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Anthony Bowley, Editor

# NutriVIEW 2001/4

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## ■ Editorial:

### Hope for the future

It was with mixed feelings that I participated at the ICN in Vienna on August 27–31. It was a mammoth event, with almost 3500 delegates from 120 countries. The program included around 100 symposia and workshops, 180 keynote lectures, 400 short communications, and over 2000 posters. With up to 14 sessions being conducted simultaneously, it was impossible to get a first-hand impression of all the research findings presented.

On the other hand, this was an ideal venue to achieve a consensus about what activities should be given priority in the future to eliminate malnutrition. Most of the world's leaders in nutrition were there: policy makers, researchers, NGOs and teachers, as well as UN, industry and government representatives. A perfect organization with good timekeeping and well equipped lecture halls made it relatively easy to attend the chosen sessions. There was ample opportunity for networking, and many ad-hoc meetings were held to build new partnerships and plan future activities. I was glad to hear from readers that Nutriview is meeting their needs; that is encouraging for our future work.

While opinions about the best way to tackle malnutrition varied widely, and some people still insisted that only

a 'balanced diet' can provide a natural and sustainable solution, discussions were generally conducted sensibly and constructively. It was encouraging to hear about the many ongoing activities to implement and optimize nutrition improvement programs, to increase support from governments, industry and consumers, and to train and utilize sufficient human resources.



This was the first ICN to incorporate a focus symposium on a particular geographic area—in this case Africa. It was well attended by delegates from all parts of the world. There was widespread recognition that Africa faces numerous and complex problems, but that solutions

can be found provided that the people involved are ready to act, and are given adequate support. IUNS President Professor Mark Wahlqvist has pledged to engage actively in efforts to improve the African situation during his term of office. Many expressed the hope that, when the next ICN is held in South Africa four years from now, significant progress will have been made.

The ICN in Vienna was also a great opportunity to hear directly from the involved researchers about the newest advances in knowledge concerning the role of nutrition for good health. It is becoming increasingly evident that nutrition has a major influence on mental and physical development, resistance to infection, cancer and a wide variety of degenerative diseases. New technologies derived from the study of the human genome are allowing researchers to define how nutrition affects health at the genetic level. Widespread efforts are being made to define the amounts of nutrients in foods, and to measure individual requirements for optimal health.

So I finally left Vienna with a good feeling that efforts are moving in the best direction, and hopeful that we will soon see more people in the world fulfilling their right to adequate food. — A. Bowley ■

## ■ Conference report:

### 17th International Congress of Nutrition, Vienna

Theme of this International Congress of Nutrition (ICN) was: "Modern Aspects of Nutrition—Present knowledge and future perspectives". Following the opening ceremony, the first speakers reviewed the history of nutritional science, and addressed the priorities for the immediate future.

#### Nutrition in the third millennium

Dr Mamdouh Gabr (Cairo University, Egypt; IUNS President 1985–89) summarized recent achievements, and called on the nutrition community to

take the lead in activities to overcome the existing economic, political, socio-cultural, demographic and environmental challenges. He pointed to the need for more international cooperation, wider dissemination of information, better coordination, and greater public motivation.

Dr Vernon Young (Massachusetts Institute of Technology, USA) outlined how future work in nutrition science would shift to the prevention of chronic and degenerative diseases, and a search for the underlying molecular basis of

nutrient functions and mechanisms. He was equally enthusiastic about the possibilities offered by research into nutrient-food-genetic pathways. He warned, however, that it could take several decades to reap the benefits of this work.

Later in the week, Dr Ruth Oniang'o (Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya) also addressed nutrition challenges of the 21st century. She summarized the current situation (more than 800 million malnourished people in developed as well as developing countries) and called for

more efforts to implement existing knowledge with viable and sustainable interventions aimed at revitalizing agriculture and production, ensuring high-quality education, improving water and sanitation, and building/maintaining infrastructures. For all of these, good governance is a must.

Dr Monkombu Swaminathan (MS Swaminathan Research Foundation, India; UNESCO Chair in Ecotechnology) discussed the challenges facing South Asia, a region in transition. After listing the well known nutritional problems affecting the region, he outlined in detail his ideas for achieving a sustainable solution. This involves an integrated, food-based approach to ensure nutrition security. Among the key steps are:

- Increase food/nutrient availability through improvements in productivity, quality, employment, management, food diversity, hygiene and primary health care.
- Build a sustainable, decentralized, community nutrition security system that approaches the problem holistically, provides resources for capacity building, and establishes community food banks.

The problems are known, he said, and so are the solutions. Future strategies must be based on learning from experience. It is important to grasp the opportunities that are there to reach the goal of nutritious food for all.

### **A human rights approach**

Dr Daniel Tarantola (Senior Adviser to the WHO Director General) chaired a workshop organized by the Working Group on Ethics, Nutrition and Human Rights of the UN ACC/SCN on assessing and addressing adequate food and health as a basic human right. Participants heard a plea for building an alliance between nutritional and related sciences on the one hand, and legal/developmental thinking and practice on the other, as a means of intensifying the dialogue, and implementing action.

Awareness about a rights-based approach to nutrition is rapidly expanding. It is important to realize, however, that this is not a magic bullet that will solve all the problems. Human rights principles need to be applied to drive inte-

grated approaches in all fields of activity toward success. A key factor will be the level at which governments meet their obligations with regard to respecting, protecting and fulfilling human rights as agreed in international conventions.

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*This report reflects only a small part of the findings communicated at the ICN. In addition to the topics highlighted here, the program included oral and poster presentations on food production, food processing technology, food safety, nutrition for specific groups, disease conditions and emergency situations, macronutrients, and drinking water. Sessions on individual micronutrients and micronutrient interactions featured prominently. – A. Bowley*

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### **Promoting harmonization of intake recommendations**

Following publication of the latest Dietary Reference Intakes in the USA, efforts have been renewed to explain the differences in nutritional recommendations from other parts of the world, and to seek ways to bring uniform standards to the definition process.

In the workshop dedicated to harmonization of nutrient-based recommendations, experts from the USA, Latin America, Europe, Asia, and the FAO explained how their groups set reference intakes, and made suggestions for a concerted research effort to promote international collaboration.

It was made clear that the source of many discrepancies might be food composition data that are faulty or inappropriately used, and difficulties in assessing the intakes and utilization of nutrients by populations. Growing evidence that nutrition plays a major role in maintaining good health makes the situation even more complex.

Dr Michael Fenech (CSIRO Health Sciences and Nutrition, Australia) described research suggesting that a poor diet may be just as important for causing genetic mutations as recognized chemicals and radiation. He called for more research to define RDAs on the basis of optimal genomic stability.

Dr Kurt Gedrich (Technical University of Munich, Germany) presented the

results of a study that raises doubts about the value of intake recommendations for improving dietary habits. An analysis of food intake data from 10 groups of adults showed that most people would have to make major changes in their dietary habits if they wanted to meet the current recommendations. Only a minority of the population could be expected to accept such changes, and so may require supplementation.

### **Ways to success with food fortification**

In the session on food fortification, Dr Paul Walter (University of Basel, Switzerland) and Dr Rodolfo Florentino (Philippine Association of Nutrition) highlighted the different situations in developed and developing countries as regards implementation, quality assurance and impact of measures. People in many developed countries have a long tradition of eating fortified foods. This has played an important role in improving nutrient status, since more than half the population does not consume a 'balanced diet'. Strict legal requirements and efficient monitoring ensure that fortified products are safe and nutritious.

Use of food fortification to control micronutrient malnutrition is a new approach in most developing countries. Efforts are limited mainly by availability and sophistication of manufacturing and monitoring facilities. To obtain the desired impact on the population, close attention must be paid to program management, legislation and control, and capacity development.

Dr José Mora (MOST, the micronutrient program of USAID) described the support provided by MOST for fortification programs in developing countries. Functional monitoring, surveillance and evaluation systems have already led to substantial improvements in the quality and impact of sugar fortification in Honduras. In Zambia, establishment of analytical facilities, and training for industry and government personnel, have helped to improve quality assurance and monitoring. Philippine national institutions are being helped in various ways with their ambitious program of mandatory fortification for multiple staple foods.

Two studies were presented that showed how fortified foods can improve iron status. Since 1999, the Ministry of

Health in Chile distributes fortified powdered milk free for infants up to the age of 18 months. During the first months, until spontaneous weaning, the milk (fortified with iron, zinc, copper and vitamin C) is consumed by the lactating mother. Dr Eva Hertrampf (INTA, University of Chile) described the effectiveness of this measure in 128 infants (aged 12–18 months at the start of the study). After one year, prevalence of anemia (hemoglobin <11.0g/dl) had fallen from 27.3% to 8.8%, although there was no significant effect on iron stores.

Wilna Oldewage-Theron (Vaal Triangle Technikon, South Africa) presented evidence for a relationship between vitamin A and iron status. In 40 young women (90% with normal vitamin A status at baseline) who consumed sugar fortified with 80IU/g vitamin A, serum iron levels increased by about 1 µmol/L already after four weeks.

Concern about the acceptability of iodized salt sold from open heaps or repacked in plastic bags on Philippine markets led the Nutrition Center of the Philippines to measure the stability of iodine under simulated market conditions. Dr Florentino Solon was able to report that their fears were not confirmed, and that iodine levels were still acceptable after one month, regardless of the selling conditions. He therefore felt that no special packaging is required for iodized salt.

### **A fruitless debate?**

On the first day of the conference, four European speakers debated on the 'when' and 'where' of supplementation and food fortification. Their presentations addressed the topic from a European standpoint, and repeated well-known arguments.

The protagonists reminded us that few people eat a 'balanced diet' as recommended, and most of these are not willing or not able to make major changes to their dietary habits for various reasons. They drew attention to the possibility that we might need higher micronutrient intakes than are available from natural foods to protect against degenerative diseases.

The antagonists argued that there is no shortage of nutritious natural foods, and that most people could obtain all the

nutrients they need (except iodine and selenium) without recourse to 'artificial' measures. They suggested that the importance of 'risk groups' is exaggerated out of commercial interest. They also warned that high intakes of isolated micronutrients, as might be obtained from supplements, may be hazardous for health.

During the discussion, it was made clear that these arguments have little significance for the majority of poor populations in developing countries.

### **Modern biotechnology issues unresolved**

In the debate on whether modern biotechnology can solve the world's food problems, all four speakers agreed that it probably could not. There is no lack of food in the world; undernutrition has other causes. The new technology may, however, be useful for dealing with future problems if global warming and desertification continue. The prevailing view was that traditional breeding methods could be used to increase nutrient density if necessary.

According to the protagonists, biotechnology can enable crop yields to be tripled on existing farmland, preserving soil and water resources, and saving valuable rain forests and animal habitats. It may also help to reduce or eliminate use of pesticides and herbicides.

Questioners expressed concern about unresolved issues such as allergenicity, antibiotic resistance, gene pollution and long-term environmental and other risks associated with genetic engineering, which they feel are not being adequately addressed.

### **Developing capacity**

Scientific enlightenment and economic growth by themselves are not enough to eliminate malnutrition in the world. It is also important to convince people of the benefits to be gained by adopting a healthy life-style and diet. This will require large numbers of skilled nutrition communication professionals. In the session on capacity building, speakers emphasized the importance of training, motivation, and support of human resources to produce effective implementation teams and networks across all levels of international, national, regional and community activity.

Experience with some of the innovative training programs already developed shows that efforts are highly appreciated. Initiatives have been started by the United Nations University/Food and Nutrition Program, WHO, IUNS, development agencies of various countries, and other national and international organizations. Programs include 'classic' courses that bring students to a classroom, as well as 'distance learning' packages that use modern information technology. Further testing and adaptation is still required to ensure optimal efficiency, but enough has already been learned to provide valuable guidance for others interested in taking up the challenge.

### **New roles for micronutrients in human health?**

Research continues to elucidate how nutrition influences human health. The following are some of the highlights from presentations held in Vienna about research on individual vitamins.

**Vitamin A:** Professor Hans Biesalski (Hohenheim, Germany) discussed the possibility that a local deficiency of vitamin A in the lungs, caused by cigarette smoke or other toxins, in individuals with an apparently normal status, might increase the risk of respiratory disease.

A team from Cairo, Egypt, reported that they were able to improve the laboratory and clinical manifestations of juvenile rheumatoid arthritis by giving affected children 50,000IU vitamin A and 100mg vitamin E daily.

**Carotenoids:** A team from Queensland, Australia found a significant correlation between low levels of β-carotene and lycopene (but not of α-carotene, lutein and cryptoxanthin) and impaired glucose tolerance status.

Researchers in Tanzania suggested that breast cells regulate the transfer of β-carotene and lutein from the plasma to the milk. Three months after childbirth, they noticed a doubling of the lutein/β-carotene ratios between plasma and milk in mothers, regardless of red palm oil supplementation.

A Japanese study in healthy young women found that regular intake of tomato juice significantly increased lycopene concentrations in blood lipoprotein fractions. They suggested that

this might contribute to the protection of LDL against oxidation.

**B vitamins:** Professor Lindsay Allen (University of California, Davis, USA) presented data indicating that vitamin B<sub>12</sub> deficiency may be a major global health problem. She reported that a third of individuals studied in Mexico and Guatemala had severely or moderately low blood levels; in Kenya, 72% of preschoolers were affected.

To lower homocysteine levels, supplementation or food fortification with folic acid alone may not be enough. Professor Klaus Pietrzik (University of Bonn, Germany) came to this conclusion after conducting a meta-analysis of studies with more than 1000 volunteers. His results suggest a dose-response effect for folic acid, and a synergistic interaction between folic acid and vitamins B<sub>12</sub> and B<sub>6</sub>.

Various speakers pointed out that dietary surveys alone are likely to underestimate the prevalence of folic acid deficiency. Studies that measured both dietary intakes and biochemical status found a considerable discrepancy between the two. Food intake patterns, as well as differences in folic acid metabolism may be involved. ■

## ■ Focus on Africa:

### Investing in nutrition for a continent's future prosperity

This was the first time in the history of the International Congress of Nutrition that a special symposium focused on a particular region of the world. Two and a half hours were devoted to discussing the nutritional problems of Africa with no other activities running at the same time. The moderator (Professor Ruth Oniang'o) introduced the topic in the plenary, emphasizing the importance of the symposium, and thanking the congress organizers and the participants for their support. She then introduced Professor Tola Atinmo (University of Ibadan, Nigeria) who presented an overview of the critically important issues for sub-Saharan Africa that need to be addressed.



Professor Ruth K Oniang'o, Nairobi

The meeting then split into three parallel sessions, each with its own theme:

- Africa 1. Micronutrient interventions (moderator: Dr Khemais Nagati, Tunisia; rapporteur: Dr Hanifa Bachou, Uganda)
- Africa 2. Nutrition policy (moderator: Dr Pauline Kuzwayo, South Africa; rapporteur: Dr Delana Adelekan, Nigeria)
- Africa 3: Applied nutrition (moderator: Olivia Yambi, Kenya; rapporteur: Dr Serigne Diene, Senegal).

Later, the groups reconvened in the plenary to hear the summaries of the individual group findings. The following reviews the main points presented.

#### A continent in crisis

Africa is a continent in crisis. A crisis that continues to devastate the nutrition situation of women and children in particular. Malnutrition, directly and indirectly in synergy with infection, is the leading cause of infant and child morbidity and mortality on the African continent. Childhood malnutrition, even in its mild to moderate forms, is reported to be an underlying cause of more than 50% of all deaths in children under five years of age in developing countries<sup>1</sup>. Sub-Saharan Africa is the only region in the world in which no progress has been recorded in the reduction of childhood malnutrition over the past ten years. The prevalence of protein energy malnutrition (PEM) still remains very high. From available data<sup>2</sup>, one in three children under five years of age in

sub-Saharan Africa is underweight. The prevalence of stunting for many countries is over 40%. Most countries have a low-birth weight rate of over 10% signifying a serious maternal health and nutrition problem. In fact, for some countries the situation has further deteriorated. The efforts made have been undermined and further aggravated by natural and man-made disasters, emerging health problems like HIV/AIDS, and an increase in the incidence and prevalence of infectious diseases like malaria and tuberculosis. The synergy is such that malnutrition in turn aggravates the above scenario.

Considerable progress has been made in certain areas, for example against iodine deficiency disorders (IDD) and vitamin A deficiency (VAD). In many African countries, over 80% of households now have access to iodized salt, and it is estimated that about 60% of young children have received at least one dose of vitamin A. Some countries are also pursuing other strategies such as dietary improvement, public health intervention and food fortification. Less success has been achieved in the prevention and control of anemia including iron deficiency anemia (IDA). Up to 50% of women are anemic while anemia is affecting more than 60% of preschool children.

Africa also has its own fair share of diet-related health problems. Overweight, obesity, diabetes, cancer, cardiovascular disorders and hypertension are increasingly becoming serious problems.

### Major constraints

The causes of malnutrition in Africa are many and diverse. Major contributing factors to the deteriorating nutrition situation include poverty, low level of external investment, declining economic growth, natural disasters, civil wars, poor governance, political instability and the HIV/AIDS pandemic. Other factors include human rights denial and low-level human rights awareness, lack of coherent nutrition policies and ignorance coupled with a low level of women's education. Better nutrition is not only one of the basic human rights and a measure of the well-being of the individual, but it is also one of the most important and tangible indicators of development.

The poor nutrition situation is aggravated by weak program responses to the problems. In this regard, a number of situation assessments have identified the lack of adequate capacity, networking and linkages for education and training, action-research and program development as a major obstacle to the design of effective programs that would improve the health and nutrition situation in Africa. A large proportion of the households are still food insecure. The health care delivery systems are inadequate and inefficient. There is inadequate maternal and child caring practice with the attendant low level of exclusive breast-feeding and aggravated opportunistic infections. A large percentage of African households are poor without any economic or physical access to food.

### Challenges

The eradication of malnutrition is central to any development strategy for Africa. Investment in nutrition is an investment in human capital and thus national development. The deteriorating situation demands a redoubling of efforts. The Millennium African Renaissance Plan is an example of the required response. It is an integrated African-led plan that depends on home-grown ideas and local ownership for poverty reduction. It recognizes the critical roles played by education and health (i.e. it recognizes the importance of human capital formation as the engine that drives development).

However, in view of the high levels of poverty, aggravated by the economic stagnation, high debt and inflation rates,



*Ensuring better health, nutrition and education for our children is a key priority for future development*

and structural adjustment programs, there is a critical need for massive external investment and support coupled with debt relief to complement government and donor efforts in the region.

Africa has had enough of the inter-tribal and interethnic wars. These wars are not fought on any ideological grounds. It is rather that Africa has become a jungle to be looted by all sides. Invariably, the poor food producers are the ones that become refugees even on their own land. African countries and governments need to promote peace through dialogue and consultation.

The implications of the HIV/AIDS pandemic for nutrition are monumental. Households are being left without primary caregivers, and young children are left with no option but to care for siblings without the capacity to do so. Household food security is affected as well as the ability to access health services. The challenges Africa face in addressing the growing problem of malnutrition seem daunting in the wake of competing priorities such as the HIV/AIDS problem. To this end there is a need to support the African Initiative on HIV/AIDS.

It is also important that efforts are made to strengthen the capacity of households and communities to address nutrition problems. Such capacity that will make the assessment, analysis, action and the associated learning processes more efficient. Those who will facilitate such a process themselves need

to be better equipped to do this. In this regard, the African Nutrition Capacity Development Initiative<sup>3</sup> needs the full support of our strategic allies and partners. Core to our concept of capacity development is that it embraces the key role of nutrition in any development agenda and it recognizes the need to enhance capacity at multiple levels simultaneously (i.e. the enhancement of individual, organizational and institutional capabilities to meet desired goals). Political choice and commitment of governments, institutions and donors are indispensable for any capacity development initiative to be successful and effective.

Finally, we need an African Advisory Group on Nutrition (AAGN) to mobilize support for a United Nations Special Session on Nutrition in Africa and encourage more fortunate nations and individuals to participate in programs to reduce malnutrition in Africa. The future of Africa has grave consequences for the rest of the world, as democracy and prosperity in any part of the globe will be gravely threatened by the persistence of poverty and hunger on the African continent. The nutrition community in Africa is ready to meet this challenge.

### Africa 1: Micronutrient interventions

The three presentations in this session (by K Nagati, Tunisia, H Bachou, Uganda, and Dr Lucie Malaba, Zimba-



*Empowerment and involvement of women is essential for success of nutrition programs*

bwe) focused on the prevailing micronutrient situation, trends and interventions in place, the process, organization and constraints of programs. In light of the multiple factors, constraints and deficiencies, multiple approaches may be the only effective way to combat micronutrient deficiencies.

In the discussion that followed the presentations, the importance of a holistic approach to the multiple micronutrient problems was stressed. There was broad agreement on the need to promote the dietary approach as the most appropriate one for Africa.

Suggestions for the way forward in Africa included:

- Intensify research into availability, accessibility and micronutrient content of local foods. African nutritionists should explore the bounty of nature, and develop an emergency food basket with the help of technologists.
- Provide practical nutrition education including food preparation. People must understand the importance of eating micronutrient-rich foods. A major problem of local foods is their high content of absorption inhibitors. Methods to improve micronutrient availability, such as fermentation and soaking, should be taught and encouraged.
- Promote multiple micronutrient supplementation and small-scale multiple micronutrient fortification. A multiple micronutrient approach through supplementation

could be facilitated through government or regional efforts to support local manufacture.

- Consider multiple micronutrient fortification for small-scale industries. The experience of Zimbabwe and Zambia should be shared with other African countries. Fortification at regional level could be effective, especially where there are no border controls, as goods cross on demand. Fortification at regional level could be more cost-effective than individual country strategies.
- African nutritionists should consider dietary approaches, and encourage the use of micronutrient-rich foods, as is already being tried in Kenya where consumption of yellow/orange potatoes is promoted.
- African professionals should seek ways to control vitamin B<sub>12</sub> deficiency. This has been identified as a major problem amongst African mothers, although it is not yet recognized as being one.
- Make efforts to increase production of palm oil, and improve its taste. Palm oil is used for cooking in central and western regions of Africa, and is a good source of vitamin A. Major problems are its low-scale production and undesirable taste.
- Explore ways to increase production and consumption of fish and animal foods. To overcome economic and cultural constraints, support income generation and behavior change

efforts. Intensify research on how to improve distribution of resources.

- The role of infection in causation of micronutrient deficiency should not be underrated. It is important to reduce morbidity as well.

## **Africa 2: Nutrition policy**

The speakers in this session (Dr Cheik Ndiaye, Ghana, D Adelekan, Nigeria, Julia Tagwireyi, Zimbabwe, P Kuzwayo, South Africa) examined the factors responsible for the worsening nutrition situation on the continent. Three factors were identified: disasters, especially drought and armed conflicts, HIV/AIDS and poverty. These are interrelated and require political solutions.

The speakers noted that, whereas malnutrition is declining in other

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### **The way forward**

*Some of the points expressed during the Focus symposium and considered of key importance for improving the nutrition situation of the populations in Africa are:*

- Establish a written nutrition policy that accords nutrition a high priority.
  - Facilitate multisectoral action and institutionalize stakeholder participation. Create or strengthen alliances at all levels.
  - Increase advocacy, focusing on policy makers, such as members of parliament.
  - Promote multiple food-based approaches, including multiple micronutrient supplementation and small-scale multiple micronutrient food fortification, as well as nutrition education.
  - Improve availability, accessibility and micronutrient content of local foods.
  - Encourage people to eat improved local foods and animal products.
  - Encourage the empowerment and involvement of African women in nutrition programs.
  - Make use of existing opportunities to reduce poverty, disease morbidity and the effects of natural and man-made disasters.
  - Learn from other countries' experience.
-

regions of the developing world, it is on the increase in sub-Saharan Africa. It is therefore essential that all African countries establish a written nutrition policy that accords nutrition a high priority. The fight against HIV/AIDS must be sustained and intensified, especially by integrating nutrition into the various strategies. For a long-term solution to the problem of malnutrition in Africa, the participants felt that stimulation of economic growth to reduce poverty and improve the standard of living of the population offers the best hope.

The participants highlighted the need to establish a policy and institutional framework for nutrition that would facilitate multisectoral action for nutrition, and institutionalize stakeholder participation. They also stressed the importance of rationalizing and coordinating strategies as well as resources to provide a vision and strategic direction for nutrition. Bilateral agencies and policy makers should be involved in the capacity development initiative.

In the discussion, the importance of coordination, cooperation and involvement between partners was reconfirmed. To ensure the success of nutrition programs, the empowerment and involvement of African women is essential.

### **Africa 3: Applied nutrition**

This session looked at ways to scale up interventions, applying the lessons learned. The speakers (O Yambi, Kenya, Dr Muhammad Ali Dhansay, South Africa, and S Diene, Senegal) discussed what has been achieved so far, the factors contributing to success, and what measures and strategies might have the greatest impact. A variety of innovative approaches, including interventions to reduce low birth weight, have already been initiated.

Requirements identified as being important for the success of future nutrition programs were:

- Carry out more advocacy by focusing on members of parliaments.
  - Create alliances at country and regional levels.
  - Form an African Nutrition Society to scale-up and implement nutrition programs. Strengthen regional nutrition institutions.
  - Make use of opportunities offered by the strong support in the fight against HIV/AIDS to mobilize more resources and support for nutrition.
  - Take a strong position in programs to reduce poverty supported by donors.
- The participants agreed that most

Africans recognize the magnitude of the problems and are determined to act effectively. Nevertheless, they recognize the need for cooperation, linkage and networking among African nutritionists and African institutions. It was emphasized that use of an advocacy tool and targeting the policy makers in all countries could help to build capacity and mobilize action. Africa is a rich and blessed continent with tremendous natural and human resource base. Thus we should, as professionals, assisted by international partners, capitalize on these factors to revitalize and accelerate its livelihood improvement.— *Ruth K Oniang'o, PhD, Professor of Food Science and Nutrition, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya.*  
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### **References**

1. Pelletier D L. Frongillo E A. Habicht J P. Epidemiological evidence for a potentiating effect of malnutrition on child mortality. *Am J. Public Health* 1993;83:1130-33A
2. ACC-SCN. Fourth report of the World Nutrition Situation. Geneva: ACC/SCN in collaboration with IFPRI.2000
3. UNU/IUNS. African Nutrition Capacity Development Initiative. March 2001.

### **Interview:**

## **Professor Mark Wahlqvist, President of IUNS 2001–2005**

**Nutriview:** *Doctor Wahlqvist, what do you see as the main role of the IUNS for eliminating malnutrition in the world, and where will you set priorities?*

**M. Wahlqvist:** The International Union of Nutrition Societies (IUNS) brings together a growing proportion of the world's community in the multidisciplinary field of nutrition science. Its inclusiveness of nations at various stages of economic development provides wonderful opportunities for IUNS to contribute to world affairs, and especially to solutions for the major health problems confronting the world. This is best done through partnerships. So creating partnerships is a growing part of our work.

What do I consider as the big issues for IUNS to address over the next four years during my tenure? I don't think any nutrition science organization can stand idly by now and not set its mind to the nutrition problems of Africa. They are the most intransigent, and the most disturbing from the point of view of dignity, equity, and human rights. While many might argue that scientists should not get too involved in these issues, I think that IUNS has a duty to engage actively in these areas.

One of the responsibilities of a science-and-technology-based union like ours, is to bring new science and technology to the problems, so as to accelerate their resolution. Technologies like

information technology, biotechnology and even nuclear technology (which has been very much off the agenda) provide opportunities for us to fast-track the nutrition, health and economic advancement of Africa, notwithstanding the extensive problems of HIV and poverty. The way I see it there is now an opportunity for us to work with partners in Africa to achieve health and economic development through nutrition and the application of newer technologies.

**Nutriview:** *How can the IUNS reach this objective?*

**M. Wahlqvist:** In the first place, we can work as an organization directly with communities. I am trying to get resources together for this, and identi-

fyng communities with which we can work in a much more integrated fashion together with other partners who are ready to engage in this kind of development. I think we can find partners in the corporate sector, such as telecommunications, information technology, food and finance, on a much broader front than we have in the past. It is long overdue for organizations like us to do that. In developed economies, this kind of venture-capital approach to the newer technologies and health is extremely vigorous. But the economic opportunities in communities in developing countries represent another order of the world economy that is yet to be tapped. That economy will only progress if we address the nutrition and health needs of those communities. The thing is, we have to get everybody to work together; then it will work. It doesn't really matter who rides on the leading part of the tandem.

I plan to set up a task force to look at what partnerships we need to bring together the new and emerging technologies and address these sorts of issues. While focusing on Africa, we will not lose sight of Asia and Latin America, though. If we can achieve success with the tough ones, it will inspire confidence so we can move in other directions, to communities in other parts of the world. We have to begin local; then we can then go regional and global. So, while the vision of fast-tracking the nutrition and economic and health rejuvenation of Africa might be daunting, by approaching it from a community development point of view and using those communities as model communities, it can work. I want the IUNS to be much better known for its engagement in world nutrition and health affairs.

**Nutriview:** *A lot of people think that more research is needed before embarking on large-scale interventions. What is your view?*

**M. Wahlqvist:** While the IUNS must continue to advance the science and technology that is unquestionably its core business, it also needs to be looking at action plans and the ways in which partnerships with others can lead to implementation of what we already know. We need to encourage the science of good decision making and enable the public to make rational decisions on the

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*The new President of IUNS, Mark Wahlqvist, MD, has had a combined career in internal medicine and human nutrition, with chairs in both these fields over the last two decades. He held the first chair in Human Nutrition in Australia, at Deakin University for 9 years and was Head of Medicine at the Monash Medical Centre, Monash University, for twelve years. He is currently Professor of Medicine, Associate Dean (International), Director of the International Health & Development Unit, of the Asia Pacific Health & Nutrition Centre, and the Food and Agriculture Organization Centre of Excellence in Food Quality, Safety and Nutrition at Monash University. He is also Chairman of the Victorian Food Safety Council. He has played a major role in national and international nutrition science, education and policy. His interests in migration studies have been recognized by the 1994 Award of Sweden's Charlotta Medal.*



*Among other national and international roles, he has chaired the International Union of Nutrition Sciences Committee on Nutrition and Ageing since 1986, the Australian Nutrition Foundation since 1995, and the WHO Western Pacific Dietary Guidelines Committee since 1996. He has been a member of the Nutrition Advisory Panel of the WHO since 1988, and Board member of the Australia and New Zealand Food Authority since 1996. He is Editor-in-Chief of the Asia Pacific Journal of Clinical Nutrition. His publications amount to almost 1000, including over 400 peer-reviewed scientific papers and 17 books. A new edition of his textbook "Food and Nutrition: Australia, Asia and the Pacific" is due out this year.*

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basis of this science. It is also important to base actions on rational thinking, as well as on scientific evidence. Evidence-based medicine is very much in the news these days. I think IUNS should develop a framework for evidence-based nutrition. It would need a much broader base than for evidence-based medicine, because we are talking about a whole food-chain approach, about kinds of evidence that need to be gathered beyond the randomized double-blind clinical trial. Many of the open questions about food and health are not amenable to that kind of investigational enquiry, but there are other ways to do equally well. You do not need a randomized double-blind trial to know if a brick can break a window (though there may be a question of dose-response, like how big does a brick have to be for a certain type of window). We also know that engineers can predictably send a spacecraft to the moon without such trials. This kind of modeling science is one of the really important issues that we need to

get in place much more effectively. What we now know about genetic polymorphisms allows us to deduce cause and effect with a high degree of confidence in a way that we do not necessarily need to do a single variable intervention. So the new science of evidence-based nutrition we desperately need. This might be one of the reasons why we are struggling with the transfer of science and technology into the market place.

What we need too, in nutrition perhaps more than in other sciences, is what I would call 'risk science' and the communication that goes with it. We are not analyzing and communicating the risks and benefits of food change enough. So people are more concerned about changes in the food supply than they need to be. We need to correct this, and provide the tools for risk evaluation, so that people and communities have a sense of control over their own food needs for good health. It is our role as a scientific organization to support the emerging technologies. Rather than

stepping back from the public debate about genetically modified foods, for example, we need to be there, preparing a decision-making framework for the community at large. Enabling people to understand the risks is important, and good governance plays a key role in solving issues of food security. Which means that good monitoring and surveillance are also important. Governments are struggling at the moment about how they will monitor the new technologies. We have a responsibility to develop monitoring and surveillance as well.

**Nutriview:** *What other issues are on your agenda?*

**M. Wahlqvist:** Biosecurity, especially animal biosecurity, has not really featured in the affairs of IUNS as it should. We have to face the reality that patterns of disease are changing, and will continue to change. The extent to which food contributes to this is totally underestimated.

A whole paradigm shift is taking place with regard to how nutrition affects health. Unless we are prepared to identify the relationships we will not find the solutions and we will not see the

opportunities. There are ways in which we can tighten plant and animal biosecurity in relation to human health. But we will not do it unless we have a science of it. It is out there in the wider world but does not have ownership within nutrition science at present. So another major theme of the work of IUNS in the future must be sustainability of the food supply. We are at an advanced stage of creating a partnership with the United Nations Environment Program Unit (UNEP) on econutrition. ■

## ■ News in brief:

### **Alfred Sommer awarded Danone International Prize for Nutrition**

During the ICN in Vienna, Professor Alfred Sommer, Dean of the School of Hygiene and Public Health at Johns Hopkins University in Baltimore, USA, and a member of the Nutriview Editorial Board, received this year's Danone International Prize for Nutrition. The Prize is awarded every two years to a researcher or group of researchers whose work on human nutrition has made a major contribution to public health.

Dr Sommer received the prize in recognition of his groundbreaking research on vitamin A and his outstanding contribution to improving the lives of millions, especially children, in developing countries. He was chosen after a rigorous selection procedure from 100 nominees in 32 countries. Earlier laureates were Dr Vernon Young (in 1997) for his research in the field of protein and amino-acid metabolism, and Dr Leif Hallberg (in 1999) for research on iron metabolism.

Among the major findings of Dr Sommer and his team have been the demonstration that corneal ulceration and blindness are entirely related to vitamin A deficiency, and that even mild vitamin A deficiency significantly increases infant mortality. Thanks to his persistence, the treatment of vitamin A deficiency with high oral doses of vitamin A has become globally accepted as

one of the most cost-effective of all health interventions.



*Dr Barbara Schneeman, Professor of Nutrition, University of California at Davis, and President of the Dannon Institute of the USA, who chaired the 2001 Prize Organization Committee and Juries, hands over the prize to Dr Sommer*

More recently, Dr Sommer and his team have shown that giving vitamin A supplements to deficient women of child-bearing age can reduce the number of deaths by almost half. They are now testing the potential benefits of supplementation with multiple micronutrients for women and children in Asia and Africa. ■

### **Ricardo Uauy to be next IUNS President**

We are pleased to announce that Professor Ricardo Uauy, Director of the Institute of Nutrition and Food Technology (INTA) at the University of Chile since 1993, and a member of the Nutriview Editorial Board, has been chosen as the President-Elect of IUNS during the IUNS General Assembly in Vienna.



*Professor Ricardo Uauy*

Dr Uauy, who received his MD from the University of Chile, and a PhD in Nutritional Biochemistry from the Massachusetts Institute of Technology, trained in pediatrics at Harvard University and neonatology at Yale University. He joined INTA in 1977, and became Professor of Nutrition and Pediatrics in 1981. He has regularly served on WHO/FAO expert panels, and is a member of

the Scientific Advisory of the Novartis Foundation. Since 1997 he is Chairman of the UN ACC/SCN Advisory Group in Nutrition.

He has contributed over 200 scientific publications on various aspects of human nutrition in health and disease with an emphasis on neonatal nutrition, and has co-edited two books. He is on the editorial boards of several peer-reviewed journals. Present research interests include essential fatty acids and CNS development in humans, copper deficiency and toxicity, and protein energy needs in health and disease. ■

### **IUNS contributes to nutrition section of new encyclopedia**

With the conference documentation, all delegates to the 17th ICN received a CD containing the 10 chapters on food and human nutrition that will soon be published in the Encyclopedia of Life Support Systems (EOLSS). Prepublication distribution was made possible through the kind permission of the UNESCO/EOLSS Joint Committee.

This Encyclopedia is a major publication being developed under the auspices of the UNESCO. It brings together the work of eminent scholars, experts, and policy-makers in all major fields, representing a broad spectrum of academic and research institutions, professional organizations, government agencies, private enterprises, and policy planning bodies throughout the world. The EOLSS will contribute to 'state-of-the-art information and expert opinion on virtually every aspect of the life support systems on which we depend'. Its body of knowledge (about 30 subject domains and 200 subject themes) was developed under the expert direction of subject editors with contributions from some 600 authors in over 100 countries.

At the request of Dr Victor Squires, Editor of the section "The Role of Food, Agriculture, Forestry and Fisheries in Human Nutrition", Dr Barbara Underwood, then President of IUNS, identified and organized authors for chapters related to food and human nutrition. The resulting titles (see list) drew together senior and junior nutrition scientists across national/regional boundaries, and represent a tangible

contribution of IUNS to the global scientific community.

1. BA Underwood, O Galal: Human Nutrition: An Overview.
2. EU Wasantwisut, JL Rosado, RS Gibson: Nutritional Assessment: Methods for Selected Micronutrients and Calcium.
3. ML Wahlqvist, FS Dalais, A Kouris-Blazos, GS Savige, G Semenova, N Wattanapenpaiboon: Nutrition and Human Life Stages.
4. NW Solomons, M Ruz: Malnutrition: Hunger and Satiety; Anorexia and Obesity.
5. R Uauy, E Hertrampf: Nutritional Deficiency and Imbalances.
6. RK Chandra: Food Allergies and Intolerance: Role of Dietary Interventions in Early Childhood?
7. MT Ruel, HE Bouis: Food Modifications and Impact on Nutrition.
8. C Leitzmann: Adequate Diet of Essential Nutrients for Healthy People.
9. HV Kuhnlein, GH Pelto: Ethnographic Aspects of Human Nutrition.
10. SH Kim, SY Oh, OJ Park: Regional and Cultural Differences in Nutrition.

Nutriview readers who were not able to attend the ICN, but are interested to obtain a copy of the CD, should contact Dr Osman Galal at the School of Public Health, University of California Los Angeles; E-mail: ogalal@ucla.edu ■

### **A nutrition journal for Africa**



We are happy to announce the launch of a new journal: the African Journal of Food and Nutritional Sciences (AJFNS). Its aims are to create awareness about the multiplicity of nutritional challenges facing Africa and provide a platform for resolving them, and so improve the quality of life for the people of Africa. In the words of the Editor-in-Chief Ruth K Oniang'o: "the AJFNS marks the realization of a long-nursed dream to disseminate

research findings and other forms of information critically relevant to Africa's development".

The AJFNS provides information on, and relevant to Africa for international readership; contributions are invited from African and non-African professionals. The journal is peer-reviewed and committed to maintaining a high standard of quality. A website has also been launched (<http://www.ajfns.net>) with English and French versions of the journal. The inaugural issue (1000 copies) was published in August with financial and moral support from individuals and institutions committed to developing Africa-focused capacity in the field of nutrition.

The AJFNS covers a wide scope of topics. In the first issue can be found:

- an editorial on HIV/AIDS in Africa, how it compromises the efficiency of the health, education and agricultural sectors, and a call for action;
- a research article suggesting that insect and mycoflora interactions are an important cause of spoilage in maize flour;
- a policy paper on the opportunities and risks of globalization for the poor in developing countries;
- a conceptual framework identifying capacity gaps for designing nutrition policies and programs, and outlining strategies for increasing the nutrition policy capacity in Africa;
- a 'grassroots' health sector strategy advocating for action in nutrition at all levels;
- a review of the progress achieved to reduce the prevalence of health problems associated with under- and overnutrition in Africa;
- a proposition for enhancing people's nutritional status in Kenya through revitalization of agriculture and related activities;
- various contributions about the programs and activities of national and international organizations in the field of nutrition;
- three contributions from nutrition students.

Further information can be obtained from Professor Oniang'o. ■

## ■ Events:

### **ITANA 2002, Kenyatta International Conference Centre, Nairobi, Kenya, July 21–25, 2002.**

The great and lightning strides that have occurred in the field of information technology (IT) is also making inroads into nutrition science. Not only in terms of improving communication between nutrition professionals, but also in other ways, such as for research, education and training, and policy formulation and implementation. IT must therefore become an integral part of the African renaissance.

It is against this background that nutrition professionals from 23 African countries have decided (initially under the auspices of the Swedish International Development Cooperation Agency, SIDA) to organize ITANA

(Information Technology in the Advancement of Nutrition in Africa), the first ever conference on IT in nutrition to be held on the African continent.

The aim is to bring together African and international experts in the field with a view to highlighting appropriate IT solutions for the future growth of nutrition in Africa, as well as imparting knowledge and the skills needed for implementation. Besides oral and poster presentations, there will be hands-on workshops dealing with basic and advanced skills in IT, as well as an international exhibition of nutrition, and IT hardware and software.

Conference themes include website creation and management, videoconferencing, e-learning, applications (food composition tables, nutrition assessment, food safety/security, networking), etc. The deadline for submission of abstracts is January 15th, 2002. Further details can be obtained from the ITANA website

([www.itana2002.org](http://www.itana2002.org)) or Dr Judith Waudo, International Linkages, Kenyatta University, P.O.Box 43844, Nairobi, Kenya; tel: +254-2-812729; fax: +254-2-811455; email: [info@itana2002.org](mailto:info@itana2002.org)

### **Founding symposium of the African Nutrition eSociety (ANeS), Kenyatta International Conference Centre, Nairobi, Kenya, July 25, 2002.**

Africa seems to be the only continent in the world that has no nutrition society to facilitate scientific expression and communication on the nutrition agenda. To rectify this situation, nutrition professionals from 17 African countries have organized a satellite symposium, which will take place on the final day of the ITANA 2002 conference.

At this meeting, it is hoped that the African Nutrition eSociety (ANeS) can be inaugurated. Using modern information technology, ANeS can create opportunities for greater interaction between nutrition specialists in Africa, and so help to accelerate nutrition improvements throughout the continent. All delegates at ITANA 2002, as well as any

other interested professionals, are invited to participate in this historic event. Further details can be obtained from the ITANA 2002 organizers.

### **21st IVACG Meeting, Marrakech, Morocco, February/March 2003.**

The XXI International Vitamin A Consultative Group (IVACG) Meeting is scheduled for February/March 2003 in Marrakech, Morocco. The tentative

theme is "Improving the Vitamin A Status of Populations". It will be followed by symposia organized by the International Nutritional Anemia Consultative Group (INACG) and the International Zinc Consultative Group (IZiNCG).

Abstracts on successful interventions to prevent and treat vitamin A deficiency should be submitted before May 2002. For more information, please contact the IVACG/INACG Secretariat, ILSI Research Foundation, One Thomas Circle, NW, Ninth Floor, Washington, DC 20005, USA; tel: 202-659-9024; fax: 202-659-3617; e-mail: [hni@ilsil.org](mailto:hni@ilsil.org) or visit the ILSI website.

### **18th International Congress of Nutrition, Durban, South Africa, September 19–24, 2005.**

Under the theme: "Nutrition Safari for Innovative Solutions" the 18th ICN invites nutrition role players from all over the world to South Africa, where they will explore, exchange and integrate nutrition knowledge in order to generate new insights and define innovative solutions for global nutrition problems. Through their interactions, participants will contribute to an increased political awareness of the human right to safe and healthy foods, and will emphasize the importance of nutrition for human development, health and well-being, equity, and quality of life.

As an innovative addition to the plenaries, symposia, debates and poster presentations, the 18th ICN will feature safari (journey) workshops to different parts of South Africa, where established scientists and young enthusiasts can discuss selected topics in an exciting environment (such as round a campfire under the stars in the African bush). More information can be obtained from: Nutrition Safari 2005, Private Bag X6001, ZA - Potchefstroom 2520, or email: [vgetan@puknet.puk.ac.za](mailto:vgetan@puknet.puk.ac.za)

