levels classified as mild anaemia in the second and third trimesters and high Hb levels near term do not appear to increase perinatal risks; and distribution of Hb values around gestational week 28 should be studied in iron supplementation programs. IS appears safe amongst non-anaemic pregnant women even if iron deficient.

Partially supported by MEX-US and CONACYT (Key 31023M).

#### Notes

1. Angeles-Agdeppa I, et al (1997) Weekly micronutrient supplementation to build iron stores in female Indonesian adolescents. *American Journal of Clinical Nutrition* 66:177-183.
2. Viteri FE, Ali F, Tujague J (1999) Long-term weekly iron supplementation improves and sustains nonpregnant women's iron status as well or better than currently recommended short-term daily supplementation. *Journal on Nutrition* 129:2013-2020.
3. Walter PB, et al (2002) Iron deficiency and iron excess damage mitochondria and mitochondrial DNA in rats. *Proc National Academy of Science USA* 99:2264-2269.

For more information concerning this study, please contact the authors: E Casanueva ([casanuev@servidor.unam.mx](mailto:casanuev@servidor.unam.mx)) and FE Viteri ([viteri@nature.berkeley.edu](mailto:viteri@nature.berkeley.edu)).

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## MI

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### Micronutrient Initiative

#### *The Micronutrient Initiative opens a Regional Office in Africa*

Over the past 10 years, MI has achieved significant successes in putting the issue of micronutrient malnutrition on the agenda. It has directly and indirectly ensured that iodine and vitamin A (and to some extent iron) form part of the action plans of many ministries of health and organizations around the world.

As part of the re-structuring and re-focusing of the MI, a regional approach has been adopted, with the creation of an office in Africa. This move also recognizes the enormous needs across the African continent, where extremely high levels of micronutrient deficiencies and infant and child mortality are compounded by a lack of both physical and economic infrastructure, as well as human and institutional capacity to address them. An office will, therefore, be opening shortly in Johannesburg, South Africa. It will provide both closer support for programming as well as a significant strengthening in the advocacy efforts for combating micronutrient malnutrition (MNM) and will develop an active programme of using African professionals and organizations as part of its technical support role.

The MI's technical support will be primarily focused on how to achieve maximal effective coverage for the three key micronutrients (vitamin A, iodine and iron) at a cost that is affordable in the long term. This will mean actively seeking opportunities and new approaches to strengthen programmes. Taking advantage of existing or potential delivery mechanisms within health services or other social and economic sectors can ensure maximal sustainable access for the most vulnerable. Building national and regional capacity and systems through skills transfer and mentoring of African consultants and managers will be further helped through proactively seeking to place micronutrient considerations on the broader development agenda and to effectively demonstrate their cost-effectiveness.

Food fortification is one key area of MI expertise. The MI's goal is to ensure that a significant proportion of daily needs are provided at very low costs through working with the food industry, government and consumers in the fortification of commonly consumed foods. The MI will facilitate the inputs of public and private sectors, as well as, those of consumers through supporting a coordinated approach to fortification at the country level. The critical challenge for the MI in Africa is to develop cost-effective mechanisms, whether through small-scale or in-house fortification or



UNITED NATIONS SYSTEM

# Standing Committee on Nutrition

## Publications--December 2002

while many of our publications are now out of print, all are available for download from our website:  
<http://www.unsystem.org/scn>



### REPORTS ON THE WORLD NUTRITION SITUATION

*Fourth Report on the World Nutrition Situation: Nutrition Throughout the Life Cycle*, January 2000

*Third Report on the World Nutrition Situation*, December 1997

*Update on the Nutrition Situation, 1996: Summary of Results for the Third Report on the World Nutrition Situation*, late 1996 (out of print)

*Update on the Nutrition Situation*, November 1994

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

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

*Supplement on Methods and Statistics to the First Report on the World Nutrition Situation*, December 1988 (out of print)

*First Report on the World Nutrition Situation*, November 1987 (out of print)



### NUTRITION POLICY DISCUSSION PAPERS

*Nutrition and HIV/AIDS* edited by S Rabeneck, October 2001 (NPP No. 20) (out of print)

*What Works? A Review of the Efficacy and Effectiveness of Nutrition Interventions* by L Allen and S Gillespie, September 2001 (NPP No. 19) (out of print)

*Low Birthweight--Report of a meeting in Dhaka, Bangladesh, June 1999* edited by J Pojda and L Kelley, September 2000 (NPP No. 18) (out of print)

*Challenges for the 21st Century: A Gender Perspective on Nutrition Through the Life Cycle* edited by S Rabeneck, April 1998 (NPP No. 17) (out of print)

*Nutrition and Poverty* edited by S Gillespie, November 1997 (NPP No. 16)

*How Nutrition Improves* by S Gillespie, J Mason, R Martorell, July 1996 (SOA No. 15)

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

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

*Nutritional Issues in Food Aid* edited by V Elliot and S Gillespie, August 1993. (SOA No. 12)

*Nutrition and Population Links--Breastfeeding, Family Planning and Child Health* by S Huffman, R Martorell, K Merchant, R Short, P Ramachandran, M Labbok, B Edmonston, and B Winikoff, May 1992 (SOA No. 11)

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through supplementation, to effectively reach the rural poor, especially women and children.

The concrete outputs envisaged are:

- cost effective and sustainable programs to achieve high national coverage of VAC to target groups in 15 countries
- policies, systems and programmes for the sustainable fortification of foods to meet the greatest needs in 12 countries
- support for the implementation and monitoring of salt iodization through the International Council for Control of Iodine Deficiency Disorders; and
- the development and testing of alternative strategies to contribute to the control of anaemia in a series of pilot projects.

Key support will be provided for the development and implementation of comprehensive, cost-effective and sustainable micronutrient programmes in all countries where MI works, with the broadening and strengthening of partnerships at national and regional levels.

Contact: Carol Marshall, Director Africa Region +1 613 782 6800

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## USAID

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### United States Agency for International Development

#### *Identifying barriers to controlling maternal anaemia in Uganda*

Anaemia in pregnancy is a widespread problem in Uganda, affecting four out of every ten pregnant women. To date, the main strategies to control anaemia in pregnancy are provided during facility-based antenatal care (ANC). Previously, iron/folate supplementation had been the primary, often sole, approach to anaemia control. More recently, controlling malaria with intermittent preventive treatment and insecticide treated bed-nets, and treating hookworm infections have been established as two further important components of effective anaemia control. The Regional Centre for Quality of Health Care/Makerere, the Ministry of Health (MOH), and MOST, a USAID-funded Micronutrient Project, have collaborated in assessing specific local barriers to integrating the implementation of these three interventions as part of a revised ANC approach to anaemia.

This formative assessment uses the performance improvement framework to determine the capacity of the district health system to implement an integrated approach to anaemia. It also identifies other constraints that limit the effectiveness of anaemia control during ANC. A group of key stakeholders was brought together in a series of meetings to help the MOH and the research team define the desired performance/actions needed to control anaemia through ANC contacts.

Assessment results have been summarized at the health system, health provider and client levels. At the health system level:

- the number of days during the week the facilities provided ANC services varied between and also within districts. In over 40% of the facilities, ANC services were provided only one or two days each week, limiting client access to services
- most facilities had “enough” ferrous sulfate/folic

acid for only 50% of the time over the previous three months. Because of this inconsistent supply, providers tended to “save” supplies by not providing them to all pregnant women and/or dispensing tablets for less than the required number of days

- although almost all health units indicated that they were providing the ANC package recommended in the national reproductive health guidelines, only 9% of the ANC providers interviewed were aware of the existence of the guidelines; and
- ANC providers considered the number of visits they received from supervisors to be inadequate.

At the ANC provider level:

- the implementation of guidelines was inconsistent both between and within districts, e.g. dosage of iron supplements provided solely for prevention varied from one to three tablets per day
- although most health facilities claimed to provide for control of malaria and hookworm, these services were not often observed in this study. Forty-eight percent of the clients reported receiving antimalarials on the current or the previous ANC visit and a similar proportion reported being asked about symptoms of malaria. Almost 2/3 of the facilities reported carrying out routine de-worming, but only 14% of women interviewed in their third trimester with ANC cards recorded having received such treatment
- counselling provided to ANC clients was of uneven quality. While most were told about the dose of iron to take, fewer than 10% were warned of potential side effects or how to deal with them. Less than half the women were told of the benefits of controlling malaria during pregnancy
- group health talks were often given as a component of ANC clinics but overall, about 1/3 of women reported not having understood most of what was discussed; and
- Despite the above findings, most ANC clients reported the ANC services as being adequate in quality. Almost 80% complained of long waiting times, but said that they did not mind this as long as they received the services and the “medicines” they expected.

At the client level:

- the average number of ANC visits per pregnancy was four, although few women attended ANC in their first trimester
- 60% of the women at the exit interviews had attended ANC clinic previously and had been given IFA. Of these, 2/3 reported having finished all the tablets given them; and
- receiving an ANC card was the primary reason for attendance at the clinic for most women. This card was required if women wanted to access emergency services during delivery. But delivering in the health facilities was not seen as desirable in some communities.

The results were validated through meetings held with district and national experts. Together with stakeholders at district and national levels, some solutions to the identified gaps were discussed and a minimum performance improvement package proposed to be pre-tested in a few districts before being scaled-up to the rest of the country was recommended.

USAID intends to further explore the implications from this

study when designing effective multi-dimensional programmes to combat anaemia. It is hoped that models will be developed that may be applied in countries at a reasonable cost with a good chance of having significant impact. Programmes that are effective in addressing anaemia will require new partnerships that integrate nutrition and anaemia interventions with other established USAID programmes in malaria and maternal health.

Contact: Monique Mosolf [mmosolf@usaid.gov](mailto:mmosolf@usaid.gov)

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## WORLD BANK

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### *The role of the education sector in reaching the poorest*

In just a few years, SEECALINE—a community nutrition program in Madagascar has treated 431,000 students and 250,000 pre-schoolers and non-enrolled children for parasites, provided iron supplements to 425,000 students, funded 71 micro-projects, and trained 14,000 teachers.

Although this World Bank-financed programme has been working with community members since 1993 to combat malnutrition in children and mothers, in 1999, SEECALINE 2 was launched with a new component for school health and nutrition. The Government of Madagascar wanted to ensure that children benefiting from the nutrition and health interventions in infancy and in early childhood continued to remain healthy and well nourished as they entered school. Since healthy children learn better, the programme focuses on highly prevalent problems constraining educational outcome, while using interventions that are cost effective and sustainable.

For example, studies show a clear link between low iron levels and school performance. Representative sampling surveys of Madagascar indicated that the children in the target areas were heavily infected with various intestinal worms that contribute greatly to the loss of blood, aggravating anaemia. Twice a year, teachers deworm all children between 3 and 14 years with a simple pill. Non-enrolled children were also treated, which helps reduce reinfections in the general population. After deworming, to reestablish the body's iron storage, the students are provided with weekly iron/folate supplements for three months. Yet, since iron supplementation requires weekly treatment, only enrolled students benefit.

Teachers have noticed the results of deworming and iron supplementation. Some describe children who once lacked enough energy to stay awake during classes becoming very active. All provincial managers have received positive feedback from teachers about the increased energy level of the students. These testimonials were verified by a separate evaluation performed with parents who noted that even the teachers seem more dynamic.

The school-based interventions have been successful in reaching the target population at a low cost in Madagascar. The cost per beneficiary varies from US\$0.78 to \$1.08/child/year. These costs are based on the total costs of training, mebendazole for de-worming, and iron/folic acid supplementation of children in four provinces that completed a cycle of treatment in June 2001. The unit costs are kept low because no new infrastructure is created; teachers in the existing schools are the main implementers of the programme. These school-based activities are sustainable with health benefits that lead to educational achievements.

The SEECALINE school health program uses the FRESH

framework. For more information about SEECALINE and FRESH, please visit the World Bank-sponsored website: <http://www.schoolsandhealth.org> or contact [nutrition@worldbank.org](mailto:nutrition@worldbank.org)

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## WFP

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### World Food Program

#### *Atta-Fortification Pilot Project*

Since April 2002, a ground-breaking initiative has been delivering micronutrients to Vulnerable Group Feeding Development (VGD) beneficiaries in the Kushtia atta-fortification pilot project in Bangladesh. VGD women in Kushtia receive 25kg milled and micronutrient-fortified atta each month in addition to development services provided by an implementing NGO, Jegorani Chakra. These women represent the poorest, most vulnerable population in Bangladesh. They were consuming less than 1800 kcals daily before joining the VGD programme.

Most of these women do not have the means to buy dahl, fish, or meat to fortify their daily diets. With the new fortified atta, they have access to an improved diet. Furthermore, they do not need to spend additional money milling the atta into flour; it is already milled and packed in 25kg bags that are collected once a month. Furthermore, the new system of fortifying and packaging ready-milled atta reduces leakage significantly and ensures that each VGD woman receives her full monthly entitlement of WFP food. Ex-VGD women are employed in the Milling and Fortification Unit, where they mill and fortify the wheat.

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## WHO

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### World Health Organization

The 55<sup>th</sup> World Health Assembly, approved a resolution calling on WHO to prepare a global strategy on diet, physical activity and health. Countries all over the world are now recognizing the urgency in effectively addressing the growing burden of chronic diseases such as heart diseases, diabetes and cancer. For the most part, social and economic changes adversely affect dietary and physical activity patterns, contributing to the current rise in noncommunicable diseases.

Growing urbanization and globalization of the food supply contribute to the rapid transition from traditional diets and healthy levels of physical activity towards considerable physical inactivity and unbalanced diets. In her address to the delegates of the 55<sup>th</sup> World Health Assembly, WHO director General Dr. Gro Harlem Brundtland said: "high blood pressure and high blood cholesterol, strongly linked to cardiovascular and cerebrovascular diseases, are also closely related to excessive consumption of fatty, sugary and salty foods. These changes in diets are occurring faster than at any point in history, especially among low and middle-income countries. Underweight children who suffer from malnutrition and disease live in the same neighbourhoods as people who suffer from obesity."

WHO aims to avert the epidemic of chronic diseases wherever possible and to manage and reverse it where it has begun. The challenge is to address not just lifestyles, but the

many forces that determine them. While individual behaviour is of obvious importance for issues such as diet and physical activity, it is essential to also look at the determinants of these behaviours, that is the factors that reinforce or discourage the practising of healthy behaviours. Only by addressing both individual health behaviours and the underlying determinants of behaviour will true and sustained progress be achieved. Additionally, besides increasing the salience of the growing epidemic of chronic diseases, particular attention needs to be directed to those countries that are facing a double burden of disease, that is, continuing to deal with the longstanding problems of infectious disease as well as the emerging epidemic of chronic conditions.

In response to the call by the Director General, and in keeping with the seriousness of this public health problem, WHO is planning an 18 month consultation process, which will articulate a global strategy on diet and physical activity. The overall goal of the strategy is to improve public health through healthy eating and physical activity. The strategy will draw on clear scientific evidence and will be developed through broad consultation with stakeholders: governments, UN organizations, civil society, health professional organizations and the private sector. The process will synthesize existing knowledge on the relationship between diet, physical activity and chronic diseases. It will inform decision-makers and stakeholders about the problem, determinants, interventions and policy needs. It will also attempt to identify the roles for all sectors in improving diet and healthy living in the population. The process is expected to be completed by May 2004, and a report released at the 57<sup>th</sup> World Health Assembly.

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NB: see page 42 for another contribution from WHO

## WORLD VISION CANADA

*MICAH program - Planning for increased impact on iron deficiency anaemia in phase 2*

Evaluation of the first phase of the MICronutrient And Health (MICAH) programme, which has financial support from the Government of Canada through the Canadian International Development Agency (CIDA), showed significant decreases in micronutrient deficiencies in project areas of Ethiopia, Ghana, Malawi, Senegal and Tanzania. For example, the prevalence of anaemia decreased by one third (43% to 29%) in Ghanaian women and by 14% in under five children in Malawi over the MICAH implementation period.

Anaemia remains a problem of public health significance in most MICAH countries, particularly among pregnant women and children under five years (see table). Malaria and other parasites are also major contributors to the prevalence of anaemia with varying prevalence in these areas.

MICAH's integrated approach is a major strength in addressing the multi-factorial nature of iron deficiency and anaemia. Therefore, planning for a second phase of MICAH to reduce anaemia has focused on identifying areas to strengthen or modify.

*Strengthen supplementation strategy* - Efforts will be made to improve coverage and compliance through existing commu-

nity-based distribution. Increasing the involvement of community members in peer monitoring of compliance is one suggested method.

*Initiate or scale up fortification initiatives* - Given the potential of small-scale fortification (addition of multiple micronutrients to common food vehicle at the community level) to reach multiple target groups, MICAH plans to initiate this in Senegal and scale-up current fortification activities in Tanzania and Malawi.

*Strengthen disease control strategy* - A greater emphasis on malaria prevention is planned, focusing on distribution of insecticide-treated bednets and preventive chemoprophylaxis in pregnant women. Prevention of hookworm and other parasites will continue to be a priority. Immunization support will be reinforced and breastfeeding promotion continued.

*Advocate for national support* - Continued advocacy toward policy-makers is planned to increase national level support for anaemia prevention. Increased advocacy surrounding fortification is planned through involvement with the Tanzania National Consultative Group on Fortification, the Ghana National Food Fortification Alliance, and the Malawi Fortification technical committee. In Senegal, MICAH will advocate for the development of national protocols for iron supplementation of children under five years and women of childbearing age.

*Strengthen effective dietary modification strategies* - Improving complementary feeding practices and increasing household access to iron-rich foods are also priorities. In some countries, the Hearth (positive deviance) model will be used to teach mothers appropriate feeding practices, with a focus on locally available iron-rich foods. However, given funding limits for food-based approaches, scaling up these strategies may not be possible.

*For further information on the MICAH program, please contact World Vision Canada's Nutrition Team [nut\\_team@worldvision.ca](mailto:nut_team@worldvision.ca)*

<b>Aneamia</b>	<b>Ghana</b>	<b>Malawi</b>	<b>Senegal</b>	<b>Tanzania</b>
<b>Pregnant Women (Hb&lt;11g/dL)</b>	48%	43%	44%	72%
<b>WCBA (Hb&lt;12g/dL)</b>	29%		48%	65%
<b>Children &lt;5yrs (Hb&lt;11g/dL)</b>	65%	66%		86% (Hb<12g/dl)
<b>Related Factors</b>	<b>Ghana</b>	<b>Malawi</b>	<b>Senegal</b>	<b>Tanzania</b>
<b>Malaria (children &lt;5yrs)</b>	12%	33%	7%	10%
<b>Hookworm (school age children)</b>	3%	3%		11%
<b>Schistosomiasis (school age children)</b>	8%	11%		1%

*Editor's Note: In October 2002, scientists announced they were able to crack the genetic code of both the mosquito and parasite that cause malaria. This important step towards finding more effective drugs (and potentially a vaccine) to prevent and treat malaria could save millions of lives. Further, reducing the number of malaria infections could lower the incidence of anaemia in malaria-endemic areas as explained below.*

*Malaria, Anaemia, and Micronutrients: Directions arising from a side session at the MIM Pan-African Malaria conference*

At least 300m cases of malaria occur each year leading to over one million deaths. Ninety percent of these occur in sub-Saharan Africa, where malaria accounts for 1 in 5 of all deaths in children under five years. Thirty-two million children in sub-Saharan Africa are underweight, and undernutrition is associated with an adverse outcome from malaria and other infectious diseases. Micronutrient deficiencies and malaria are, in addition, key factors in the pathogenesis of anaemia. Severe anaemia accounts for more than half of all malaria-related deaths, of which the great majority occur in pregnant women and infants. This important public health problem was the subject of a side session at The Third Multilateral Initiative on Malaria (MIM) Pan-African Malaria Conference held in Arusha, Tanzania between 18-22 November 2002. The primary aim of the session was to bring malaria and nutrition specialists together to highlight the problem of anaemia in malaria-endemic countries of Africa, and to identify outstanding operational issues and areas for further research that would benefit from a joint approach by the two communities.

The session opened with a brief overview of Malaria and Undernutrition from David Alwrick, Project Manager of Roll Back Malaria, WHO, Geneva. Topics covered during the course of the three subsequent panel sessions included: i) the safety of iron supplementation in malaria-endemic regions; ii) limitations of current methods for measuring haemoglobin and micronutrient status in malarious areas; iii) the impact of vitamin A and zinc on malarial morbidity; iv) micronutrient supplementation in pregnancy; v) the potential role of antenatal clinics (ANC) and the Expanded Programme on Immunization in the combined delivery of antimalarial interventions and micronutrients; and vi) non-pharmaceutical approaches to the delivery of micronutrients.

*Lack of consistent definitions for moderate and severe anaemia*

Although there is consensus on the haemoglobin cut-offs that define anaemia in different age groups, the levels used to define moderate and severe anaemia are inconsistent. At present, levels taken as the cut-off for severe anaemia vary between 5 and 7 g/dL, a factor that leads to inconsistent case management, and makes meaningful comparison of different intervention studies extremely difficult. Definitions of moderate and severe anaemia need to be standardized and linked to clear case management guidelines.

*Unreliable diagnosis of anaemia*

In peripheral clinics and health centres without access to a laboratory, anaemia is generally diagnosed on the basis of clinical signs. Although clinical signs may be sufficiently sensitive at detecting cases of severe anaemia, they are often inadequate for the detection of mild to moderate cases. It is important to know, therefore, whether the Haemoglobin Colour Scale would be more sensitive and specific than clinical signs at detecting mild to moderate degrees of anaemia. Studies should be carried out in healthcare settings where the Colour Scale is most likely to be needed. It will be essential to ensure that a standardized protocol is used for all assessments to allow meaningful comparison between studies.

In district hospitals, haemoglobin estimations are used for individual patient management to guide transfusion practice and to screen potential blood donors. Haemoglobin results from community surveys are used for the planning and monitoring of health intervention programmes. The accuracy of haemoglobin measurement is very poor in many district hospital laboratories throughout Africa, largely due to the use of inaccurate methods, poor quality control, and a lack of trained supervision. A baseline survey from a district hospital in Malawi, presented during the side session, revealed that only 37% of haemoglobin results were within 1.5g/dL of the international "gold standard". There is an urgent need for training and supervision in appropriate laboratory methods combined with quality control since unreliable haemoglobin measurement can result in unnecessary and potentially dangerous blood transfusion. In addition, a lack of reliable prevalence data interferes with the effective monitoring of health programmes.

Although improving, there is a paucity of reliable data on the prevalence of micronutrient deficiencies, a problem compounded in malaria-endemic areas by the fact that the serum concentrations of many micronutrient indicators (serum ferritin, retinol and zinc) are affected by the acute phase response. A possible way of approaching this would be to establish a number of "sentinel sites" for the collection of comprehensive, quality-assured data on micronutrient deficiencies, anaemia, and malaria. In addition to providing valuable information for the planning and monitoring of intervention programmes, the publication and wide dissemination of these data could be used by the nutrition and malaria communities as a powerful tool with which to advocate for additional resources.

*Poor understanding of the importance of anaemia*

One speaker highlighted the fact that anaemia is often under-rated as a health problem in Africa, both in the community and among healthcare workers. Haemoglobin levels in the region of 9 g/dL may be considered "normal", so that appropriate treatment (iron and antimalarial drugs) is not started. Instead, blood transfusion is often presumed by healthcare workers to be the "definitive" treatment for anaemia. Further efforts need to be made to ensure that community members and healthcare workers understand the significance of anaemia and the need for preventive action.

*Missed opportunities for the delivery of antimalarial interventions and micronutrients*

The development of severe anaemia and subsequent transfusion with blood that may be infected with HIV or other blood-



borne pathogens, means that opportunities for intervention are being missed. Effective strategies exist for the prevention of malaria and micronutrient deficiencies, but coverage of these interventions is often poor. Insecticide-treated bed-nets have been shown to reduce the prevalence of malarial anaemia in pregnant women and their infants, and their use is associated with a reduction of up to 30% in all-cause mortality among children <5 years. Intermittent preventive treatment with antimalarial drugs reduces episodes of anaemia in pregnant women, and now forms part of national malaria control strategies. Recent evidence, also presented at the side session, suggests that intermittent preventive treatment of infants at 2, 3, and 9 months of age, at the time of routine vaccination, is associated with a 50% reduction in anaemia during the first year of life. The Expanded Programme on Immunization (EPI), maternal and child health clinics (MCH) and ANC therefore have considerable potential as sustainable systems for the combined delivery of effective antimalarial and micronutrient interventions against anaemia. They also provide an opportunity for reinforcing educational messages on anaemia prevention, and on the need for dietary diversification and the provision of appropriate complementary foods.

Current INACG/WHO/UNICEF guidelines recommend that iron and folate supplements should be given to all children between 6 and 24 months of age, and to pregnant women. In practice, this has proved very difficult to achieve and an alternative approach might be to intensify efforts to provide supplements to the specific sub-groups who are at highest risk of dying from severe anaemia, namely infants <12 months and pregnant women. The safety of iron supplementation was discussed during the session, and a recent systematic review has shown that supplementation with oral iron does not increase the prevalence of clinical or slide positive cases of malaria. The impact of targeted supplementation could be monitored by screening for anaemia at 9 months (at the time of measles vaccination) and at the first postnatal clinic visit.

Vitamin A deficiency can cause anaemia and supplementation with vitamin A reduces morbidity and mortality from a number of infectious diseases, including malaria. Guidelines exist for the biannual supplementation of infants and young children and for post partum women in vitamin A deficient areas. There is some evidence that vitamin A supplementation may be associated with an increased risk of mother-to-child transmission of HIV. Two studies assessing the impact of zinc supplementation on the prevention of malaria have yielded conflicting results, while a recently published randomized trial has demonstrated that ancillary treatment with zinc does not improve outcome from acute episodes of malaria. Future research should focus on the impact of supplementation with multiple micronutrients.

*An integrated approach to anaemia control*

It is clear that an integrated approach to anaemia control, like the one currently running in Ghana, is essential if African countries are going to be successful at reducing the intolerable burden of anaemia that currently exists in malaria-endemic regions. In addition to nutrition and malaria, it is important to involve other programmes, including reproductive and child health, laboratory and blood transfusion services, agriculture, water and sanitation, and helminth control. Education, non-governmental organizations and the media also have important roles to play. Political will is essential and ministries of health need to understand that anaemia control is both cost-effective and yields substantial health benefits. The immediate challenge facing the nutrition and malaria communities is to make sure that this happens.

Contact: Dr. Jane Crawley, Roll Back Malaria, WHO [crawleyj@who.int](mailto:crawleyj@who.int). For a complete list of references for this article, please contact the SCN [scn@who.int](mailto:scn@who.int).

**Anaemia in malaria-endemic countries in Africa**

Some Problems	Possible Solutions
<b>Lack of consistent definitions for moderate and severe anaemia</b>	□ Consensus on consistent, clinically-relevant definitions, linked to clear case management guidelines
<b>Lack of reliable prevalence data on anaemia and micronutrient deficiencies</b>	<ul style="list-style-type: none"> <li>□ Laboratory quality control</li> <li>□ Development of sentinel sites</li> <li>□ Special surveys</li> </ul>
<b>Poor understanding and awareness of anaemia</b>	<ul style="list-style-type: none"> <li>□ Development of advocacy packages</li> <li>□ Community education initiatives</li> <li>□ Training and supervision of healthcare workers</li> </ul>
<b>Poor coverage of antimalarial interventions and micronutrient supplementation</b>	<ul style="list-style-type: none"> <li>□ Target supplementation to groups at highest risk of death from severe anaemia (infants; pregnant women)</li> <li>□ Dietary diversification, complementary foods, and food fortification</li> <li>□ Monitor specific process and outcome indicators (e.g. haemoglobin at 9-month measles vaccination; haemoglobin at first post-natal visit)</li> <li>□ Use of sustainable systems (e.g. EPI, MCH, ANC) for combined delivery of antimalarial interventions and micronutrients</li> </ul>
<b>Vertical programmes, focussing on single intervention</b>	□ Development of an integrated, multisectoral approach to anaemia control

## BREAD FOR THE WORLD

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*Editor's Note: The Martin Forman Memorial Lecture is given to commemorate Dr. Martin J. Forman, who served as Director of the Office of Nutrition at USAID for 25 years. During his tenure, Dr. Forman redefined international nutrition from being a relief effort to a critical human and economic investment. David Beckmann, President of Bread for the World, gave this year's Lecture on October 15, 2002. In his speech, Mr. Beckmann highlights the importance of and steps to tackling hunger with examples derived from experiences in the United States.*

### *Excerpts from the 2002 Martin Forman Lecture*

The feasibility of dramatic progress against hunger is no surprise to any of you. Some poor countries have achieved rapid development and combined it with targeted investments in the nutrition, health and productivity of poor people. As a result, the proportion of undernourished people in the developing world has dropped from about one third 30 years ago to about one fifth today.

The world's political leaders have long recognized that rapid progress against hunger is possible. At the World Food Summit of 1974, they committed themselves to end hunger in a decade. Already then, experts said that the binding constraint was political will.

Over the last several decades, many reports and conferences on world hunger have concluded with a call for more political will. That's not good enough any more. No report or conference should ever conclude that way again. The analysis should instead continue explaining what practical steps will be taken - or can be taken - to build the necessary political will.

Changing the politics of hunger here in the US is especially important, because the US has more influence than any other nation and is the least forthcoming of the industrialized countries. Reducing world hunger is certainly not among the top 100 concerns of the US government. The US agreed to the proposal for a World Food Conference in 1996 only on the condition that the conference would not call for any new funding. Throughout the process since then, the US officials involved have been under instructions from the White House not even to suggest anything that would cost money.

Within the US itself, 33m people live in households that are food insecure. One in five US children live in these households, and even moderate undernutrition stunts the ability of children to learn. An expansion of the Food Stamp Program would quickly reduce hunger in this country, but the Food Stamp Program has instead been cut back.

Political will doesn't just happen, and political leaders can seldom act entirely on their own initiative. But we know a lot about how to build the political will to reduce hunger. Let me suggest seven lessons from experience here in the US.

### *Seven lessons of experience*

First, anti-hunger advocacy is a high-impact activity. Bread for the World is a case in point. Bread for the World and Bread for the World Institute together spend about US\$6m a year. But over the last three years, we have helped to win increases in annual funding of about US\$2.6b a year for effective programs that help hungry people. Bread for the World can reasonably take credit for about US\$1 billion of that - about US\$150 for each US\$1 in our budget. We've also helped to improve the quality of programmes, but the money figures alone demonstrate the remarkable impact of work to change the politics of hunger. It never ceases to amaze me.

Second, religious communities are a core constituency. More than 90% of Bread for the World's members are Christian people who work for global justice as part of their religious lives. Many national religious bodies have strong programmes of assistance to hungry people, and most of them also make some effort to teach their people about relevant public policies. MAZON, the main Jewish anti-hunger organization, includes an advocacy component in 40% of its grants. At the community level, more than three fourths of religious congregations engage their people in assistance to hungry people.

Third, charities are becoming more strategic. Over the last decade, many charitable networks have engaged with governmental institutions in new ways. InterAction, which includes nearly all the US charities that work overseas, is now leading them in a campaign to increase US funding for international relief and development.

There has been a parallel movement among charities that help hungry people here in the US. America's Second Harvest is a network of food banks supported by about 60,000 agencies that feed hungry people in this country. These agencies include approximately a million workers, mostly volunteers, who Second Harvest now engages as advocates. Second Harvest has become open to helping these volunteers learn about world hunger as well.

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Fourth, we need more help from other types of institutions. Advocacy, religious and charitable organizations are not strong enough to win the fight against hunger, which is possible. With that in mind, leaders from a diverse array of institutions have recently come together as the Alliance to End Hunger. These institutions are willing to do more to change the politics of hunger, and they have come together to encourage each other and reach out to other institutions. The Alliance includes foundations, food companies, political leaders, labour unions, organizations that represent minority groups, farm organizations, and universities.

Fifth, Americans are ready to support the right kind of programme to reduce hunger. The Alliance to End Hunger hired political consultants to help us learn about how US voters think about hunger. A national poll showed that most US voters want their government to do more to reduce hunger in our country and around the world. Voters also see roles for charities and for the United Nations.

Public support becomes much broader when a "liberal" call to do more is combined with a "conservative" commitment to make anti-hunger programmes more effective and to design them in a way that encourages self-reliance. Across the political spectrum, Americans are sceptical about government social programmes. So those of us who want the US government to expand what it does to help hungry people need to be aggressive in making official international development initiatives more effective. Reform needs to be part of our message.

Sixth, we need roughly US\$25m more for political work against hunger. Bread for the World has recently been able to translate each US\$1 in its budget into US\$150m of government funding. Using that ratio, we need roughly US\$40m a year for political work to win the additional government funding we need. Various groups now spend about US\$15m a year on anti-hunger advocacy and related education. Therefore, we need roughly US\$25m more.

The US\$25m number is a guesstimate. Yet, it gives us a rough sense of how much more effort needs to go into changing the politics of hunger. Existing efforts are only a fraction of what's required, but US\$25m is not an impossible number. The US charities that provide food to hungry Americans have combined budgets of about US\$2.5b a year, and the US charities that do relief and development work internationally receive about US\$2.5b a year in private contributions.

Seventh, now may be an opportune time to build political will. Recession and war are pushing millions more families into abject poverty. But the terrorist attacks of 2001 have made the US public more supportive of efforts to reduce hunger in the US and worldwide. More political leaders now believe that reducing poverty around the world is important to US national security.

Partly for this reason, President Bush has proposed the Millennium Challenge Account (MCA). The Bush administration is promising to add US\$1.7b to the foreign aid budget in FY 2004, scaling up to an additional US\$5b by FY 2006. The MCA will channel assistance to countries with governments that respect human rights, invest in their people, and promote economic freedom.

I'm delighted by the MCA proposal. Since it's coming from a conservative president, we have an opportunity - right now - to build a new bipartisan commitment to reducing poverty and hunger worldwide. Bread for the World's main campaign in 2003 will be called Rise to the Challenge: End World Hunger. Together with a broad coalition, we intend to hold the president to his promise and get Congress to approve and fund the MCA.

#### *What you can do*

I'm an activist, so I'm going to ask for your help. If you're not yet a member of Bread for the World, please join. If you are part of a religious community, consider getting them to write letters to Congress as part of the Rise to the Challenge campaign.

Some of you are researchers. We need analysis that addresses popular concerns, and getting the word out may be as important as the research itself. IFPRI's 2020 Vision is a model of what we need. We also need research on what works and doesn't work to change the politics of hunger.

Some of you work in international development agencies. These agencies help build political support, first, by doing a good job and, second, by reaching out to the public. They get hunger stories into the news, for example. A few years ago, we polled 50 of the largest US charities and advocacy organizations. Collectively, they employed only about 10 people to pitch policy-related stories about hunger and poverty to the media. USAID and the World Bank are already major actors in this field, and they could do more.

### Professor Sirisena Tilakaratna 1939-2002

Professor Sirisena Tilakaratna, a distinguished scholar, friend and colleague of many students, academics and writers on economic and social development focusing on the rural poor and their food and nutrition conditions, died on 3 August 2002 in Colombo, Sri Lanka. Professor of economics at the Sri Jayawardenapura University, Tilakaratna was a pioneer in many fields, but above all in giving realistic substance to the concept of 'participation'. He was the first coordinator of the governmental "Change Agents Programme" in the 70s, and from 1980, of the NGO PIDA (Participatory Institute of Development Alternatives), which aimed at highlighting and mobilizing people's creativity and potential as the best means of achieving their own development. Many young civil servants in the country were trained under his guidance to understand and adopt such a perspective for their work. His career as a university scholar and field mobilizer continued to revolve around mobilization of the rural poor and research on participatory development, with particular emphasis on banking for poor rural women. On numerous occasions, he also served as a consultant for international agencies such as the ILO, UNICEF and IFAD.

In the early 80s, Professor Tilakaratna joined a collaborative research venture between our group in community and international nutrition at the University of Oslo and scholars in Sri Lanka, focusing on how to bring nutritional considerations into agricultural and rural development. A major concern of the group at the time was how to give content to the emerging concept of household food security as a critical component in processes determining nutritional security. Here, Tilakaratna's deep insight and experience in the microeconomics of household viability, combined with his fundamental respect for human dignity - considering people as the subject rather than objects of development - was vital to our own learning and to what eventually emerged as our joint contribution to a holistic understanding of HFS<sup>1</sup>. In the first years of the 90s, he also became an invaluable source of support to IFAD's evolving understanding of household food security. This included his endeavours as a major co-worker in IFAD's contribution to the International Conference on Nutrition in 1992<sup>2</sup>. He led several IFAD missions to explore the means by which participatory approaches could enhance nutritional assessment and the explicit incorporation of a food and nutrition focus in IFAD's lending operations.

In early 1995, plans were made for resuming academic collaboration between the University of Oslo and his own university in Sri Lanka, now aimed at further developing the human rights dimensions of food and nutrition security. In the spring of that year, however, the Sri Lankan Government invited him to become Chairman of the University Grants Commission (UGC), the highest official position in charge of overseeing and developing the country's academic institutions. During the period of his chairmanship, he successfully planned and implemented several new policies for developing and expanding the university system, adding four new national universities and several university institutes. In 2001, he stepped down from UGC to resume his academic work as Senior Professor of Economics at Sri Jayawardenapura University. He also had plans for continued work with poor women's groups in the field. At the beginning of this year, we again took up the idea of new joint activities, especially with regard to advancing the much-needed dialogue between human rights experts and economists to strengthen their mutual understanding and, thereby, strengthening a rights-based approach to development. Due to illness, Professor Tilakaratna was unable to accept an invitation to a first roundtable conference on this topic organised by IFPRI and IPRFD in Washington, DC in January 2002, but he expected soon to be sufficiently fit to organize a similar seminar at country level in Sri Lanka. This, sadly, was not to take place.

For those of us who had the privilege of working with Professor Tilakaratna and continually learning from his vast experience and insight into development, his untimely death is a heavy loss. His ideas and guidance would have been increasingly needed, not least in the current search for workable poverty reduction strategies. There are many of us, not only in Sri Lanka but also abroad, for whom he will forever stand as an important and inspiring mentor in our professional endeavours and development.

Many, including myself, were also lucky in having Tilak as an encouraging and loyal friend, who never missed an occasion to share his humorous outlook on life, notwithstanding his deep concern for poverty and for the various internal struggles afflicting his country over the years. His preparedness to try always to understand the root causes of those struggles from a historical and social perspective was quite remarkable.

We share this great loss with his devoted family, who was such an important part of his life.

Wenche Barth Eide  
Associate Professor  
Institute for Nutrition Research  
University of Oslo  
Former Technical Adviser in Nutrition to IFAD (1988-94)

1. Eide WB, et al. *Incorporating Nutritional Considerations into Rural Development Programs with Focus on Agriculture*. Report no. I: A Theoretical Framework, 1985; Report No. II: Towards Practice, 1986. Institute for Nutrition Research, University of Oslo.
2. Frankenberger T, et al (1992) *Rural Poverty Alleviation and Nutrition: IFAD's Evolving Experiences*. IFAD, Rome.



# WORKING GROUPS

## Key contacts for Working Groups

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### Working Group on Capacity Development

#### *Workshops*

Three Capacity Development Task Force workshops were recently held in the Greater Horn of Africa (19-23 August 2002), Southern Africa (25-30 November 2002) and West and Central Africa (29 July-9 August 2002). These workshops were heavily focused on strengthening the capacity of nutrition professionals in HIV/AIDS trainings.

The objective of the workshop in the Greater Horn of Africa—conducted by the Regional Centre for Quality of Health Care, the FANTA project, LINKAGES, and SARA—was to orient tutors/trainers on the key issues of nutrition and HIV/AIDS and how to integrate this into trainings. Participants were selected from health/nutrition institutions in the East and Southern Africa Regions and a multidimensional Tool-kit was developed for disseminating training information. Participants further developed group/country work plans on how to best pre-test Tool-kit materials in their countries.

Similarly, the Southern African Capacity Development Initiative Taskforce, coordinated by the Medical University of Southern Africa with support from other institutions within the region, held a workshop to assist in the integration of nutrition in HIV/AIDS training programmes for nutritionists. The workshop also served as an inaugural activity to

establish, formalize and operationalize the Action Learning Cooperative, a concept developed by Dr. Piet Human of Yenza Learning Systems.

The objective of the West and Central African Nutrition Advocacy workshops was to establish a group of nutrition advocacy trainers within regional and/or national nutrition training institutions. The two workshops aimed at enhancing the acceptance of nutrition advocacy's importance in the region; developing an action plan for the establishment and implementation of policies leading to instruction of nutrition advocacy within regional training institutions; and developing an advocacy module to be utilized by each nutrition training institution represented at the meetings.

#### *African Graduate Student Nutrition Network*

To help resolve the lack of effective networks, graduate students from Africa presently studying at Cornell University have initiated a worldwide network of African students focusing on nutrition. Its primary objective is to share ideas on how best to promote nutritional standards throughout Africa. The Cornell group is contacting students and faculties via e-mail in order to operationalize this network through discussions. For further information about registering, contact: *Simeon Nanama sn92@cornell.edu*.

#### *Latin America Capacity Development Task Force*

In August 2002, a very successful meeting was held on the use of isotopes for evaluating nutrition intervention pro-

grammes in Latin America. The project served to stimulate young scientists and planners participating in the workshop to review resources and constraints in developing a technical co-operation project.

In December 2002, a meeting was convened to discuss the future of nutrition in the Americas. This meeting was organized by IAEA and Dr. Fernando Vio from INTA, the University of Chile.

#### *Asian Task Force for Capacity Strengthening in Nutrition*

The Second Meeting of the Asian Task Force for Capacity Strengthening in Nutrition was held in Kuala Lumpur, Malaysia, July 2002. The meeting was hosted by Prof Khor Geok Lin, Department of Nutrition and Health Sciences, University Putra Malaysia. The Task Force has continued work on a ten year plan for enhancing capacity in the area of food and nutrition. A thematic provisional title was given to the plan's outline: "Achieving self-reliance in addressing nutrition challenges in Asia through capacity strengthening." A third meeting was also held October 31st to November 2nd, 2002, hosted by the Institution of Nutrition, Mahidol University, Thailand.

#### *Ellison Medical Foundation*

The first installment of the five year grant from the Ellison Medical Foundation to the International Nutrition Foundation (INF) for fellowships on institution building for research related to nutrition and infection was received in January 2002. This programme, patterned after the original UNU fellowship programme, is administered by the INF in cooperation with UNU and IUNS. By 1 October 2002, ten post-doctoral and two PhD candidates had been approved and several others are being processed. Limited initial research support has been awarded to an individual with a recent PhD in the US to assist her return to INTA, the University of Chile.

The programme's mandate is to strengthen a limited number of stable centres of excellence for research related to the interactions of nutrition and infection by improving their staff competence in any field related to this topic. Institutions are selected by the steering committee based on recommendations and site visits. Only priority candidates for fellowships from these institutions can be considered. The candidates must agree to return to their sponsoring institution for a period of at least five years after completion of their training or other support.

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### **Working Group on Nutrition, Ethics and Human Rights**

#### *Nutrition and Human Rights before Chennai: Recent Events and Emerging Challenges for the SCN*

The SCN Working Group on Nutrition, Ethics and Human Rights (NEHR) will meet again after two years during the forthcoming SCN annual session in Chennai, March 2003. The SCN Steering Committee has decided that human rights should be given special attention at this session, in an effort to influence the evolving intergovernmental process of developing *voluntary guidelines for the implementation of the right to adequate food* for UN member states (see Speakers' Corner p. 60).

All stakeholders are invited to contribute actively to that process by holding their own caucuses and preparing ideas and suggestions for input into the Intergovernmental Working Group (IGWG).

How the SCN can best play an effective role in the process of developing voluntary guidelines will, therefore, be at the core of the working group's March agenda. To stimulate that discussion, this note reports on recent events and developments that offer insight into some of the wider perspectives in which the right to adequate food ought to be addressed during the drafting process.

Firstly, within the UN there have been two different efforts over recent months that have contributed to linking the right to food and livelihood explicitly to poverty and poverty reduction strategies. This link must necessarily be duly reflected in the guidelines. Secondly, there is an initial effort by the NGO community as an important stakeholder and to gather its ideas for the guidelines drafting process, with the intention of contributing them to the first meeting of the IGWG.

#### *Poverty reduction and the right to food*

In *Guidelines for a Human Rights Approach to Poverty Reduction Strategies*, poverty, poverty reduction and human rights were addressed in a process led by the Office of the High Commissioner on Human Rights during spring/early summer 2002. These draft guidelines also encompass the right to adequate food and should have a bearing on the specific right to food guidelines to be worked on now.

#### *The UN Social Forum*

A further innovation of potentially high significance has been the establishment of a new *UN Social Forum* (SF) under the auspices of the UN Sub-Commission on the Promotion and Protection of Human Rights. The SF held its first meeting in Geneva in July 2002, and is intended to become permanent, subject to approval of the Commission on Human Rights and ECOSOC. The SF will specifically consider social aspects of globalization - in particular economic globalization - through a human rights perspective. This responds to the need for "a new social architecture" that will complement today's strong emphasis on "the financial architecture". While the SF is not meant to 'compete' with the NGO-based World Social Forum of Porto Alegre in Brazil, it has chosen an unorthodox approach of having invited those seldom directly heard in UN fora - poor groups of stakeholders - to present their cases and to debate with UN human rights and development agencies and financial organisations. It also serves as an experiment for a new form of enlarged and enhanced dialogue on human rights beyond established UN standards. As such, the first session was successful in advancing broader understanding among stakeholders on the relationship between globalization forces and human rights, including the right to food, in the context of poverty eradication strategies.

Both authors attended the SF on behalf of the World Alliance of Nutrition and Human Rights (WANHR) and the SCN through this working group. In our judgment, the SF is clearly a forum where the SCN can and should play a role in adding a wider development perspective to many of its concerns. Further, the SF could be a good arena to market the SCN's special expertise and interagency experience, especially in view of the Steering Committee's decision to expand the SCN's stance on human rights by becoming in-



volved with the forthcoming guidelines process.

#### *NGO contributions*

To that end, contact with what happens in the NGO community is also critical for the SCN. A first meeting of NGOs as another group of stakeholders in the process was held in Mülheim, Germany, 20-22 November 2002. The meeting was initiated by FIAN and co-organised with WANAHHR and the Institut Jacques Maritain, and financed by the German Government through its Ministry of Consumer Protection, Nutrition and Agriculture. The purpose was to solicit ideas from a wide range of NGOs and scholars for an initial contribution from civil society to the IGWG. Some 50 NGO representatives were able to attend on relatively short notice, while others are being invited to participate in the process of producing a document for the IGWG secretariat by the end of February 2002. On the basis of the ideas developed in Mülheim, a document will be worked on by a small drafting group and made available for reactions from interested NGOs before completion. The document will contain both principles for what ought to go into the guidelines and concrete ideas important for civil society, which the IGWG may wish to consider.

#### *Clarification of terminology*

A specific and important task lies ahead for the SCN. The nutrition community together with other stakeholders must try to finally come to grips with the terminology surrounding the wider concept of *nutrition* as compared to *food*. Even when expressed as *adequate food*, we know that this alone would not sufficiently guarantee freedom from hunger and malnutrition and the achievement of nutritional well being. It is necessary to resolve the problem of terminology in the right to food “movement”. This requires openness from all involved in order to balance the sometimes more ‘puristic’ wishes of nutrition experts versus what can be understood by lay people and what may have political leverage. Typical misunderstandings that arise in the semantic and conceptual confusion surrounding “the right to adequate food” versus “the right to nutrition” were demonstrated also at the Mülheim meeting. The nutrition community should certainly help clarify the language, which must conform to human rights law and be simple enough to appeal politically, while not compromising the true meaning of nutrition and the obligations that must be derived from it.

#### *The common denominator: GC12 on the right to food*

A common denominator for all in the process of developing guidelines should be the General Comment no.12 (GC12) on the right to food issued in 1999 by the UN Committee on Economic, Social and Cultural Rights, which is now generally agreed to be placed at the core of the guidelines. Its principles are not up for reformulation or dispute, however, what is at stake is the operationalization of the principles in practical situations by giving them specific content in practical country situations. This is to a large extent what the guidelines process ought to concentrate on: clarifying, adapting and enriching the GC12 interpretations of the right to food and how to implement it as the process evolves.

#### *National seminars and GC12*

Finally, important lessons will be learned from a series of national seminars that consider what a rights-based approach to food and nutrition security could entail in the

countries in question, if taken seriously by governments and other stakeholders. By the time of Chennai, results from at least five such seminars will be available (in South Africa, Brazil, Norway, Uganda and Mali, with Nepal and Sierra Leone to follow later in the year). Both the activities around these seminars and the SCN’s involvement in the guidelines process may go a long way in responding to an important part of the work programme for the WG on NEHR as agreed at the 27<sup>th</sup> Sessions of the SCN in Washington, DC in 2000. The work programme emphasised the need to “popularize” the GC12 so that it can be used by governments. This means transforming its principles into a language fit for policy-makers and practitioners and which will guide their own internal dialogues and promote innovative thinking and experiments with a new approach.

In conclusion, the right to food movement has progressed faster than foreseen, and practical guidelines and “adaptive models” for using them in practice by interested states and civil society, may be within reach. Chennai will provide both an opportunity and a challenge for the SCN to define its own contribution to help make this come true.

#### *Notes*

1. Available at <http://www.unhchr.ch/development/povertyfinal.html>
2. As expressed in UN Sub-Commission on the Promotion and Protection of Human Rights resolution 2001/24, at <http://www.unhchr.ch/huridocda/huridoca.nsf/Documents?OpenFrameset>
3. Space does not allow us to report in full on the outcome in terms of recommendations. Readers can refer to the official report E/CN.4/Sub.2/2002/18 at <http://www.unhchr.ch/Huridocda/Huridoca.nsf/TestFrame/afc27ffc2321f654c1256c2f0051fba?OpenDocument>
4. Uwe Kracht, on behalf of the International Project on the Right to Food in Development (IPRFD), also provided technical expertise to the Office of the HCHR in the preparation and reporting of the SF. This included preparing a background paper on “Who are the poor?” (available upon request).
5. As an example of how the SCN can contribute to strengthening the SF with its collective expertise, we were able to present information on the importance of focusing on the nutrition of women and the girl child in the more general statements on poverty and access to adequate food, given the inter-generational dynamics of a life cycle approach to nutrition. Likewise, it was also stressed that malnutrition today goes beyond the classical deficiency diseases, as manifested by the nutrition transition also affecting the poor.

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## Beat Schürch 1940-2002

Beat Schürch, died on September 6, 2002 in Lausanne, Switzerland of malignant melanoma. His contributions to human nutrition resource development and his support of good research in developing regions will live long after him. He was born in Thun, Switzerland on September 24, 1940. After obtaining a BSc from the University of Geneva, he received MSc and MD degrees from the University of Bern. In 1975 he received a PhD in Instructional Technology and Educational Psychology from Syracuse University in the US. He married Vinita Kapila in 1976, and their son Alex is 18.

Before coming to the Nestlé Foundation, Beat was Associate Professor and Director of a MSc Programme in Biomedical Communications at the University of Texas, School of Allied Health Sciences at Houston, Texas, USA. From 1967 to 1973, he was the designer and producer of 50 television programmes for continuing medical education for "Medicovision" Roche, Basel and 12 films for continuing medical education for Documenta Geigy. He was a long-time member of the IUNS Committee on "Nutritional Terminology."

As Director since 1979 of the Nestlé Foundation for the Study of Problems of Nutrition in the World in Lausanne, Switzerland, he initiated an international fellowship programme in human nutrition to strengthen nutrition institutions in low-income countries, particularly in Africa, that was highly effective. His determined support of excellence in the research capacity of selected nutrition units reinforced the benefits of the fellowship programme.

Some of the Foundation's most important contributions have been support of research on maternal nutrition during pregnancy and lactation with emphasis on the many questions relating to infant malnutrition and its effect on later child health, growth, and motor and mental development. Beat Schürch's early recognition of the significance of evidence for the foetal origins of adult disease reinforced these efforts.

He supported improvements in mass spectrometry that made feasible the doubly-labelled water method for the unobtrusive assessment of total energy expenditure in free-living individuals over a two- to three-week period. When the International Dietary Energy Consultative Group (IDECG) was formed in 1986, with Beat Schürch as Executive Secretary, he initiated another long series of valuable contributions. He first arranged for IDECG, in collaboration with the International Atomic Energy Agency (IAEA) in Vienna, to bring together the heads of all the laboratories using this method at that time to standardize the technique and discuss its potential and limitations. This resulted in a rapid expansion in the use of the method and the collection of a wealth of data on total energy expenditure of different population groups and put into doubt many earlier estimates of their habitual energy intakes.

IDECG began as an informal network of scientists and policymakers interested in human energy metabolism and requirements, sponsored by the United Nations University (UNU) and the International Union of Nutritional Sciences (IUNS), with the endorsement of the UN Standing on Nutrition (SCN). Under Beat's extraordinarily effective guidance and ability to marshal the needed financial support, IDECG convened a series of workshops on seminal issues related to protein and energy metabolism and requirements.

Between 1987 and 1993, a number of IDECG meetings were held on the selection of low body mass index (BMI) as an indicator for chronic energy deficiency; the interaction between protein and energy expenditure the effects of their supplementation; and the effects of unfavourable environments on child growth. This work on children went on to influence social policy and research agendas.

For the next six years, Beat devoted a considerable long-term effort to gathering, analyzing, and summarizing the two principal components of energy expenditure: basal metabolic rate and the energy cost of physical activity. A meeting in 1997 in Rome drew upon this information and established the lower and upper limits of adaptation to energy intake and its principal substrates, protein, carbohydrates, and lipids. The last in the series of IDECG workshops met in Boston in 1999, to discuss the impact of human ageing on energy and protein metabolism and requirements. It provided new and valuable insights.

It is to Beat's credit that all of the IDECG meetings resulted in substantive publications, in later years as supplements to the European Journal of Clinical Nutrition. His concise annual presentations of the work of IDECG to the SCN were always appreciated. IDECG was able to play a valuable role in providing overviews of current knowledge, formulating research needs and priorities, and making conceptual advances in certain areas. As its Executive Secretary, Beat Schürch deserves much of the credit for these achievements including the selection of topics, organizing the meetings themselves, and great skill in editing the workshop proceedings. He had an uncanny ability to identify issues to which IDECG could make important contributions.

Much of the above is taken from his own writing and interviews in which, with characteristic modesty, he did not present them as his own achievements although they were. One of his concerns was always to invite scientists from as many parts of the world as possible to meetings for which he was responsible and to collaborate with other international organizations, particularly those of the UN system. No individual could have been more generous in accepting responsibility nor more conscientious in its discharge. He was also very knowledgeable in modern art, collected it, and was acquainted personally with many renowned artists.

Although he knew the prognosis of his disease many months in advance, he tried to spare his friends and colleagues this knowledge and the anguish of its inexorable progress. It is hard to accept the loss of someone so generous, committed, altruistic, and quietly effective who became a much-admired friend of nutritionists around the world. He was one of the nicest persons we have known. African nutritionists will particularly remember his commitment to their support. His contributions to advance of nutritional science and nutrition scientists will have lasting influence as will his example of dedicated and unselfish service.

Nevin S. Scrimshaw

Senior Advisor, Food and Nutrition Programme, United Nations University





# NUTRITION IN EMERGENCIES



## Summary of the workshop Standardized Monitoring and Assessment of Relief and Transitions (SMART) An Inter-Agency Initiative

*Editor's Note: The following is an update to the article by Anne Ralte, Collaborative Effort on Monitoring Relief Assistance, which appeared in SCN News 24. RNIS Editor, Dr. Claudine Prudhom, attended the four-day workshop.*

USAID's Bureau for Policy and Programme Coordination convened a workshop hosted by the American Red Cross, Washington, D.C. The objective of the technical working session, held 23–25 July, was to establish a generic, standardized methodology for assessing the mortality rate and nutritional status of populations in crisis. The policy session held on 26 July promoted a better understanding on how policy and programme decisions are made by donors and international agencies.

Many organizations providing emergency health and nutrition relief participated in the workshop. There was representation from 45 institutions, including 20 NGO/international organizations, seven UN organizations and several other institutions (universities, donors and government).

### *Outcomes of the workshop*

There was agreement that timely, reliable, and standardized data is essential for prioritizing humanitarian assistance for policy and programme decisions. The humanitarian community needs to act quickly when a crisis erupts to ensure that critical, real time data is available for making appropriate policy decisions.

The two measures, crude mortality rate (CMR) and nutritional status of children under five, are considered the most basic, essential indicators for assessing the overall severity of population stress and for monitoring the overall effort of the humanitarian community. The standard nutritional status indices to be used are wasting (thinness or marasmus) and oedema (kwashiorkor). Wasting is measured using weight-for-height. Consensus was reached on a generic, standardized methodology to be used in all emergencies for assessing nutritional status. In essence, current best-practice survey methods should not be changed until new ones have been tested and validated.

Trend analysis is recommended for determining whether a situation warrants intervention, rather than using absolute thresholds established by the international community.<sup>1</sup> Nutritional status, which continues to deteriorate, even if it is below the 10% cut-off wasting prevalence, merits attention and appropriate interventions. Appropriately collected surveillance data triangulated with frequent surveys, undertaken with a simple and easily repeatable methodology, is recommended to recalibrate surveillance data and monitor trends.

Nutritional survey data cannot be interpreted in isolation. The food security context needs to be understood to interpret nutritional survey data. Although there is

***Nutritional survey data cannot be interpreted in isolation. The food security context needs to be understood to interpret nutritional survey data.***

not yet an agreed method or best practice, the household economy approach (livelihood method) has worked to predict quantitatively how an event, such as crop failure or price change, is likely to affect people's ability to get food. It gives an estimate of who will be affected, how severely they

will be affected, and when they will be affected. Other methods do not give this quality of information.

The current indicator, CMR, should not be changed until research findings validate that under-five mortality rate is a better alternative. Mortality data collection is much more difficult than collecting data on nutritional status because it is prone to error. Mortality survey data needs to be triangulated with other data such as nutritional status, surveillance (incidence and programme coverage), grave counting, religious authority record, mother to child ratio, and demographic profile.

### *Next steps*

An inter-agency technical support system to build capacity at all levels (including donors, implementing partners and local partners) will be needed to ensure that standardized methodology and other recommendations are implemented. This includes the development of a "SMART Manual for Dummies" and other tools accessible to all organizations. It will also include an advisory analytical service to help analyze survey data, and an independent technical advisory group to

review and accredit surveys to ensure validity for policy and programme decision making. Data will be shared and accessible to the humanitarian community to be used only for the good of the beneficiary.

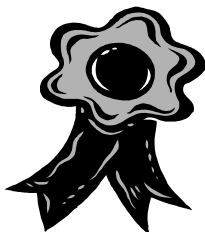
As a joint effort, organizations will apply the standardized methodology and other recommendations in pilot countries. Operational research and validated studies will help guide future recommendations and modifications on the current standardized methodology and on the potential use of alternative indicators to monitor

the impact of the overall performance of relief assistance.

*More information can be found at [www.smartindicators.org](http://www.smartindicators.org).*

*Notes*

1. The general (WHO) classification on wasting prevalence: < 5% of population = acceptable; 5-9 % = poor; 10-14% = serious; >15% = critical. Crude Mortality Rate is expressed in units of deaths/10,000/day in emergencies. CMR greater than 1/10,000/day indicates a very serious situation.



### **Dr. Pedro Sanchez Wins World Food Prize!**

Dr. Sanchez, a Cuban-American soil scientist, was named the 2002 World Food Prize winner for his work to reduce hunger and malnutrition throughout the developing world.

Dr. Sanchez was presented with his award at a ceremony at Iowa State University in Ames, Iowa on October 24<sup>th</sup>, United Nations Day. He is recognized for his groundbreaking work in transforming depleted tropical soils into productive agricultural land, particularly in revitalizing soils in Brazil, thus greatly expanding that country's agricultural output.

Secretary General, Kofi Annan selected Sanchez to chair a special task force on hunger as part of the UN Millennium Development Project, which is involved with tackling global problems of poverty, education, promoting democracy, and protecting human rights.



# SPEAKERS' CORNER

Money is tinted by the colour from where it comes,  
or  
children are not an issue of charity, Ronald—  
they are a matter of justice!

This is one more post-mortem to the partially-called-off UNICEF - McDonalds (public-private) partnership to which so many of us reacted. I hesitate a bit philosophizing about it any more, because it just gives this and other transnationals even more exposure. A lot has already been said about this deal in part gone sour. That as it may, November 20th, World Children's Day, has passed and a McDonaldization of that day was not to be after all. The prompt and forceful mobilization of opponents to the deal from inside and outside UNICEF is to be credited. It paid off - as it should have even if most (but not all) components of the UNICEF-McDonalds-world-partnership were called off at the eleventh hour.

This affair reminds me of the fabled story of the fight between the mongoose and the snake. Both are of about the same strength, but invariably the mongoose wins. The mongoose is more resourceful and it organizes its strategy better to strike.

Transnationals are the mongoose; the UN organizations, in this example, are the snake. It is the asymmetry in the use of market power that makes for the skewedness of the outcome. The McDonalds of this world always have the upper hand.

Particularly in nutrition, we have had a long history of these controversies with the milk industry, as Patti Rundall's article ably points out. Transnational corporations wash their consciences through partnerships like these. They exploit them for visibility, for enhancing corporate image and ultimately to increase their market share. Did McDonalds "raise the profile of children's health issues", as they claimed in a clever gimmick including 20m Halloween charity boxes placed in their US outlets 11 to 31 November? No. Charity boxes do not do the trick, or treat the basic causes of children's preventable ill-health and malnutrition around the world.

Central here is the fact that UNICEF can simply not be an enabler of corporate activities especially if corporate advertising manipulates children. UNICEF's mission is to protect children.

There is nothing wrong with corporate social responsibility, if genuine. But where is the dividing line? A good corporate reputation is earned by honest, socially responsible behaviour and integrity over the years and not by publicizing corporate connections with well-thought-of organizations, without making meaningful changes in the practices they are rightfully criticized

for. Long term relationships of a better kind than those of the mongoose-snake type are needed for that.

Nevertheless, UNICEF welcomed McDonalds' corporate responsibility in raising funds for children. It wanted to harness corporate globalization to serve children in the best way possible. UNICEF wanted to reach and involve a wider audience through this partnership to get them an opportunity to interact with it. It still thinks McDonalds is committed to children's causes (Ronald McDonalds Charities gave US\$5m to UNICEF in 2000 and stands to give US\$5m more shortly). It thinks McDonalds demonstrates leadership to advance the children's agenda. UNICEF says they are not recommending children eat burgers and are thus not endorsing fast food.

Pronouncements like some of these make it harder for genuine critics of McDonalds to show the public that, as a corporation, McDonalds is not as good as its reputation/image, even when enhanced by their partnership with a UN body. Reputation, these days, has come to have an increasing commercial value. We rather let McDonalds have the reputation it deserves and not delegitimize any other means of motivating them to behave in a more socially responsible manner. As history shows, a mixture of dialogue and pressure/confrontation are usually needed to achieve that.

In short, UNICEF (especially headquarters) simply cannot have it both ways: stand for higher principles and take tarnished corporate money. This is bound, as it did, to divide its own staff and to mobilize a concerned sector of civil society.

Ultimately, the issue is not only about whether McDonalds aggressively promotes fast food that contributes to ill health, poor nutrition and to a junk food culture. It is about a UN agency hesitating (did they really?) about whether to go ahead or not with a partnership like this. This is worrisome. From a long term harm perspective, one cannot but draw the parallel with the tobacco industry. A partnership with them would be unthinkable, so why are the standards in this case so different?

On the positive side, I celebrate the staff's and civil society's brave and forceful response to this issue. With unified, widely shared purposes, we can win many more such battles.

*Claudio Schuftan, Hanoi aviva@netnam.vn*

## UNICEF and McDonalds: A wake-up call

The flood of protests from health campaigners, including a mock wedding staged by the NGO EarthRights outside UNICEF's New York HQ, have caused this well-respected agency to rethink a new partnership with the transnational food chain McDonalds. The exact outcome is not known yet, but it seems that the partnership is now effectively over.

As an NGO that has worked closely with UNICEF and has greatly valued its support, we breathe a sigh of relief and applaud this sensible step.

The gross inadequacy of the partnership, which was clearly intended to expand from the United States to many countries, prompted letters from all over the globe, among them: the Harvard Medical School, the Australian Parliament and from participants from 70 countries attending the WABA/UNICEF meeting in Tanzania in September. Most of them denounced UNICEF entering into a partnership with a company known worldwide for its aggressive promotion of its foods to children, foods contributing to ill-health and poor nutrition both in industrialized and non-industrialized countries. Protesters warned that such a partnership would severely and permanently damage the good relations that UNICEF now has with people's organizations around the world.

This is not the first time that a high profile sponsorship deal has backfired. As vocal public concern about the damage that corporations are causing to our health and the environment increases, it won't be the last. The alarmingly high rates of obesity in many countries (30% of adults in the US are obese and 60% are overweight)<sup>1</sup> are leading to fast food companies facing a flood of law suits. Indeed, two children are suing McDonalds for contributing to their weight problems. In this new climate, partnerships and evidence of 'social responsibility' assume even greater significance. However, the fact that McDonalds, with its appalling record, managed to pass UNICEF's ethical criteria indicates that there is a serious problem somewhere<sup>2</sup>.

In the UK, the issue of commercial sponsorship has become a hot topic. Several organizations have suffered damage to their reputations by failing to do extensive enough research of potential sponsors and partners. The babyfeeding issue has been at the centre of some notable controversies.

In 1999, the public relations firm Saatchi and Saatchi advised a struggling Nestlé, to "aggressively advertise its links with charities and good causes" to offset bad publicity and to build "a surplus account for the times when you have a crisis"<sup>3</sup>. Nestlé distributed £1 m among four leading UK charities. The £250,000 donation received by the British Red Cross (BRCS) prompted widespread criticism and prompted the agency to commission an enquiry into the factors affecting the reputation of chari-

ties engaging in corporate partnerships. It was clear that many, even within the organization, considered that the Nestlé sponsorship had an overall negative effect on the Red Cross. The time spent on answering calls and the impression given that the BRCS did not care about dying babies all served to damage the reputation of BRCS in the eyes of many. Although the International Red Cross has gone ahead with a new Nestlé sponsorship, the British deal has ended and there are no plans to renew it.

Guidebooks for British charities now urge caution and the establishment of ethical policies before accepting commercial sponsorship. The Charity Commission warns that if charities adapt their values to suit the wishes of a commercial partner, this could even lead to a breach of trust and to investigation by the Commission. The Commission notes that other forms of fundraising can be more effective and may require much less administration<sup>4</sup>.

From Baby Milk Action's perspective, the rise of these new partnerships has brought multiple problems, which are not merely a matter of brand promotion on a burger. Our work involves advocacy for strict marketing controls on a group of highly profitable products (breastmilk substitutes) at national, regional and increasingly at international trade level. The controls are based on agreed UN Resolutions, which are an anathema for corporations for whom marketing is their lifeblood. In the current political climate, it is extremely difficult to get legislation passed that restricts corporate activity. Since 1981, when the International Code was first adopted, UNICEF's solid and consistent support for the Code and its willingness to challenge the baby food industry, has helped the adoption of legislation in many countries. This legislation is now protecting over half the world's children. There is no doubt that as much would have been achieved if UNICEF had given into the pressure to enter partnerships with the baby food industry.

An unchallenged partnership with a UN body or a link to a prestigious NGO must be worth billions in marketing terms and works its magic on many fronts. Here are just a few benefits for industry:

- ❑ it creates an instant and enduring image in the public mind that the corporation is a responsible 'corporate citizen' and can be trusted to regulate itself
- ❑ it can be used to counter bad publicity and silence potential criticism
- ❑ through it, corporations can influence public health policies and priorities (generally in favour of deregulation, privatization and the dismantling of publicly funded health and education services)
- ❑ it creates dependency; and
- ❑ it provides opportunities to gather intelligence



about NGOs and the UN.

The risks and problems of these partnerships are seldom researched, publicized or even acknowledged. Adverse effects most often involve the very poor who, all too often, have no say in the decisions taken on their behalf.

The partnership deals are prepared by people who are experts in public relations and who are fully aware of the implications and how deals will lead to cooperation with the public sector partner. They know that a partner will soon find it more uncomfortable and embarrassing to speak out against unethical behaviour. If they do criticize, they will do it privately, in off-the-record meetings in the CEO's office - rarely in public.

As more NGOs and UN agencies become involved in such partnerships, the number of agencies that can carry out truly independent and systematic monitoring decreases, along with the likelihood that irresponsible practices are exposed.

Under these regimes there are no really bad companies. Even the worst can say that they are 'trying' to do better. Who would resist the prospect of helping them on their way? What once was a sponsorship deal is now being portrayed as a moral duty. Looking at it that way, it is no wonder the McDonalds deal got through.

*Patti Rundall, Policy Director Baby Milk Action  
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#### Notes

1. Health, United States 2002
2. Hawkin P (2002) 'Issues that McDonalds did not deal with in the report on Corporate Social Responsibility.' *Food First* April 25, 2002.
3. *Marketing Week*, February 11, 1999, pp28-31 (editorial).
4. Charities and Commercial Partners, *www.charitycommission.gov.uk*

*Editor's Note: UNICEF was asked to comment on the UNICEF-McDonald's partnership, but declined.*

## GM or Not to GM?

### Time is running out for 14 million Southern Africans

*Editor's Note: Current figures estimate that 14m people in southern Africa will die of starvation if 1.2m tonnes of food aid are not received over the next few months (Guardian 11/30/02). The US can provide over 50% of what is needed to avert this crisis; but in genetically modified (GM) food aid.*

*Claims being made by participants (e.g. recipient countries, donors, NGOs and UN agencies) in this policy debate are related to food safety, as well as economic and environmental impacts. A number of potential solutions have been proposed, but received with mixed results. As SCN News goes to press, Swaziland agreed to take the GM food supplies with no objections. Malawi, Mozambique, Lesotho and Zimbabwe will only accept premilled grains to prevent germination in the event of spillage. Yet, Zambia has imposed a total ban on GM food aid.*

*Below are excerpts from statements released by UN agencies and an original statement by the NGO, Friends of the Earth. WFP and USAID were asked to respond to this debate, but provided no new or official statements.*

### UN Statement on the use of GM foods as food aid in Southern Africa

Rome, 27 August 2002—The United Nations is extremely concerned about the unfolding humanitarian crisis in southern Africa. The Food and Agriculture Organization (FAO) and the World Food Programme (WFP) estimate that 13m people will need food assistance in the coming months to avoid widespread starvation and a dramatic deterioration in health and nutritional status of the population in the affected countries.

...WFP has received donations of foods for use in southern Africa, some of which contain GMOs. Several governments in southern Africa have accepted these donated foods without reservation, and GM maize varieties are grown in the region. However, other Governments have expressed reservations on receiving food aid containing GMOs and have sought advice from the United Nations.

There are no existing international agreements yet in force with regard to trade in food or food aid that deal specifically with food containing GMOs. It is UN policy that the decision with regard to the acceptance of GM commodities as part of food aid transactions rests with the recipient countries, and that is the case in southern Africa.

It is WFP policy that all donated food meet the food safety standards of both the donor and recipient countries and all applicable international standards, guidelines and recommendations.

Based on national information from a variety of sources and current scientific knowledge, FAO, WHO and WFP hold the view that the consumption of foods containing GMOs now being provided as food aid in southern Africa is not likely to present human health risk. Therefore, these foods may be eaten. The Or-

ganizations confirm that to date they are not aware of scientifically documented cases in which the consumption of these foods has had negative human health effects.

Concerns have been expressed in southern Africa about the unintentional introduction of GM maize varieties into the region as a result of planting or spillage of whole kernel maize provided as food aid. Any potential risks to biological diversity and sustainable agriculture resulting from the inadvertent introduction of living modified organisms used for food, feed or processing have to be judged and managed by countries on a case-by-case basis.

Maize is known for its propensity to outcross, but this is less of a concern in southern Africa, where there is no large genetic diversity of this crop. In the specific case of maize, processing techniques such as milling or heat

treatment may be considered by governments to avoid inadvertent introduction of genetically modified seed. However, it is not UN policy that GM grain used for food, feed, or processing should necessarily require such treatments.

The United Nations agencies involved will seek to establish a long term policy for food aid involving GM foods or foods derived from biotechnology. The ultimate responsibility and decision regarding the acceptance and distribution of food aid containing GMOs rests with the governments concerned, considering all the factors outlined above. The United Nations believes that in the current crisis, governments in southern Africa must consider carefully the severe and immediate consequences of limiting the food aid available for millions so desperately in need.

Source: FAO [www.fao.org](http://www.fao.org)

## Biotech food can save millions of African lives

James Morris, Executive Director of WFP

*Excerpted from the International Herald Tribune, 19 September 2002*

...The (African) regions' food crisis, spawned by natural disasters, the impact of AIDS and failed economic policies, is deepening with the approach of the long hot summer in sub-Saharan Africa. The next harvest is at least four months away. We will soon enter what humanitarian agencies call the 'lean season,' and without decisive action millions of lives are threatened.

It is therefore all the more tragic that the WFP's campaign to feed 12.8m people in Southern Africa at risk of starvation has been subverted by an emotional and often uninformed debate about genetically modified food. At the very time that the suffering of the people is rising to monumental proportions, the criticism of biotech food products reached fever pitch. Genetically modified became overnight a touchstone for misinformation and rhetorical fury out of touch with modern science.

...What are their concerns? Some center on the environment and trade. Accidental cross-pollinating of biotech maize with varieties now grown has been raised as an issue.

...Another concern is possible European Union restric-

tions on African exports of livestock fed with genetically modified maize, but EU representatives say the real problem is the prevalence of foot and mouth disease.

...If the World Food Program cannot give biotech food to countries in southern Africa, it will have substantially less to in the weeks ahead and we are running out of time to appeal for more funds from donors.

The added demand for cash donations will mean the related emergency operations of our colleagues at the World Health Organization, UNICEF and the FAO will all be shortchanged as donors divert more cash for urgent food needs.

...Never, in nearly 40 years of operations, has the World Food Program confronted a blockade of its food aid in peace. We will try our best to save lives, working with recipient country governments, a wide spectrum of donors and our partner nongovernmental organizations. But we urge the political leaders in Southern Africa to weigh the scientific facts. The fate of millions of hungry people lies in their hands.



The African Journal of Food and Nutritional Sciences (AJFNS)  
has changed its name to  
**African Journal of Food, Agriculture, Nutrition and Development (AJFAND)**  
Visit its new website at [www.ajfand.net](http://www.ajfand.net)



## Genetically Engineered Do or Die

*Nnimmo Bassey, Friends of the Earth, Nigeria and Larry Bohlen, Friends of the Earth, US*

The Zambian government's final rejection of food aid containing genetically engineered maize from the United States probably leaves many people scratching their heads, wondering why any nation facing drought and starvation would turn away the first major offer of help to come along. Zambian President Levy Mwanawasa has decided to look elsewhere for food aid that is not genetically engineered. Why is this gift horse being looked in the mouth?

If presented only with the choice between eating genetically engineered food with its incompletely defined risks, and starvation leading to assured death, the choice to eat is clear. It is not clear, however, why President Bush's administration presents Zambia and other nations with this grim "take it or leave it" choice.

There are millions of bushels of non-engineered maize on commercial markets today in the United States and abroad. South Africa and Holland are donating it to Zambia, and Japan has asked the World Food Program to spend over \$12m of its food aid contribution on non-engineered maize for southern Africa. Meanwhile in the United States, for the past two years, major taco and tortilla producers have successfully switched to using large quantities of conventional white maize - a change they made when the US food supply was massively contaminated by StarLink, a variety of engineered maize not approved for human consumption due to the potential to cause life-threatening allergic reactions. If the administration wanted to honor Zambia's desire for non-engineered maize like it honors other countries' requests for specific foods acceptable to their diets, such as wheat or rice, the supplies could be found at a reasonable price.

There must be some other reason for the administration's position. It could perhaps be that President Bush and his party received millions of dollars in the last election from the biotech industry - an industry that has failed to convince most of the world of the need or of the safety of its products. While apparently rooted in the American spirit of generosity, the administration's actions are also likely an attempt to bail out a major political donor.

A key factor influencing the Zambian government to reject genetically engineered food aid is the potential health impact of engineered maize. This includes the possibility that it is contaminated with un-recalled remains of the US StarLink crop. Another factor is the risk that the country's own maize crop would be contaminated, since special handling techniques are not in place and farmers have a tradition of saving seed for planting of the next year's crop rather than buying it each year.

Zambia, a net exporter before the drought of non-

engineered maize preferred by its customers, would face economic hardship threatening farmers' ability to feed their families in the future.

People around the world find it odd that the United States is saying engineered foods are safe, yet US scientific bodies like the National Academy of Sciences and a scientific advisory panel serving the Environmental Protection Agency are calling for more safety testing. The panel has written that the bacterial toxin placed in most forms of engineered maize may be a human allergen. Meanwhile, dozens of severe allergic reactions to maize products in the United States have been reported but not adequately investigated.

Indeed, the US Food and Drug Administration has failed to directly conduct any safety tests of engineered foods. The agency merely asks biotech companies to voluntarily submit data from their own studies. The industry, predictably, tells the agency that they are safe for people and the environment, but according to the National Academy of Sciences, the transparency of industry data is woefully inadequate. The fox is guarding the henhouse.

Until the Agency requires independent safety testing, people all over the world will remain justifiably concerned about engineered foods. They will also be skeptical as long as the biotech crop producers are Monsanto, Dupont, and others that have polluted the planet with the most toxic chemicals ever generated -- DDT, PCBs, and agent orange, to name a few. Once released, even in small quantities, widespread contamination by engineered maize can occur, as documented in both the United States and Mexico. Fears of crop contamination are validated by the fact that in 2000, just 0.5% of the US maize fields were planted with StarLink, yet more than 10% of the entire harvest was contaminated. The losses to American farmers have been estimated to be as high as \$1b. The appearance of genetically engineered traits in remote regions of Mexico, which has banned the cultivation of engineered maize, also shows how easily contamination can occur. The source is thought by some scientists to be American imports for animal feed or food processing inadvertently planted or spilled during transport.

Concerns about remnants of StarLink arise from a finding in June 2002, by a citizens' group in Bolivia that the U.S. Agency for International Development had sent food aid contaminated by this type of engineered maize. The EPA's scientific advisory panel declared in July 2001, that no level of StarLink could be determined safe for human consumption.

In the end, given the options available to address the famine and the very legitimate concerns about potential health and environmental impacts, Zambia's deci-

sion to reject genetically engineered food should be respected. After all, according to numerous public opinion polls, if given the option, the majority of Americans would choose conventional food over genetically engi-

neered food as well.

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## Human Rights and Food Security Capacity-Building Project for Food and Nutrition Programme Managers at State and Municipal Levels, Ministry of Health—Brazil

—An update on *SCN News 18*

*Denise Costa Coitinho, Elisabetta Recine, Flavio Luiz Schieck Valente,  
Jose Fernando Assoni, Maria de Fatima Carvalho*

*The right to food is a fundamental human right, as without food there is no right to life. People need food in a quantitative sense, however, this is not sufficient. The right to food also encompasses the right to eat according to one's cultural and social values, the right to safe food, and to correct information about food contents, healthy food habits and life styles. Also, food and nutritional security rests on two other pillars: health security, and adequate care practices. The multiple causality of food insecurity, and the indivisibility of human rights makes their governance the responsibility of all sectors of society: government, organised civil society and the business sector<sup>1</sup>.*

As described in *SCN News 18*<sup>1</sup>, Brazil embraced human rights in its National Food and Nutrition Policy (NFNP), formulated in 1999, and in all derived programming, due to the social mobilization process of two independent socio-political forces: the food and nutrition security movement and the human rights movement.

That same article stated that, "Having a human rights framework for the NFNP does not automatically change the way managers think about the beneficiaries of the different programmes. The beneficiaries of social programmes are not always seen as full citizens who have the same rights as more fortunate members of society." On the basis of that diagnosis the Ministry of Health announced the launching of a national Human Rights and Food Security capacity building project for Food and Nutrition Programme Managers to facilitate the long process of incorporating these policy principles into norms and directives and into in service training programmes.

This article is a stock taking effort on this ongoing capacity building initiative.

### *Brief background*

The implementation of the NFNP is a responsibility of the national, state and municipal governments, in partnership with different social actors, under the coordination of the Ministry of Health. However, the NFNP recognizes that the promotion of the Human Right to Food and Nutrition is not possible by health sector actions

alone, but demands strong intersectoral collaboration with other areas of government, within the framework of the food and nutritional security, at all levels.

This new policy framework places new demands on health managers at different levels of government, both in terms of intra and intersectoral coordination. The Ministry of Health identifies capacity building as a fundamental strategy to implement NFNP derived actions, programmes and services, within the guidelines of the Unified Health System and in collaboration with other areas of government. The training programme should be directed to all managing levels, including contents on the Human Right to Food, food and nutritional security and the promotion of healthy food practices and livelihoods throughout the life cycle.

The ultimate target of the capacity building process is the health teams working directly with the population at the local level. The municipal health managers are responsible for the implementation of the actions resulting from National and State policies, and at its specific sphere, for the capacity building of its personnel to operationalize the specific Food and Nutrition activities at community, family and individual levels, within this new framework.

### *Planning the capacity building initiative*

The planning of the national capacity building initiative - in accordance with its stated goals - took place under the coordination of the General Coordination of the NFNP (GC) and was carried out in a broad intersectoral and consultative fashion, including partners from different sectors of the Ministry of Health, of the federal Government, of civil society and from the different regions of the country. In a first stage it involved the GC, the Department of Basic Health Services (DAB), and the Health Promotion Project, all part of the Health Policy Department of the Ministry of Health. The first draft proposal was submitted to a National meeting of the Ministry's Regional Food and Nutrition Collaborative Centres, Family Health Capacity Building Centres, State Food and Nutrition area Coordinations, with the participation of representatives of PAHO and civil society.

The final proposal was named "Macroregional Food and Nutrition Capacity Building Workshops for Pri-





mary Health Care Professionals" and included different stages. The first stage was conducted under the coordination of the Ministry of Health, and the following ones under the responsibility of the trainees of the national process, at state level.

#### *The methodology*

The problematization pedagogy was adopted in the macro regional workshops and suggested for the subsequent stages. It is based on the understanding that the learning process takes place through the observation of reality, or aspects of it, by the student, and it aims at increasing the student's capacity as an agent of transformation to detect problems and to find solutions for them in his/her own cultural setting.

#### *Implementation*

From December 2001 through June 2002, eight Macroregional Workshops were carried out in the different geographical regions of the country, covering all States. Two hundred and eighty professionals were trained including: state coordinators and professionals of the Family Health and Community Health Agents Programme; Health Family Capacity Building Centers professionals, Alvorada Project coordinators<sup>2</sup>, state Food and Nutrition Area coordinations, State Maternal and Child Health coordinations, Schools of Nutrition professors, Regional Food and Nutrition Collaborative Centres, civil society organizations and State Health Councils members.

The evaluation of the Workshops by the participants shows that 74% of them were totally satisfied with the results while 22% were partially satisfied. The macroregional workshops had as its proposed final product the elaboration of draft State Capacity Building plans, to be finalized upon the return of the trainees to their states of origin by September 2002, 21 of the 27 final state capacity building plans had been received by the national coordination and at least three of them were already carrying them out.

#### *Conclusions*

The initiative is considered extremely successful up to now, both in terms of process and results. The 280 trained professionals have acquired capacities that will be useful tools in the facilitation and conduction of the capacity building processes in their states, aimed at training the health teams working directly with the

population in food and nutrition issues, within the framework of human rights and food and nutritional security. In case the state plans are fulfilled, a significant part of the 120,000 family health team members will receive this training.

Some of the main reasons for the success can be attributed to:

- ❑ the strong partnership built among different sectors of the Ministry, other levels of the government and civil society
- ❑ the renewed value attributed to the primary health sector, as an effective sentinel, promoter and monitoring device of the population quality of life
- ❑ the innovative pedagogical approach
- ❑ the identification of the participants with the adopted intersectoral, transdisciplinary approach that facilitates the identification of the causes and solutions for the diagnosed nutritional problems
- ❑ the incorporation of the human rights approach that breaks down barriers built by the fragmentation of knowledge and institutional practices; and
- ❑ the strengthening of a human rights culture in the country and the unacceptability of hunger, malnutrition, subnutrition and ill nutrition.

As a next phase, the monitoring of the implementation of the State Capacity Building Plans is already being planned in parallel to the publication of resource material for the Family Health Teams. The publication will be centred on the promotion of health through a life cycle approach, healthy food practices and livelihoods within the framework of the promotion of Human Rights, and food and nutritional security intersectoral strategies.

#### *Notes*

1. Valente, FLS, et al (presented by Denise Coitinho - Ministry of Health, Brazil) (1999) "Understanding Human Rights Approaches to Food and Nutritional Security in Brazil", in *SCN News* 18:52-55.

2. Alvorada Project is a federal government initiative aimed at coordinating different federal government programmes in the social and economic areas linked to the promotion of social and economic inclusion.

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Congratulations to Purnima Menon, the Seventh Dr. Abraham Horwitz Lecturer!

Ms. Menon will be giving her Lecture during the SCN's Symposium Tuesday, 4 March 2003 in Chennai, India. She will be speaking on using communication to bring nutrition into the political and technical mainstream.

## Towards International Voluntary Guidelines for the Implementation of the Human Right to Adequate Food

An important decision was taken by the World Food Summit: five years later held in Rome in June 2002, endorsed, in slightly amended form, by the FAO Council on 31 October 2002, as follows:

*To establish an Intergovernmental Working Group (IGWG) as a subsidiary body of the Committee on World Food Security (CFS), with the mandate to elaborate, with the participation of stakeholders and within a period of two years, a set of voluntary guidelines to support members in the progressive realization of the right to adequate food.*

### *Background to the decision*

This decision has its roots in several events: the call for clarification of the right to food by the 1996 WFS; the subsequent drafting by NGOs of an International Code of Conduct on the Right to Adequate Food as a Human Right; a series of international meetings and consultations organized by the Office of the High Commissioner for Human Rights and others including the SCN; and the issuing, in May 1999, of the General Comment No.12 (GC12) on the right to food by the UN Committee on Economic, Social and Cultural Rights. GC12 constitutes the authoritative interpretation of the right to adequate food as laid down in international human rights law, especially in Article 11 of the Covenant on Economic, Social and Cultural Rights.

The WFS:fyl decision about voluntary guidelines came about as a compromise between those member states - the majority - eager to promote a new code of conduct (CoC) on the right to food (to take inspiration from the draft CoC already available from NGOs) and those that were against any document on the right to food being made. While a large number of governments and the majority of NGOs were thus disappointed about what they considered a weaker than expected outcome, because the difference is not that great since, legally speaking, codes of conduct are not any more binding for states than are guidelines adopted by intergovernmental organisations, and therefore, making both types of agreement voluntary.

### *Membership and stakeholders*

The FAO Council further decided that the IGWG will be open-ended, meaning that membership in the IGWG will be open to all Members of FAO and all Member States of the United Nations. As regards to the participation of other stakeholders, the report on the FAO Council decision says: "Relevant international and regional institutions, as well as non-governmental organizations, civil society groups, parliamentarians, academic institutions and foundations and the private

sector will be invited to participate in the work of the IGWG, in accordance with the criteria governing the issuance of invitations to NGOs for sessions of the CFS." All stakeholders will have full speaking rights, while the final text of the guidelines will be agreed upon by the states themselves.

### *Secretariat and meeting plan*

The IGWG will meet for the first time in late March or early April 2003, in Rome. It will be serviced by a special secretariat in FAO's Department of Economic and Social Development, with secondment from the Office of the HCHR. The Group will organize itself with one chair and six vice-chairs, one from each of the seven FAO regions, to make up the Bureau of the IGWG. At the first session, Members and stakeholders will present views and proposals as to the elements of the draft voluntary guidelines on the progressive realization of the right to adequate food within the context of national food security. The second session in September 2003, would continue the open debate and seek consensus on specific issues. The third session in February or March 2004, or any additional sessions the IGWG, may decide to convene, would make decisions on the elements to be included in the draft voluntary guidelines, and finalize the draft. IGWG sessions and meetings will be organized in such a way as to facilitate the participation of representatives of developing countries.

### *Invitation for contributions*

FAO will invite its Members and Member States of the UN, as well as relevant stakeholders, to submit written comments and views, including proposals for elements for possible inclusion in the draft voluntary guidelines. Submissions received at least 40 days in advance of the session will be incorporated in a synthesis report prepared by the FAO Secretariat. Submissions received at least 10 days in advance of the session will be made available to the IGWG in the language in which they are received.

The IGWG will report to the CFS at the regular sessions in May 2003, and September 2004.

### *Notes*

1. For the full text of the WFS:fyl Declaration, see [www.fao.org/documents/](http://www.fao.org/documents/)
2. Further details about the process are available in the Report of the 123<sup>rd</sup> Session of the FAO Council, Rome, 28 October - 2 November 2002 available at [www.fao.org/Legal/rfj/time-e.htm](http://www.fao.org/Legal/rfj/time-e.htm)

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# The Report of the Commission of Macroeconomics and Health: A Summary Critical Appraisal

David Sanders, Professor, School of Public Health of Western Cape, South Africa  
Civil Society Member of SCN Steering Committee

*The world community has within its power the capacity to save the lives of millions of people every year and to bolster economic development in the world's poorest countries.<sup>1</sup>*

This is the stirring first sentence of the Report of the Commission on Macroeconomics and Health, sometimes referred to as "the CMH" or "the Sachs Report" - after its Chairperson, Professor Jeffrey D. Sachs of the Earth Institute at Columbia University. The opening passage continues: "This Report describes a strategy for achieving these goals by expanding investments in the health of the world's poor. Our conclusions are substantiated by extensive research and consultations undertaken during the past 2 years, especially by the work of six Working Groups, which in total produced 87 background studies and six synthesis monographs to be published by the World Health Organization"<sup>1</sup>.

The Commission established six working groups on: health, economic growth, and poverty reduction; international public goods for health; mobilization of domestic resources for health; health and the international economy; improving health outcomes of the poor; and development assistance and health.

The Commission was set up by the Director-General of WHO to "assess the place of health in economic development".

### *Key Features of the CMH*

The central argument in the Report is that better population health will contribute to economic development. The Report devotes significant space to analyzing the "channels of influence from disease to economic development". In essence it argues strongly that better health creates economic growth which in turn creates health. There is, indeed, significantly greater emphasis placed on the contribution of health to economic development than on the contribution of underdevelopment and poverty to ill-health.

The Report then demonstrates that the resources available for health care in low-income countries are insufficient to meet the challenges they face. It is proposed that donor finance will be needed to bridge the financing gap. Three mechanisms for raising these additional resources are proposed: 1) debt relief, through the Poverty Reduction Strategy Papers (PRSP) process, and through discount pricing of Pharmaceuticals<sup>2</sup>; 2) the identification of a particular set of disease priorities, especially communicable diseases; and 3) a corresponding set of health interventions. It also proposes a set of principles for health system development such

as subsidized community-based financing, universal access and close-to-client (CTC) service strengthening, and categorical or vertical approaches to particular diseases.

The CTC level, which is accorded highest priority, consists of "relatively simple hospitals", health centres, health posts and outreach services. CTC services will be staffed predominantly by nurses and "paramedical" staff with supervision from doctors. The health centre is identified as the key site for uncomplicated births, and for most personal prevention, diagnosis and treatment of common priority diseases e.g. childhood infections, T.B., malaria, STI's and counseling and testing for HIV as well as administration of nevirapine to reduce the risk of mother-to-child transmission.

To circumvent the problems of "limited capacity within health systems" a "vertical" or categorical approach is proposed for HIV/AIDS, malaria, TB and "perhaps other specific conditions". Such approaches, including childhood vaccination, are singled out for their past success and for "the concentration of expertise and commitment that drives (them)."<sup>3</sup>

### *Nutrition in the CMH*

Together with communicable diseases and tobacco-related disease, malnutrition is briefly mentioned as a "primary target" in the Sachs report. However, in the Report of Working Group 5, "Improving Health Outcomes of the Poor", just over two pages are devoted to malnutrition which is identified as a key contributor to childhood mortality. Breastfeeding, complementary feeding, improving micronutrient intake, treatment of malaria and intestinal worms and targeted supplementary feeding are identified as key interventions.

### *Strengthening Health Systems and Improving Capacity*

The CMH acknowledges that "in some of the world's poorest countries, the coverage of many basic interventions is falling"<sup>1</sup>, including attended deliveries and vaccination coverage. It notes the urgency of "building new physical infrastructure, increasing the numbers and training of health sector personnel, and strengthening management systems and capacity"<sup>1</sup>, with the highest priority accorded to the CTC level.

The report summarises in five categories constraints to increasing coverage. At the health services delivery level "shortage and distribution of appropriately qualified staff, weak technical guidance, programme management and supervision"<sup>1</sup> and inadequate supplies of drugs, equipment and infrastructure are all implicated. The main report deals with capacity in a somewhat peremptory fashion, referring to "increasing the numbers and training of health-sector personnel, and strengthening

management systems and capacity"<sup>1</sup> as well as to the need for strong community involvement and trust in the CTC system. The Report of Working Group 5 goes into more detail, recognizing the need to both increase numbers of trained workers as well as skills. It proposes that categorical programmes (e.g. vaccination, tuberculosis control) are often key sites for strong technical training, but acknowledges that such programmes can have a disruptive impact on the health system unless priority is given also to promoting social mobilization and inter-sectoral collaboration<sup>3</sup>. Management strengthening through training and mentored implementation and the improvement of information systems are noted to be important components of health system strengthening in the Report of Working Group 5.

#### *Strengths of the Report*

The key strength of the Sachs report is the clear message it gives of the health crisis facing poor countries. It emphasizes the widening gap in health experience between rich and poor countries, the rapidly increasing and intolerable burden of ill-health affecting the poor, especially in Sub-Saharan Africa with deepening poverty and the devastating HIV/AIDS epidemic.

The key recommendation of the CMH Report is that "the world's low and middle-income countries, in partnership with high-income countries, should scale up the access of the world's poor to essential health services, including a focus on specific interventions."<sup>1</sup>

#### *Weaknesses of the Report*

As David Legge has observed: "The Commission relates its findings and recommendations to the crisis of legitimacy of the prevailing regime of global economic governance." He notes that on page 15 the Report states: "With globalization on trial as never before, the world must succeed in achieving its solemn commitments to reduce poverty and improve health."

Legge notes that "the message for the governors of the World Bank, the leaders of the G8 and the members of the Paris Club is simple:

- ◇ the health situation in many developing countries is insufferable
- ◇ these countries do not have the resources to provide basic health care
- ◇ poverty and ill-health contribute to social and global instability
- ◇ globalization is on trial (indicted on the grounds of poverty and health and under threat through social/global instability); and
- ◇ increased funding for health care in low income countries must be found through debt relief and increased aid."<sup>2</sup>

Yet, notwithstanding the Commission's recognition of the mutually reinforcing strong links between ill-health, poverty and poor health services and the context of globalization, there is no attempt to critically analyze the current regime of global economic governance and regu-

lation. It is striking - and disappointing - that the Commission carefully avoids any explicit interrogation of currently dominant macroeconomic policies or of the structures and mechanisms that entrench developing country disadvantage, ill-health and deteriorating services. For health and the health sector, these include the WTO - dominated by the rich and powerful countries - and its conventions regulating trade in both commodities and intellectual property, the latter being exploited as patent rights by the transnational pharmaceutical corporations and placing many essential drugs beyond the economic reach of many poor countries. Similarly, the new GATS (Global Agreement on Trade in Services) convention, which threatens privatization of public services, including health, is not mentioned.

Thus, while the CMH concludes that the current global economic dispensation is not generating sufficient resources for poor countries to address their basic health needs, it avoids any analysis of or suggested response to such systemic discrimination against the world's poor. Instead, it notes the recent declines in official development assistance (ODA) and concludes that the rich governments, the banks and pharmaceutical corporations must provide the necessary ODA, ensure debt relief and provide discounts on pharmaceuticals so that basic health services can be funded. To use a medical metaphor, the CMH focuses on palliative care rather than on primary prevention or active treatment of global inequity and its effects.

PRSPs are recommended by the CMH as the main mechanism through which ODA is directed to strengthen health systems. Yet PRSPs are an integral component of the current regime of global economic governance and include such reforms as reduced public spending on social services, including health!

Another weakness of the Report is the limited recognition it accords to social factors in shaping population health. This leads to an overwhelming focus on health sector interventions and, within those, vertical programmes. For nutrition this is of concern, given the increasing recognition that nutrition programmes require for their success efficacious technical inputs embedded in broader social processes involving communities and other sectors.

#### *Conclusions*

The Report of the CMH is likely to be influential given the high profile of the Commissioners, the weighty composition of its Working Groups and its endorsement by WHO. Its description of the global health situation and of health systems in poor countries, as well as its key recommendations are strongly reminiscent of the central thrust of the World Bank's influential 1993 Report, "Investing in Health", which also emphasized the point that health is a major input to economic growth, but also studiously avoided any critical engagement with the global macroeconomic architecture that continues to generate economic growth accompanied by deepening inequalities.



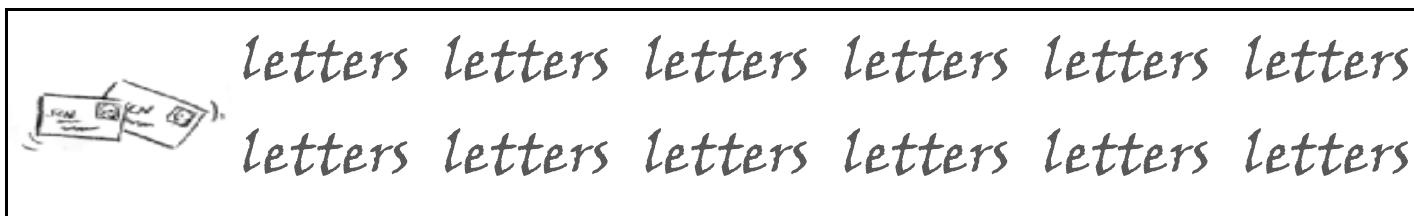
A decade has elapsed since that influential global health policy document was published and promoted. Yet in poor countries, particularly Africa, poverty has deepened and the health situation has further deteriorated, and health systems and their capacity have declined. It is difficult to avoid asking the question: "Why should things be different this time?"

*Editor's Note: This critique was sent to Prof Sachs for comment, none was received.*

#### References

1. Commission on Macroeconomics and Health (2001) *Macroeconomics and Health: Investing in Health for Economic Development*. WHO: Geneva.
2. Legge D (2002) *Globalisation on trial: World Health warning, preliminary comment*, 13 June 2002, School of Public Health, La Trobe University, Australia.
3. Commission on Macroeconomics and Health (2002) *Improving Health Outcomes of the Poor, Report of Working Group 5*. WHO: Geneva.

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*Editor's Note: The Food and Nutrition Library CDROM was sent to those readers in low and middle income countries along with SCN News 24, July 2002.*

15 October 2002

Dear *SCN News*:

My name is Sara del Real from the University de Carabobo, Venezuela, South America. I recently received *SCN News 24* along with the Food and Nutrition Library CD. I just wanted to thank you for such a wonderful tool. It will be of great help to our work in nutrition. Once again thank you, it is not every day we receive material as the one you gracefully donated. You are doing an excellent job!

Sincerely,  
Sara del Real  
sdelreal@uc.edu.ve

24 September 2002

Dear *SCN News*:

I received, with pleasure, the CD-Rom (Food and Nutrition Library 2.0) and *SCN News 24*. I shared the contents of the journal with my friends in the region who are interested in malnutrition and the fight against hunger. As you know, it will soon be 5 or 6 years that I am on your mailing list and regularly receive your journals, which I find very interesting and educational.

I am in the process of establishing an association that I would like to call "Friends of *SCN News*". This association would serve to diffuse the experiences in the cadre of the fight against malnutrition. I would like in advance to receive your reactions to this.

On another issue, I live in a francophone country and the friends I share the *SCN News* articles with do not speak English. I would like, if possible, to have a French version of different publications.

We are from the Southern region of Senegal, called the Casamance. In this region of Senegal there was a war of independence 20 years ago. Poverty causes child malnutrition. You now understand why your articles are welcomed and share the practical realities of our experience.

Sincerely,  
Monsieur Seydou Sané  
Educatrice Prescolaire  
BP 850  
Ziguinchor Senegal

13 July 2002

Dear *SCN News*:

I am part of the team of obstetricians and gynaecologists at the Lamphun Hospital, Thailand and also a member of the Sub-committee of Maternal and Child Health of the Royal Thai College of Obstetricians and Gynaecologists.

I read your Nutrition Policy Paper on Low Birthweight. I am very impressed by your paper. It is very useful and informative, not only for me but also for my country since this issue is one of the maternal and child health problems in Thailand.

In Thailand, the incidence of LBW is 9-10% for the entire country. The northern area of Thailand has the highest. The incidence of LBW in the northern area of Thailand is 12-13%. In the Lamphun province (northern area of Thailand) the incidence of LBW was 13.5% during 1997-2001. Further, the incidence of LBW in Lamphun Hospital during 2000-2002 was 14.25%.

In Thailand, the Department of Health, Ministry of Public Health introduced Pregnancy Pathway.

I would like to ask you to send me the documents presented at the meeting on LBW. I would like to apply some of those results to develop maternal and child health care in my country. Also I would like to ask about the best intervention for reduction LBW. And I will try to use LBW prevention programmes in my country.

With kind regards,  
Dr. Suthit Khunpradit  
Division of Obstetrics and Gynaecology  
Lamphun Hospital  
Lamphun 51000, Thailand  
suthit@chmai2.loxinfo.co.th

21 November 2002

Dear *SCN News*,

*Nutrition and the African School Child:  
Going Back to the Dark Roots?*

In the not too distant past, Africans took pride in bearing and rearing large families. It was reasonable because an army of children assured enough hands for tedious farm work.

The control of infections, which hitherto accounted for the numerous child deaths, was one of the remarkable achievements of medicine and healthcare in the last century, including the widespread use of the ORS. Child survival indices brightened.

Sadly, the trends appear to be reversing swiftly, in a doubly negative pattern. A vicious partnership between communicable diseases and HIV/AIDS has conspired to decimate! The huge foreign debts hovering over the continent readily presses the African child to a state of physical and intellectual improvement through the poverty-driven hunger, malnutrition and disease.

The contribution of malnutrition to child death worldwide is now said to be 60% (WHO, 2002). This figure is understandably more acute in Africa where up to 75% of the population in certain areas live below the poverty line, slamming the door of opportunity against the child. The magnitude of the problem is overwhelming to governments that usually lack visionary planning, the political will as well as the economic means to implement interventions aimed at assuaging the situation.

This realism demands something new. The international

nutrition community must adopt a radically different approach to funding interventions for nutrition and nutrition-related activities in the developing countries, especially in Africa. Experience has shown that better results and more impacts are more feasible through the participation of community-based organizations (CBOs), non-governmental organizations (NGOs) and civil society formations than when government bureaucracies are contracted to stifle otherwise helpful projects, as has been the case over the years.

Also, it is imperative to advocate a critical review of the prioritization of resource allocation by UN agencies and international donor organizations. Why, for instance, are more resources not being committed towards curbing and managing nutritional problems, which account for a high portion of child morbidity and mortality? Why the over investments in children's reproductive rights, including condom distribution in secondary schools in Africa whilst hunger and disease abound?

The Health and Nutrition Unit of the Family Institute of Nigeria (FIN) is seeking technical and material resources from the nutrition community to implement a number of pilot projects on school child nutrition. Our goal is to prove in concrete ways that NGOs and CBOs can be relied upon to influence positively national human development through functional school health and nutrition interventions that are practical and sustainable in Nigeria. Interested individuals and organizations should please contact FIN for proposals.

Contact: Dr. E.I.B. Okechukwu, President/Founder, Family Institute of Nigeria, Box 72221, Victoria Island - Lagos, Nigeria. [truelovecares2000@yahoo.com](mailto:truelovecares2000@yahoo.com)

At the World Civil Society Forum held in July 2002 in Geneva, Switzerland, a panel discussion was held on 'Private Sector, Food, Health and Development.' This event brought together representatives from IBFAN, FIAN, Nestlé and Proctor & Gamble to discuss this timely issue. The debate revolved around three main questions:

1. What is the role of private companies in promoting hygiene, health and development?
2. How can private companies contribute to sustainable food production and healthy consumption?
3. To whom should this contribution be made?

Full summary reports can be found at [www.mcart.org/wcsonlinenews/en/](http://www.mcart.org/wcsonlinenews/en/)

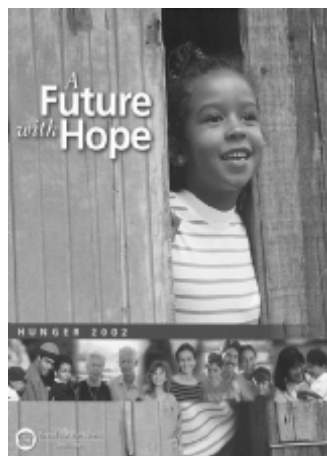
Participants also learned about an alternative and sustainable method of cooking foods using a simple cardboard solar oven. Water sterilization was also demonstrated by painting the bottom half of a plastic bottle filled with water and leaving it eight hours in the sun.

Those interested in finding out more about these exciting techniques and innovations can contact training coordinator, Maria Penalosa ([mariavh2000@yahoo.com](mailto:mariavh2000@yahoo.com)).

# PUBLICATIONS



*Editor's note*—Once again *SCN News* editors present summaries of some of the major publications pertinent to nutrition published by the UN agencies, NGOs and bilaterals, as well as key new material covering the breadth of human nutrition, both science and practice. We are especially pleased to have received copies of Penny van Esterik's book published by the World Alliance for Breastfeeding Action (WABA) in Malaysia, and a handbook on nutrition and hygiene prepared and printed in Pakistan. We are most grateful to authors, printers and publishers who have sent us copies of their publications.

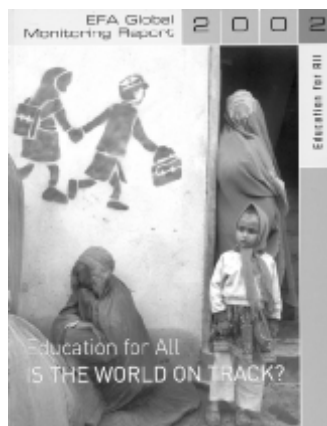


## **HUNGER 2002: 12<sup>th</sup> Annual Report of the State of World Hunger** —A Future with Hope

*Bread for the World Institute, Washington, 151 pp*

With a foreword by David Beckmann, President of Bread for the World and Bread for the World Institute, this report aims to provide balanced, in-depth information about a wide range of policies that are important to hungry people in the US and worldwide. The report claims that the US could cut hunger in half—in the US within two years, worldwide within two decades—for less than 7 cents per US citizen per day. Moderating by about 12% the savings from "windfall tax cuts" to wealthy Americans due to be implemented over the next ten years would be enough to accomplish this goal. Why is serious action not taken? The US public has yet to insist that Congress and the president get serious about reducing hunger. Also, the US citizenry underestimate the extent of hunger in their country, and they are sceptical of government programs. However, they are generally willing to support *effective* government efforts to help struggling families provide for themselves. The report provides a chapter on the extent and distribution of hunger and poverty in the US, on the large-scale Temporary Assistance for Needy Families programme in the US, on national nutrition programmes like the food stamps programme and Women Infants and Children (WIC), plus a chapter outlining policies to accelerate progress against hunger internationally.

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



## **2002 EDUCATION FOR ALL GLOBAL MONITORING REPORT**

—Is the World on Track? *UNESCO, 310 pp*

This report is about opportunities to learn. Its primary purpose is to assess the extent to which the benefits associated with education are being extended to all children, youths and adults worldwide and whether the commitments made two years ago in April 2000 at the World Education Forum in Dakar are being met. It offers an interim answer to the question: is the world on track to achieve education for all in 2015. The World Education Forum agreed on six goals, which were considered to be essential, attainable and affordable, given strong international commitment and resolve. The Dakar Framework for Action declared that by 2015, *all* children of primary-school age would participate in free schooling of acceptable quality and that gender disparities in schooling would be eliminated. Levels of adult illiteracy would be halved, early childhood care and education and learning opportunities for youth and adults would be greatly increased, and all aspects of education quality would be improved. In the same year, the Millennium Development Goals were agreed, two of which were defined as critical to the elimination of extreme poverty; these were universal primary education and the elimination of gender disparities. This report confirms that almost one third of the world's population live in countries where achieving these goals remains a dream rather than a realistic proposition.

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



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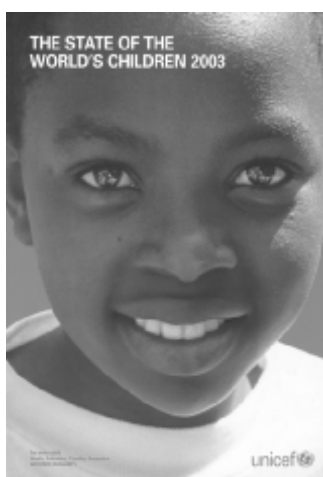
## STATE OF THE WORLD POPULATION 2002

### —People, Poverty and Possibilities

UNFPA, 80 pp

Attacking poverty directly, as a matter of human rights, to accelerate development and to reduce inequality within and among nations, has become an urgent global priority. World leaders have agreed on the UN Millennium Development Goals (MDGs). This year's *State of the World Population* is meant to be contribution to this discussion and a guide to action. The number of people, 3b, living on \$2 a day or less is the same as additions to world population since 1960. The relationship is not direct, but population cannot be ignored in the discussion about poverty and how to end it. The introduction to this report provides a clear discussion of how the goals of the 1994 International Conference on Population and Development, the IPCD goals, which include better reproductive health, universal education and gender equality, all within the context of human rights, fit seamlessly into the MDGs and reinforce progress towards them. Nutritional status is mentioned as a key outcome in a chapter on health and poverty. The report argues that family planning programmes encourage lower fertility; they accounted for almost one third of the global decline in fertility between 1972-94, over and above the contribution of education, GDP per capita, and "nutrition levels".

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

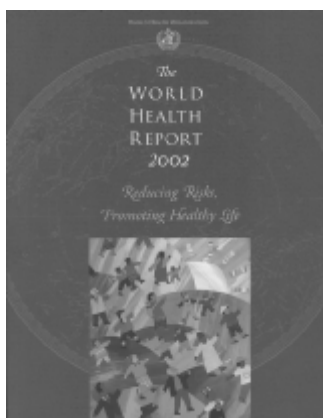


## STATE OF THE WORLD'S CHILDREN 2003

UNICEF, 123 pp

The focus of this year's UNICEF world report on children is *child participation*. It is intended to remind adults of their obligation to elicit and consider the views of children and young people when decisions are being made that affect their lives. The report is true to the spirit of the General Assembly Special Session on Children, held in May 2002, which included, for the first time, large numbers of children as official members of delegations, representing governments and non-governmental organizations. The report focuses on the responsibility of adults to seek out the perspectives and opinions of children and to take them seriously; and on the responsibility of adults to help children and adolescents develop their competencies for authentic and meaningful participation in the world. To do this, adults must develop new competencies of their own, the report argues. Adults must learn how to effectively elicit the views of children and young people and to recognize their multiple voices, the various ways children and young people express themselves, and how to interpret their messages. Most of the photographs and drawings in the report were created by children; the foreword is by the Secretary General. Statistical tables rank countries in descending order of their estimated 2001 under-five mortality rate; nutrition indicators are also given. These include rates of low birthweight, breastfeeding, preschool underweight, wasting and stunting, vitamin A supplementation and access to iodized salt.

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



## WORLD HEALTH REPORT 2002

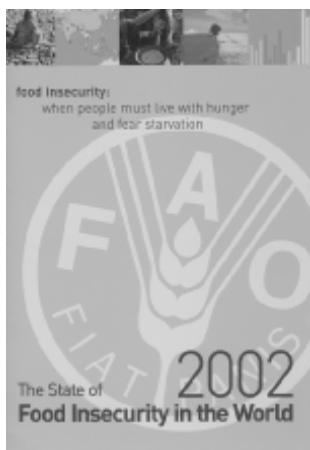
### —Reducing risks, promoting healthy life

WHO, 248 pp

In one of the largest research projects WHO has ever undertaken, this report deals with health risks, where risk is defined as a probability of an adverse outcome, or a factor that raises this probability. In order to protect people, and help them protect themselves, governments need to be able to assess risks and choose the most cost-effective and affordable interventions to prevent risks from occurring. Some risks have already been reduced, but changes in patterns of consumption, particularly of *food, alcohol and tobacco*, around the world are creating a "risk transition". This trend is especially serious for many low and middle income countries which are still dealing with problems of poverty, undernutrition and infectious diseases. For more than 25 major preventable risks selected for in-depth study, the report finds that the top ten globally are childhood and maternal underweight, unsafe sex, hypertension, tobacco use, alcohol, unsafe water, sanitation and hygiene, high cholesterol, indoor smoke from solid fuels, iron deficiency and, finally, overweight/obesity. Together, these account for about 40% of the 56m deaths that occur worldwide annually and one third of global loss of healthy life years. In an evaluation of costs and benefits of interventions, the report concludes that the combination of zinc with vitamin A fortification or supplementation with treatment of diarrhea and pneumonia is the most cost-effective combination of preventive and curative actions, well under the cut-off point for very cost effective interventions.

[www.who.int](http://www.who.int)





## STATE OF FOOD INSECURITY IN THE WORLD 2002

FAO, 2002, 45 pp

This yearly publication increasingly contains material on nutrition outcomes, thus going beyond the traditional "FAO index" of dietary energy supply, or DES. FAO's estimates of the number of food insecure people, however, is still based on DES. FAO is examining other indicators which are complementary to DES (as reported in the last issue of *SCN News*, p 94). Worldwide, FAO estimates that some 840m people were food insecure in 1998-2000; 11m in the industrialized countries, 30m in countries in transition and 799m in the developing world. The figure for developing countries represents a decrease of just 20m since 1990-92, the benchmark period used at the World Food Summit. This means that the average annual decrease since the Summit has been only 2.5m, far below the level required to reach the goal of halving the number of food insecure people by 2015. It also means that progress would now have to be accelerated to 24m per year, almost ten times the current pace, in order to reach that goal. A closer examination of the data reveals that the situation in most of the developing world is even bleaker than it appears at first glance. The marginal gains on a global scale are the result of rapid progress in a few large countries. China alone has reduced the number of food insecure people by 74m. Six other countries (Indonesia, Viet Nam, Thailand, Nigeria, Ghana and Peru) have achieved reductions of more than 3m each, helping to offset an increase of 96m in 47 countries where progress has stalled.

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



## STATE OF THE WORLD'S MOTHERS

*To save children around the world, we must turn to the experts...their mothers*

### STATE OF THE WORLD'S MOTHERS 2001

—Every Mother, Every Child

*Save the Children, 42 pp*

This publication came to *SCN News* attention many months after its launch on Mother's Day 2001. It is of interest to the nutrition community because it presents a new index that relates strongly to nutrition outcomes. The new index is the "Girls' Investment Index", which measures and ranks the status of girls and young women in 140 countries to gauge how well each country is investing in its future generation of mothers and children. Included are 42 developed countries and 98 developing countries. The Girls' Investment Index captures the status of girls and young women from infancy through child bearing age, and presents indicators that reflect women's and children's health status overall. It is composed of 12 different indicators, which are grouped into four *investment* areas: girls' education, girls' health, young motherhood and safe motherhood. Girls' health is reflected by female infant mortality rate and female under-five mortality rate. The report argues that countries that are willing and able to invest in these areas are much more likely to ensure a high quality of life for the next generation of mothers and their children. Support for this work was provided by the Bill and Melinda Gates Foundation and the David and Lucile Packard Foundation; the foreword is by Charles MacCormack, President, Save the Children.

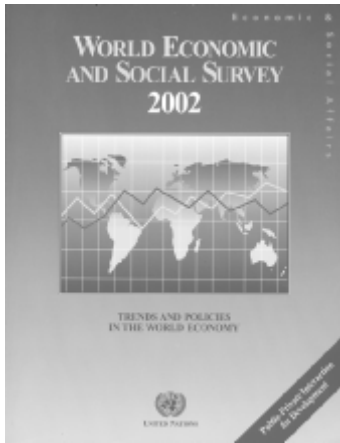
### STATE OF THE WORLD'S MOTHERS 2002

—Mothers & Children in War & Conflict

*Save the Children, 44 pp*

This is the third annual *State of the World's Mothers* report by Save the Children; the theme is mothers and children in war and conflict. The report reveals that women and children are increasingly the casualties of deliberate and systematic violence against entire populations. In recent conflict, civilians represent as much as 90% of all casualties, up from 65% during World War II, and 5% at the turn of the past century. Through its Mothers Index, which ranks countries, the report shows that regions in war and conflict consistently rank poorly in terms of mothers' and children's well being. In fact, 33 of the 50 countries ranking lowest on children's well-being indicators have experienced recent conflict or host large refugee populations. The report highlights how the horrors of war are magnified for women and children, who account for 28m of the world's 35m refugees, and who are often left defenceless against hunger, injury, disease, forced military servitude, abuse and sexual exploitation. "While the nature of war has changed, the global humanitarian response has not," says Save the Children's president. The report calls for changes in international policies and humanitarian response efforts to prioritize the care and protection of women and children. The foreword is by Graca Machel. IKEA and the Packard Foundation funded this work.

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

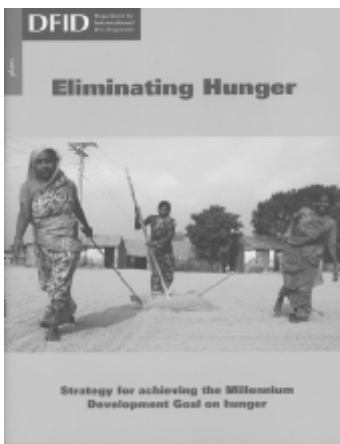


**WORLD ECONOMIC AND SOCIAL SURVEY 2002**  
**—Trends and Policies in the World Economy**

*United Nations, Department of Economic and Social Affairs, 324 pp*

In the second half of 2002 the world economy stands at a delicate juncture. After a year of the weakest performance in a decade, global economic recovery is under way. However, neither the strength, nor the breadth, nor the durability of the recovery is assured. Part one of this Survey investigates the causes of the pervasive slowdown in 2001, as well as the driving forces for, and the threats to, the recovery. One feature in the global downturn of 2001 was its *synchronicity* across countries, which was notable among the major developed economies but also affected a large number of developing economies. The Survey projects a gradual recovery of the world economy into 2003, with less synchronicity among the economies in the upturn. Part one points to a number of caveats regarding the outlook for the global economy. Part two examines selected aspects of the changing nature of the interaction between the public and private sectors in producing some of the goods and services that societies as a whole may desire as part of their overall development. A section on public private interaction in agricultural technology includes consideration of genetically engineered technology, and intellectual property rights. In addition there is full discussion of health service delivery in developing countries, and public private partnerships in education.

*www.un.org/publications or publications@un.org*



**ELIMINATING HUNGER: STRATEGY FOR ACHIEVING THE MILLENNIUM DEVELOPMENT GOAL ON HUNGER**

*Department for International Development, UK, May 2002, 36 pp*

The Department for International Development is the UK Government department responsible for promoting development and reducing poverty. It has an increasing budget. The central focus of the UK government's policy on international development, set out in 1997, is a commitment to the internationally agreed target to halve the proportion of people living in extreme poverty by 2015, together with the associated targets including basic health care provision and universal access to primary education. DFID works through partnerships, with governments, and with the multilateral institutions. This document explains DFID's view as to why progress in eliminating hunger is so slow, and how progress can be accelerated. It tells us that agriculture has a crucial role to play, and a revitalization of agriculture is necessary to reduce poverty and hunger. However, this is not enough—there are many hungry people in food secure countries, while other countries that are not self sufficient in food have little hunger. To tackle hunger, investments are needed in a much wider range of areas: education, health, social protection, governance, peace and democracy. Respect for human rights of the poor is a theme of this paper. This document reflects a broad consultative process, within the UK and elsewhere; the SCN Secretariat was involved in this review process. The foreword is by Clare Short, Secretary of State for International Development.

*www.dfid.gov.uk or enquiry@dfid.gov.uk*

**AIDS IN THE 21<sup>ST</sup> CENTURY: DISEASE AND GLOBALIZATION**

*Tony Barnett and Alan Whiteside  
 Palgrave MacMillan, 416 pp*

This book is for *everyone* involved in the fight against HIV/AIDS, and for others who should get involved. It is about the social and economic impacts of the disease. The growth of the HIV/AIDS epidemic can be linked to national and global inequalities. It will influence many aspects of international political, economic and social relations in the first decades of this century. This now inexorably unfolding long-wave event presents us with many challenges. Some of them are personal, others have implications for international relations. How and whether we confront them poses questions of how we think about our humanity, our obligations and our responsibilities to others. The introduction examines some of the forces driving the pandemic and provides the reader with background information about the virus and its epidemiology. Most of the book is a detailed perspective on the impact of this disease on households, communities, economic sectors and business. Tony Barnett is Professor of Development Studies at the University of East Anglia;

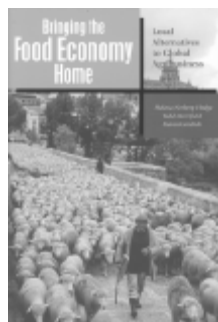
Alan Whiteside grew up in Swaziland, and is currently Professor at the University of Natal.

*Available from: www.palgrave.com*

**BRINGING THE FOOD ECONOMY HOME: LOCAL ALTERNATIVE TO GLOBAL AGRIBUSINESS**

*Helena Norberg-Hodge, Todd Merrifield,  
 Steven Gorelick*

*Zed Books, UK, 2002, 150 pp*



This is about rebuilding local food economies; it argues that even small changes in the way food is produced and marketed can offer immense benefits. The authors show how a shift towards the local would protect and rebuild agricultural diversity. It would

give farmers a bigger share of the money spent on food, and provide consumers with healthier, fresher food at more affordable prices. It would reduce transport, greenhouse gas emissions, and the need for toxic agricultural chemicals. It would lessen the need for storage, packaging, refrigeration and artificial additives. And it would help revitalize rural economies and communities in both the industrialized and the developing world. With benefits for farmer and consumer, for urban and rural dweller, and for the economy as well as the environment, local food is a powerful solution-multiplier. David Suzuki is quoted "Want to know what's wrong with globalization? Read this book."

*Available from: www.zedbooks.demon.co.uk*

**CAPACITY FOR DEVELOPMENT: NEW SOLUTIONS TO OLD PROBLEMS**

*Sakiko Fukuda-Parr, Carlos Lopes,  
 Khalid Malik, editors*

*Earthscan and UNDP, 2002, 281 pp*

This book contains a range of views from practitioners, academics and policy makers about what has gone right with technical cooperation in recent years, what has gone wrong, and how to do it better and perhaps very differently. It focuses on the ques-

tions of indigenous capacity, ownership, civic engagement and new possibilities for knowledge sharing, for which the revolution in information and communications technologies offers ample opportunities. What is capacity? In this book, it is defined simply as the ability to perform functions, solve problems, and set and achieve objectives. Each society has the capacities that correspond to its own functions and objectives. As countries transform themselves, they have to develop different capacities. Capacity development needs to be addressed at three levels: individual, institutional and societal. Capacity development is not merely the acquisition of skills, but also the capability to use them. The book concludes by proposing a new paradigm. Scan globally, reinvent locally. Try out new methods, such as networks that make the best use of new types of learning, and try out innovations that address asymmetry in donor-recipient relationships, such as forums for discussion in the south. The foreword is by Mark Malloch Brown, UNDP's Administrator.

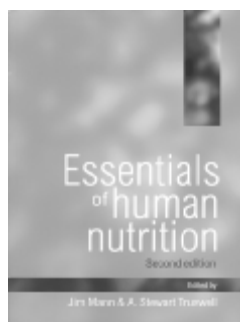
Available from: [www.undp.org](http://www.undp.org)

### ESSENTIALS OF HUMAN NUTRITION

2<sup>nd</sup> Edition, Jim Mann and

Stewart Truswell, editors

Oxford University Press, UK, 2002, 662 pp

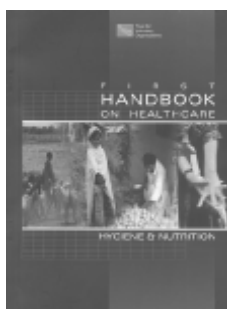


This is meant to be a reliable and reader-friendly textbook for students embarking on courses in human nutrition; also a useful reference for medical students, physicians and other health professionals requiring up-to-date, authoritative information on the role of nutrition in human health. There are 29 contributors. The science of human nutrition deals with all the effects on people of any component found in food. Nutrition is also about why people choose to eat the foods they do, even if they have been advised that doing so may be unhealthy. The study of food habits thus overlaps with the social sciences. This large volume covers, energy and macronutrients, organic and inorganic essential nutrients, nutrition-related disorders, foods, nutritional assessment, life stages, clinical and public health. There is curiously little on breastfeeding. The editors are based in New Zealand and Australia, respectively.

Available from: [www.oup.co.uk](http://www.oup.co.uk)

### FIRST HANDBOOK ON HEALTHCARE: HYGIENE AND NUTRITION

Trust for Voluntary Organizations, Pakistan,  
2002, 68 pp



This book is part of a series of forthcoming publications on primary healthcare aimed at rural Pakistan. In the introduction, Iqbal Jafar assumes that provision of primary healthcare services for all citizens will remain a distant possibility for a long time to come, "the compulsion to formulate policies is yet to be matched by action in most developing countries". Health education thus fulfils a much greater role because it is inexpensive and the most important element of any system of preventive health care. This handbook is written for use by non-professionals in rural areas. Part I on hygiene includes sections on environmental and personal hygiene. Part II on nutrition covers the importance of nutrition, the function of nutrients and food values, nutritional requirements, cooking of food, and improving household food supply. There are annexes on composting and sanitation.

Available from: TVO, Pakistan.

Email: [tvo@isb.paknet.com.pk](mailto:tvo@isb.paknet.com.pk)

### FOOD FOR ALL: THE NEED FOR A NEW AGRICULTURE

John Madeley

Zed Books, London, UK, 2002, 191 pp



John Madeley believes we must recognize that our current hi-tech, agrochemical-dependent, corporate-dominated farming system has failed to feed the hungry. He argues that we already have the experience on which to base a new approach—ideas such as sustainable agriculture, low-external-input agriculture, organic food production, permaculture and the reintegration of traditional farming techniques. The author outlines the changes that could offer viable livelihoods to resource-poor farmers and food for the hungry. The book begins with a historical perspective, looking at the way agriculture has developed through the centuries. It goes on to review the crisis that affects western agriculture, at the way agriculture has been industrialized and has forced tens of thousands of farm-

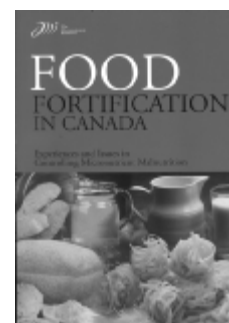
ers off the land. There is a chapter on crops for export from developing countries and the methods that are used. "Chemical-style agriculture, introduced in the 20<sup>th</sup> century, has both failed and misled the poor", Madeley claims. A chapter on hunger, which provides a quotation from Prof. Swaminathan, SCN Distinguished Nutrition Advocate, argues that many governments do not have the policies to match their commitments to eradicating hunger.

Available from: [www.zedbooks.demon.co.uk](http://www.zedbooks.demon.co.uk)

### FOOD FORTIFICATION IN CANADA: EXPERIENCES AND ISSUES IN CONTROL- LING MICRONUTRIENT MALNUTRITION

Mashid Lofji

Micronutrient Initiative, Ottawa, 2002, 81 pp



This report presents the Canadian experience in adding micronutrients to foods, with the objective of documenting the lessons learned and the challenges faced. It covers the history of micronutrient deficiencies in Canada, the rationale for fortifying foods, regulatory framework and control mechanisms, policy issues, criteria for effectiveness, and the launch of a recent review of Health Canada's policies relating to the addition of nutrients to foods. A series of six annexes provide information on the history of terms used in Canada to express food and nutritional requirements, an historical outline of fortification in Canada, quantitative limits for the addition of nutrients to food, and the measurement of nutrients in Canadian foods.

Available from: [www.micronutrient.org](http://www.micronutrient.org)

### KEEP FIT FOR LIFE: MEETING THE NUTRITIONAL NEEDS OF OLDER PERSONS

WHO and Tufts University

School of Nutrition and Policy, 2002, 119 pp

James Akre, editor

WHO presented a policy framework for healthy and active ageing to the 2<sup>nd</sup> World Assembly on Ageing in Madrid in April 2002. The framework focuses on such areas as preventing disabilities, chronic disease and premature mortality, reducing risk factors associated with noncommunicable diseases and functional decline. Given the impact that good nutrition and keeping fit have on health outcomes, WHO then organized, with Tufts University, a consultation to review the scientific evidence linking diet and other factors—especially exercise—affecting nutritional status, disease prevention and health promotion for older persons. The consultation was held in Boston in May 1998, chaired by

Irv Rosenberg. This comprehensive report is based on that consultation. This is the first time WHO has published nutrient and physical activity recommendations for people over 60 yrs; these are summarized very helpfully on pages 1-3. This report also provides a broad discussion of the epidemiological and social aspects of ageing, health and functional changes experienced with ageing, the impact of physical activity, assessment of the nutritional status of older persons, and nutritional guidelines for healthy ageing. The report signals at the outset that the majority of studies concerning older persons are still undertaken in industrialized countries. Thus, nutritional research in the elderly in developing countries remains a high priority. (see *SCN News* No.19, December 1999, for feature articles on nutrition and healthy ageing).  
*Available from: www.who.int*

**NUTRIENT ADEQUACY OF EXCLUSIVE BREASTFEEDING FOR THE TERM INFANT DURING THE FIRST SIX MONTHS OF LIFE**

*Nancy Butte, Mardia Lopez-Alarcon, Cuberto Garza  
 WHO, 2002, 47 pp*

For this review, nutrient intakes provided by human milk are compared with infant nutrient requirements. Biochemical and physiological methods, independent of human milk, are used to define these requirements. The review focuses on human milk nutrients, which may become growth limiting and on nutrients for which there is a high prevalence of maternal dietary deficiency in some parts of the world. It assess the adequacy of energy, protein, calcium, iron, zinc, vitamins A, B6, and D. This task is confounded by the fact that the physiological needs for vitamins A and D, iron, zinc and possibly other nutrients are met by the combined availability of nutrients in human milk and endogenous nutrient stores. The authors stress that knowledge is incomplete of infant nutrient requirements in terms of relevant functional outcomes, i.e, growth, but also neurodevelopment and immune status. One of the main conclusions is that mean intakes of human milk provide sufficient energy and protein to meet mean requirements during the first six months of infancy.

*Available from: www.who.int/nut*

**THE NUTRITION TRANSITION: DIET AND DISEASE IN THE DEVELOPING WORLD**

*Benjamin Caballero and Barry Popkin, editors  
 Food Science and Technology, International Series, Academic Press, San Diego, 2002*

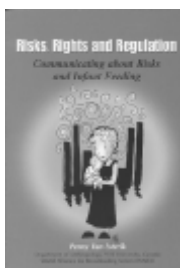


The rapid shifts in the stages of the nutrition transition seen in the developing world today clearly relate to major changes in food production, urbanization, and globalization of trade. This book provides an overview of these factors, as well as the resulting health and nutrition outcomes of obesity, diabetes and cardiovascular diseases. The role of nutrition during pregnancy and infancy in affecting each person's risk of later disease is also addressed. Finally, the impact of the nutrition transition in China and Brazil is presented in more detail, to highlight the individual characteristics of this process and the policy responses in these countries. The final chapter discusses a major focus on prevention to reduce noncommunicable diseases in the developing world. Nevin Scrimshaw wrote the foreword; chapter authors are leading authorities in this field, including Robert Fogel, Tim Lang, Linda Adair, Reynaldo Martorell, Kerin O'Dea and others.

*Available from: www.academicpress.com*

**RISKS, RIGHTS AND REGULATION: COMMUNICATING ABOUT RISKS AND INFANT FEEDING**

*Penny van Esterik  
 World Alliance for Breastfeeding Action:  
 Penang, Malaysia, 2002, 27 pp*



This monograph provides a review of the rapidly accumulating scientific, medical, advocacy and social science literature on breastfeeding and environmental toxins. The book highlights the difficulties of translating the toxicological evidence into language the public can understand and use, particularly in the face of commercial interests that benefit from casting doubts on breastfeeding. The book also examines the role of the media in sensationalizing

threats to breastfeeding, as well as advocacy initiatives to address this problem. The author is an anthropologist.  
*Available from: www.waba.org.br or www.waba.org.my*

**WEIGHT CONTROL AND PHYSICAL ACTIVITY**

*IARC Handbook of Cancer Prevention  
 LARC Press, 2002, 315 pp*

Why a handbook on weight control and physical activity? (Two others in this series cover carotenoids and vitamin A.) Economic, social and technological developments in the second half of the 20<sup>th</sup> century have led to major changes in the lifestyle of large segments of the populations of almost all countries. Over the past two decades, there have been significant gains in average weight among many human populations and within particular social groups. This has resulted in very high rates of overweight and obesity. For industrialized countries, these increases in body weight have been caused primarily by reduced levels of physical activity, rather than by changes in food intake or other factors. In developing countries, the causes are dual: changes in food supply and decreased energy expenditure. The first adverse effects of obesity to emerge in populations in transition include hypertension, while cardiovascular diseases begin to emerge several years later. Incidences of cancers associated with obesity increases over a longer time-scale. Prevention of cancers is an important additional justification for controlling excess body weight in populations.

*Available from: www.iarc.fr*

**OTHER PUBLICATIONS RECEIVED BY THE SCN SECRETARIAT OVER THE PAST SIX MONTHS**

*An Information-Education-Communications project for working girls.* Tara Gopaldas, 2000, 92 pp. This work is funded by the Thrasher Research Fund.

*Empowering tea plantation and industrial women workers to improve their own health.* Tara Gopaldas, 2001, 24 pp. This work is funded by MS University, Baroda (1<sup>st</sup> Chancellors Oration).

*Strategies to fight under-two malnutrition for the Islamic Republic of Iran.* Tara Gopaldas, 2000, 22 pp. This was funded by the MI/Ottawa.

*Caribbean Food and Nutrition Institute Quarterly*, vol. 34, 2001, 228 pp. CFNI, Kingston, Jamaica. This includes a series of articles on the impact of health sector reform on nutrition in the Caribbean, obesity and poverty in the Caribbean, and a regional perspective on improving child nutrition beyond breastfeeding promotion.

*International Ethical Guidelines for Biomedical Research Involving Human Subjects.* CIOMS and WHO, Geneva 2002, 112 pp. Produced down the corridor from the SCN Secretariat in Geneva, this is an update of the 1982 and 1993 Guidelines, designed to be of use in low-resource settings. The first

*We welcome publications/videos/ dvds/CD-Roms that you would like us to include in SCN News*

international instrument on the ethics of medical research goes back to the Nuremberg Code of 1947.

*World Water and Food to 2025: Dealing with Scarcity.* Mark W Rosegrant, Ximing Cai, Sarah A Cline. IFPRI and the International Water Management Institute, Washington, 2002, 322 pp.

*Population Services International Biennial Report 2001-2002.* Washington, 21 pp. This is an annual report with a difference: amply illustrated with practical examples of PSI's work with betnets, condoms and multivitamin supplements, it also provides a compact disk with video highlights.

*Young People and HIV/AIDS: Opportunity in Crisis.* UNICEF, UNAIDS, WHO, 2002, 48 pp. Focusing on 15 to 24 year olds, this publication argues that the needs of the world's 1b young are routinely disregarded when HIV strategies are drafted.

*Social Monitor 2002: Social Trends in Transition, HIV/AIDS and Young People, Quality of*

*Learning in Schools.* UNICEF Innocenti Research Centre, Florence, Italy. 2002, 120 pp.

*Statistical Yearbook 2001: Refugees, asylum-seekers and other persons of concern; trends in displacement, protection and solutions.* UNHCR, 2002, 165 pp.

*A World Fit for Children - pocketbook* UNICEF, 2002, 108 pp. This document is the size of a compact disk, and contains the Millennium Development Goals, the Special Session on Children documents, plus the Convention on the Rights of the Child.

*The State of the World's Vaccines and Immunization.* WHO, 2002. This examines the progress made in the field of immunization and remaining challenges, such as access gaps and emerging diseases.

*Iron Matters,* video 26:30 minutes. The Micronutrient Initiative, Ottawa.

*Enquete de Reference d'une serie d'indicateurs d'impact,* video, 24 minutes. Institute National de Recherche sur les Aliments et la Nutrition, Rome, avec la Ministere de l'Agriculture et de l'Elevage and Fond International de Developpement Agricole. (see p 36 in Programme News)

*International Food Policy Research Institute 2001-2002.* IFPRI, Washington, 2002, 104 pp. This includes an essay by Peter Piot and Per Pinstrup-Andersen on AIDS and food security.

*Capacity building in Africa: Effective aid and human capital.* Report of the UN Committee for Development Policy. UN, 2002, 75 pp. This report proposes the creation of an African aid and development portal to provide a gateway to all development and aid projects in Africa, including those of NGOs.

### **WABA-UNICEF Colloquium on HIV and Breastfeeding 20-21 September 2002, Arusha, Tanzania**

The World Alliance for Breastfeeding Action (WABA) and UNICEF held a colloquium to discuss the critical issues involving HIV and breastfeeding. The objectives of the meeting were:

- ❑ to provide a technical basis for consensus building through an update on relevant research and field experiences
- ❑ to build consensus among participants on general principles relating to policy and practices
- ❑ to identify general agreements for actions; and
- ❑ to inform and advise the WABA forum (held 23-27 September 2002) and other relevant meetings and stakeholders.

The keynote address, given by Dr. Ted Greiner, Coordinator of WABA's Research Taskforce, emphasized that exclusive breastfeeding for six months should be promoted as a social norm and that mixed feeding should not be promoted at all. Challenges were noted on how to communicate scientific evidence clearly and how to work in weakened health systems with limited resources.

For a full colloquium report, including presentations, visit [www.waba.org.br/forum2/colloquium.html](http://www.waba.org.br/forum2/colloquium.html)

## **In Africa, AIDS Has a Woman's Face**

**Kofi A. Annan**

**Excerpted from *The New York Times*, 29 December 2002**

A combination of famine and AIDS is threatening the backbone of Africa—the women who keep African societies going and whose work makes up the economic foundation of rural communities. For decades, we have known that the best way for Africa to thrive is to ensure that its women have the freedom, power and knowledge to make decisions affecting their own lives and those of their families and communities. At the United Nations, we have always understood that our work for development depends on building a successful partnership with the African farmer and her husband.

But today, millions of African women are threatened by two simultaneous catastrophes: famine and AIDS. More than 30 million people are now at risk of starvation in southern Africa and the Horn of Africa. All of these predominantly agricultural societies are also battling serious AIDS epidemics. This is no coincidence: AIDS and famine are directly linked.

Because of AIDS, farming skills are being lost, agricultural development efforts are declining, rural livelihoods are disintegrating, productive capacity to work the land is dropping and household earnings are shrinking—all while the cost of caring for the ill is rising exponentially. At the same time, HIV infection and AIDS are spreading dramatically and disproportionately among women. A United Nations report released last month shows that women now make up 50% of those infected with HIV worldwide—and in Africa that figure is now 58%. Today, AIDS has a woman's face.

In famines before the AIDS crisis, women proved more resilient than men. Their survival rate was higher and their coping skills were stronger. Women were the ones who found alternative foods that could sustain their children in times of drought. Because droughts happened once a decade or so, women who had experienced previous droughts were able to pass on survival techniques to younger women. Women are the ones who nurture social networks that can help spread the burden in times of famine.

Because this crisis is different from past famines, we must look beyond relief measures of the past. Merely shipping in food is not enough. Our effort will have to combine food assistance and new approaches to farming with treatment and prevention of HIV and AIDS. It will require creating early-warning and analysis systems that monitor both HIV infection rates and famine indicators. It will require new agricultural techniques, appropriate to a depleted work force. It will require a renewed effort to wipe out HIV-related stigma and silence.

It will require innovative, large-scale ways to care for orphans, with specific measures that enable children in AIDS-affected communities to stay in school. Education and prevention are still the most powerful weapons against the spread of HIV. Above all, this new international effort must put women at the centre of our strategy to fight AIDS.

*For further information and latest figures on the AIDS epidemic visit [www.unaids.org](http://www.unaids.org) and see UNFPA's *State of the World Population 2002*, which devotes an entire chapter to HIV/AIDS and Poverty.*

# BULLETIN BOARD

## CONFERENCES

### 1<sup>st</sup> International Conference on Nutrition 15 February 2003

Organised by the Institute of Biochemistry, University of Sindh, Pakistan. The conference will feature plenary and invited lecturers on various aspects of nutrition, including: human, microbial, plant, poultry, animal and fish. Contact Dr. Muhammad Saleh Memon [inst\\_biochem\\_su@rediffmail.com](mailto:inst_biochem_su@rediffmail.com) for more information.

### IX Asian Congress on Nutrition 23-27 February 2003, New Delhi, India

Organised by the Nutrition Foundation of India, registration information can be found at [www.acn2003india.net](http://www.acn2003india.net)

### Poverty, Inequality and Malnutrition: Experiences from Developing Countries. 25-30 April 2003, Nigeria.

Contact Dr. Samson Omojuyigbe for more information [africanexchangeprogramme@yahoo.com](mailto:africanexchangeprogramme@yahoo.com)

### 6<sup>th</sup> Commonwealth Congress on Diarrhoea and Malnutrition 19-21 May 2003, Drakensberg, South Africa.

Conference will cover basic and new science in paediatric gastroenterology and nutrition, social and cultural perspectives in infant feeding and care, as well as topics on child advocacy and ethics. Visit [www.cafgan.org](http://www.cafgan.org) for registration information.

### International Nutrition and Dietetics Congress

2-5 April 2003 in Antalya, Turkey. The congress will feature sessions on nutrition and psychological stress on immune function, menopause and nutrition, prevention and diet therapy for coronary heart disease and more!

Visit [www.nutritioncongress2003.hacettepe.edu.tr](http://www.nutritioncongress2003.hacettepe.edu.tr)

### Nutrition & Optimum Health 5-7 June 2003, Beirut, Lebanon.

The Lebanese Dietetic Association in collaboration with the American Overseas Dietetic Association and the Dept of Nutrition and Food Science at the American University is coordinating this regional conference.

For more information contact: [nabla@aub.edu.lb](mailto:nabla@aub.edu.lb)

### 2<sup>nd</sup> World Congress on Foetal Origins of Adult Disease 7-10 June 2003 in Brighton, UK.

The second World Congress will provide a forum for presenters to discuss new work in a range of interrelated areas including: epidemiological observations, linking early growth with later disease, underlying biological processes, and more.

Visit [www.foad2003.org](http://www.foad2003.org) for more information.

### 5<sup>th</sup> International Food Database Conference and 27<sup>th</sup> National Nutrient Databank Conference

30 June - 2 July 2003., Washington, DC.

This year's theme is Fostering Quality Science in Food Composition Databases. Conference information can be found on the website: [www.nal.usda.gov/fnic/foodcomp/conf](http://www.nal.usda.gov/fnic/foodcomp/conf)

### Poverty, Food & Health in Welfare An international conference

1-4 July 2003, Lisbon, Portugal

Join nutritionists, doctors, public health professionals, social scientists and politicians to discuss the latest thinking on what can be done about poverty in welfare, food security, health inequalities and challenges for social policy. Further information can be received by contacting [pfh2003@ip.pt](mailto:pfh2003@ip.pt) or visiting [www.pfh2003.org](http://www.pfh2003.org)

### 9<sup>th</sup> European Nutrition Conference

1-4 October 2003, Rome, Italy. Main topics include quality and safety of novel foods, nutrition and cancer, public health nutrition, nutrition and neurological disorders and more!

More information at [www.fens2003.org](http://www.fens2003.org)

### 2<sup>nd</sup> International Workshop of Food-Based Approaches for a Healthy Nutrition in West Africa: the Role of Food Technologists and Nutritionists

23-28 November 2003, Ouagadougou, Burkina Faso. Wageningen University, Institute for Development Research.

Contact Dr. Inge D. Brouwer

[fn2ouaga2003@yahoo.co.uk](mailto:fn2ouaga2003@yahoo.co.uk) for registration information.

## NEW RESOURCES

Internet discussion for the **12<sup>th</sup> World Congress on Food Science and Technology**. The University of California-Davis will host two discussion mailing lists and archive messages on the Web leading up to the 12<sup>th</sup> World Congress (16-20 July 2003, [www.worldfoodscience.org/worldcongress/internet.html](http://www.worldfoodscience.org/worldcongress/internet.html)). Discussions on Food Vaccines: An International Health Delivery System can be found at <http://seafood.ucdavis.edu/infost/food.htm>, discussions on the Creative Fermentation Technology for the Future can be found at <http://seafood.ucdavis.edu/infost/creative.htm>

See progress in eradicating extreme poverty and hunger by 2015 on the **Millennium Development Goals** website: [www.developmentgoals.org](http://www.developmentgoals.org)

**www.FoodAndDrinkEurope.com** provides free access to daily breaking news on all key aspects of marketing, branding and retailing for the food and beverage industries in Europe.

**WHO & FAO launch website for ongoing work on acrylamide.** The aim of this new network is to allow all interested parties to share relevant data and information on ongoing investigations. The website's content will include:

- ❑ A database of researchers/data providers
- ❑ References for research published elsewhere
- ❑ Information updates about the current status of research efforts, and
- ❑ WHO/FAO updates on information relevant to the health risk of acrylamide in foods.

Visit [www.who.int/fsf/Acrylamide/research.htm](http://www.who.int/fsf/Acrylamide/research.htm)

**NEW!** Training modules on Health Research for Policy, Action and Practice. This collaborative training programme provides training on priority-setting in health research, knowledge management, advocacy and leadership. Modules are downloadable for free from the Alliance for Health Policy and Systems Research's website [www.alliance-hpsr.org](http://www.alliance-hpsr.org)

**Food & Nutrition Specialists Register for work in developing countries.** NutritionWorks and International Health Exchange (IHE) are working in partnership to provide a central place for relief and development agencies to access food & nutrition specialists available for either long- or short-term postings or consultancies. If you have expertise in public nutrition, nursing/nutrition, food security and/or food aid contact Pat Brook [pat@ihe.org.uk](mailto:pat@ihe.org.uk) at IHE.

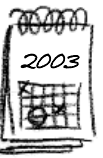
The **Child Birth Defects Research Centre (CHIDREC)** is a community-based, non-governmental, non-partisan, self-help organization. CHIDREC's objective is to help prevent and reduce the number of child birth defects in Nigeria through mass education and illiteracy campaigns, workshops, symposia, and counseling in Nigeria. Campaigns include folic acid and iron supplements noted for reducing neural tube defects. Contact Mr. Felix Ngwu [chidrefelix@justice.com](mailto:chidrefelix@justice.com) for more information.

Website for specialists in nutrition and food science. **www.nutritiongate.com** provides comprehensive coverage of all aspects of nutrition.

**Michigan State University's (MSU) Food Security II** website contains specific country listings of publications on MSU collaborations. [www.aec.msu.edu/agecon/fs2/](http://www.aec.msu.edu/agecon/fs2/)

**Source** is a collaboration between Healthlink Worldwide, Handicap International UK and the Centre for International Child Health. It is a unique resource centre, designed to meet the information needs of those working in health, disability and development worldwide. Source has a valuable collection of both published and unpublished materials on adolescent and child health, disability, evaluation, health communication, HIV/AIDS, reproductive & sexual health and more. [www.ask.source.info](http://www.ask.source.info)





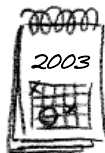
## COURSES

**Training in Public Nutrition at Emory University!** The Department of International Health of Emory University now offers an MSPH degree in Public Nutrition. This new two-year programme of study provides a comprehensive understanding of major nutrition problems afflicting people in both wealthy and poor nations, as well as the policies and programmes to address them. The programme is distinguished by an emphasis on methods, especially nutrition assessment, epidemiology, biostatistics, research design and survey methods, programme design, monitoring and evaluation, and policy analysis. Opportunities and funding for summer field-work anywhere in the world are available to students on a competitive basis. For additional details, including financial aid, interested applicants are encouraged to visit [www.sph.emory.edu/hpdib.html](http://www.sph.emory.edu/hpdib.html) or write to MSPH Degree, Department of International Health, Rollins School of Public Health, Emory University, 1518 Clifton Road, NE, Atlanta, GA 30322.

**21<sup>st</sup> Leeds Course in Clinical Nutrition** 2-5 September 2003, University of Leeds, School of Continuing Education. Contact Samantha Armitage [s.armitage@leeds.ac.uk](mailto:s.armitage@leeds.ac.uk) for more registration.

**International Course of Epidemiological Research in Nutrition and Cancer**, given by the International Agency for Research on Cancer, in association with the Medical Research Council's Dunn Human Nutrition Unit. 24-29 March 2003, Lyon, France. Contact Olaf Kelm [cor@iarc.fr](mailto:cor@iarc.fr) or +33 4 72 73 81 54.

**INFOODS and African Leadership Initiative**  
Three week course in the production and use of food composition data. The 4th edition of the ECSA-FOODS Course is scheduled for 6-24 October 2003 in Wageningen, the Netherlands. Candidates can pre-register by using the reply form at [www.wau.nl/vlag/foodcomp.html](http://www.wau.nl/vlag/foodcomp.html) or by sending a fax to Mrs. Lous Duym, Department of Human Nutrition and Epidemiology, Wageningen University +31 317 483 342.



Would you like to post a notice on this board?

The next issue of *SCN News* will be published in July 2003. Please send your contributions to [scn@who.int](mailto:scn@who.int)

**Diploma Course on Health Care and Management in Tropical Countries 11 March-6 June 2003.** A 3-month full time diploma course organised once a year at the Swiss Tropical Institute in Basel, Switzerland. Course is taught in English and is designed for post-graduates with at least two years of experience, preferably in Public Health or Health Management at district level. PDF applications available at [www.sti.ch/kourses.htm#bcmtc](http://www.sti.ch/kourses.htm#bcmtc)

### Course on Nutrition and Human Rights

The Institute for Nutrition Research, University of Oslo offers its master/doctoral course module in Nutrition and Human Rights for the fifth time in Spring 2003.

The course introduces the international system of promotion and protection of human rights under international law in theory and practice, including the right to adequate food and nutrition and related economic, social and cultural rights. It considers the growing attention to these rights in the post-Cold War period as the links between human rights and human, economic and social development have become clearer, and as leveraged by the World Food Summit in 1996 and the WFS: *fyl* in 2002. Participants are led to discuss how a human rights approach to development policies and programmes may enhance the food and nutrition and poverty reduction goals set for 2015. Particular attention will be given to the upcoming intergovernmental process to draft voluntary guidelines for the implementation of the right to food as recommended by WFS: *fyl*.

The course starts on 23 April 2003 with an exam on 5 June 2003. Space is limited, therefore, interested participants should register quickly. Tuition is free, with a nominal semester fee obligatory. There is no financial support for cost of living.

For further information, please contact Associate Professor Wenche Barth Eide at +41 22851375 or [w.b.eide@basalmed.uio.no](mailto:w.b.eide@basalmed.uio.no)



# Stop press!

**West Africans return to fertile farmlands as river blindness campaign ends,** reported the World Health Organization this month. December 6<sup>th</sup> marks the end of nearly 30 years of work to eliminate river blindness as a public health threat in West Africa. At a ceremony in Ouagadougou, Burkina Faso, officials from development agencies, ministries of health and agriculture and others recognized the achievements of thousands of people who worked together for many years to make this programme a success. Bankers, fly catchers, pilots, chief executives, community health workers and others have prevented 600,000 cases of blindness. Their efforts meant that 18m have grown up free of the threat of river blindness. Because of the people of the Onchocerciasis Control Programme, thousands of farmers are now moving to *reclaim 25m hectares of fertile river land, enough land to feed 17m people.* "The accomplishments of this programme inspire all of us in public health to dream big dreams because we can reach 'impossible goals' ..." said Dr. Brundtland. The programme started in 1974. At this time, as many as 10% of the population in high impact regions were completely blind and 30% had severe visual handicaps. People in West Africa recognized that something associated with the rivers was causing blindness and farmers began leaving their fields. One study in the early 70s documented 250,000 sq km of once-productive river valley had been abandoned, which translated into an economic loss of \$30m per year. The programme was launched with two goals; to eliminate river blindness as a public health problem, and to ensure that, when the programme ended, the countries in West Africa would be able to continue monitoring and surveillance. As part of the programme, hundreds of volunteers rolled up their pant legs and exposed themselves to black flies, in order to collect flies and monitor the parasites in the region. In 1988, Merck offered its drug ivermectin free of cost. Source: WHO Press Release, [www.who.int](http://www.who.int)

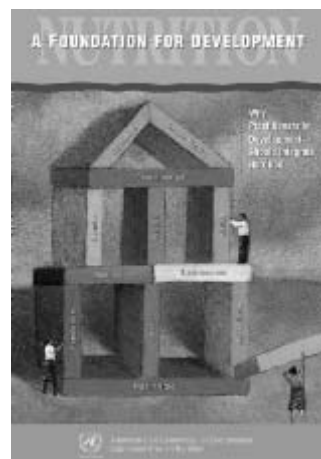
**On December 12, WHO launched the International HIV Treatment Access Coalition, ITAC.** ITAC is a coalition of partner organizations including people living with HIV/AIDS and their advocates, NGOs, governments, foundations, the private sector, academic and research institutions and international organizations. Their shared goal is expanded access to treatment for all people living with HIV/AIDS who need it, in line with the goals of the Declaration of Commitment of the UN General Assembly Special Session on HIV/AIDS. With so much of the groundwork done, current opportunities to scale up HIV treatment and care are immense. But there is much that remains unknown, and many challenges that have been identified are beyond the capacity of any one organization to solve. Only a determined effort by the international community to share expertise, coordinate action, and pool resources, will ensure that the current momentum is maintained. ITAC aims to mobilize and augment its partners' efforts to increase affordability, availability and uptake of HIV treatments. The experiences of pilot HIV treatment programmes offer valuable lessons for scaling up, but need to be widely disseminated. ITAC intends to add value to current efforts by serving as a platform for exchanging information and enabling knowledge gained from small programmes to be applied to much larger populations. It will also pool and coordinate the technical expertise necessary to make this happen. The coalition's power lies in the complementary skills and capacity of its partners. Different members will contribute different elements of the coalition's plan of action. The coalition is guided by an interim steering committee composed of representatives from developing countries, bilateral donors, the Roche Foundation, the Global Business Coalition on HIV and NGOs. WHO provides the Secretariat for ITAC.

## **REPRINT! *Nutrition: A Foundation for Development***

Launched at the 29<sup>th</sup> Session of the SCN, *Nutrition: A Foundation for Development* is the result of the work of a number of individuals and reflects the international collaboration fostered by the SCN. The set of 12 briefs is designed to facilitate dialogue between nutrition and development professionals. They are organized both as a complete packet of information and as stand-alone documents that advocate for integrating nutrition into the work of the development community.

Development issues covered by the briefs include:

- Nutrition: Making the Case
- Nutrition and Education
- Nutrition and Population
- Nutrition and Health
- Nutrition and the Environment
- Nutrition and Agriculture
- Nutrition and Gender
- Nutrition and Human Rights
- Nutrition and Communities
- Nutrition and Politics



The SCN has now received a reprint of this popular resource tool and they are available by contacting the SCN ([scn@who.int](mailto:scn@who.int)) or can be downloaded from its website [www.unsystem.org/scn/](http://www.unsystem.org/scn/) Now also available in Spanish (see below)!

### **VERSION EN ESPAÑOL ; *Nutrición: Una Fundación para el Desarrollo.***

El Documento “Nutrición: Una Fundación para el Desarrollo” es el resultado del trabajo de varios profesionales de nutrición y refleja la colaboración internacional apoyada por el SCN. Fue presentado al público durante la 29<sup>o</sup> sesión del **SCN** en Berlín.

El Documento consta de 12 informes, y es diseñado para facilitar el diálogo entre profesionales en nutrición y desarrollo. Puede ser usado tanto como paquete completo de información, como también en forma de documentos individuales que abogan por integrar la nutrición en el trabajo de los profesionales de las diferentes áreas de desarrollo.

Los temas cubiertos por los informes incluyen:

- Nutrición : Su importancia para el desarrollo
- Nutrición y Educación
- Nutrición y Población
- Nutrición y Salud
- Nutrición y Medio Ambiente
- Nutrición y Agricultura
- Nutrición y Género
- Nutrición y Derechos Humanos
- Nutrición y Comunidades
- Nutrición y Políticas

La versión en español está disponible y puede ser obtenida (sin costo) contactando **SCN** en el e-mail [scn@who.int](mailto:scn@who.int) o puede ser bajada de la página web [www.unsystem.org/scn/](http://www.unsystem.org/scn/)



The SCN 30th Session  
will take place in Chennai,  
India, 3-7 March 2003

The Session will be hosted by the  
MS Swaminathan Research  
Foundation



A one-day Symposium, on *Mainstreaming Nutrition to Improve Development Outcomes* will be held on Tuesday, 4 March. The keynote address will be given by Dr. Speciosa Wandira Kazibwe, Vice President of Uganda. Other programme highlights include:

- ⇒ Presidential address by Mr. Ramamohan Rao, Governor of Tamil Nadu
- ⇒ Presentation by Lawrence Haddad on behalf of the SCN 5th Report Task Force
- ⇒ Presentations on public/private partnerships by Venkatesh Mannar and Judith Richter
- ⇒ Panel discussion on how large-scale nutrition programmes can achieve national coverage and sustain impacts
- ⇒ Seventh Dr. Abraham Horwitz Lecture

*For further details, agenda and registration see our website:  
<http://www.unsystem.org/scn>*