

## GLOBAL NUTRITION AGENDA:<sup>1</sup> THE ROLE OF IUNS

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### INTRODUCTION

Mid-way through the 20th century a handful of pioneering nutrition scientists formed the International Union of Nutritional Sciences (IUNS) to provide an organization with a mission to facilitate scientific exchange internationally and bring nutritional concerns to the global agenda. Shortly after IUNS was formed, international agencies and public health officials recognized severe protein and energy malnutrition (PEM) and classic signs of vitamin and mineral deficiencies as problems worthy of attention and expenditure of resources. This was not coincidental. Rather, it was encouraged by the periodic IUNS gathering of nutritional scientists from around the world to report the latest science, interpret it in terms of human nutrition and advocate for public health actions to relieve nutritional problems. A century of advances in nutrition has brought progress in dealing with classic nutrition problems. However, new issues have emerged for the industrialized world while less industrialized countries concurrently face both classic and emerging nutritional problems. Fortunately, at the beginning of a new century new technologies are available to address nutritional problems and provide opportunities to predict and intervene to prevent them. These advances challenge IUNS to be flexible and innovative in how it plays its key role as the international voice for the broad spectrum of concerns embracing the nutritional sciences and humankind.

### A Half-Century of Nutrition Interventions

Global programs to combat severe PEM and nutrient deficiencies were slow to start. Nonetheless, momentum towards the elimination of severe nutrition-related deficiencies accelerated on a global scale in parallel with progress in medical treatment and control measures that accompanied country-specific rates of economic progress and social development. Most countries today enjoy mortality rates among infant and young children at historic lows and life expectancy at historic highs. Severe forms of PEM still occur, but are associated most commonly with devastating natural disasters and civil unrest that displace persons, with prolonged crop

failures or with persistent economic crises. Yet, even when crisis circumstances prevail, the relief community is better prepared than ever before to respond rapidly and minimize the disastrous effects of severe malnutrition and disease.

About 1990 concern shifted from overt clinical nutritional deficiencies to 'hidden hunger' and the consequences for human health and world development of populations subjected to persistent undernutrition. This veiled problem persists on an unacceptable global scale among underprivileged people residing in countries with slowly advancing economies. Even the most optimistic estimates indicate that this situation will continue to prevail well into the 21st century unless there is a significant paradigm shift in the way nutritional problems are confronted. Vertical programs that distribute food packages or micronutrient supplements, subsidized largely through external agency funds, have successfully muted the problem in some countries, but are unlikely to provide sustainable progress when these countries must assume the full financial and human resource burden of implementation.

### Measuring Biological Progress

Achieved stature (height for age) reflects the dynamic interaction among genetics, environment and diet during growth and is the indicator of choice for monitoring the prevalence of persistent undernutrition. Post-World War II secular trends among the Japanese, including those who migrated to developed Western countries, reveal how population-based improvements in reaching genetic potential in height have paralleled improved household dietary diversification and environmental sanitation. Similar secular trends are occurring worldwide—notwithstanding a few exceptions—as progress is made in interrupting the malnutrition-infection cycle, which is so devastating to health and well being, and to improving household food security. The Fourth Report on the World Nutrition Situation of the UN Subcommittee on Nutrition (2000)<sup>3</sup> records regional progress from 1980 projected through 2005. It indicates that the situation in sub-Saharan African countries has been static or deteriorating, whereas rates of improvement have been greatest in South East Asia, South Asia, and Latin America. WHO's global database on child growth and malnutrition, however, reveals rates of improved stature that are quite variable across countries within regions, cautioning that regional gains must be interpreted with care at national levels.

Global progress in control of severe vitamin and

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3 ACC/SCN (2000) *Fourth Report on the World Nutrition Situation*. Geneva: ACC/SCN in collaboration with IFPRI.

mineral malnutrition are remarkable also. Political will and the commitment of resources to implement known effective interventions intensified following several international meetings—the 1990 UNICEF-sponsored World Summit for Children; the 1991 multiple agency-sponsored Conference on Ending Hidden Hunger; the 1992 International Conference on Nutrition sponsored by WHO and FAO; and the 1996 World Food Summit sponsored by FAO. These very visible meetings among representatives at the highest political levels from most countries around the world drew commitments to achieve specific health and nutritional improvement goals within the decade, especially for children and mothers. Implementation of country-level nutrition planning and prevention programs was stimulated as a result. International funding to countries was available primarily to support narrowly focused interventions. For example, iodized salt is now produced and available in most countries, distributed even in the remote areas that previously had been plagued by the health consequences of inadequate iodine intakes (goiter and cretinism). Similarly, in the short run, repetitive periodic distribution of externally supplied high-dose vitamin A supplements has contributed to a reduction in impaired ocular health and blinding malnutrition, and in areas where clinical deficiency was formerly rampant, is believed to be contributing to a decline in young child mortality. On the other hand, iron deficiency anemia, the most globally common of the micronutrient deficiencies has been less amenable to improvement. This may be because the internationally generated political commitments were less forceful and comprehensive than for iodine and vitamin A. As a result, global determination to address iron-deficiency anemia was not sufficient to stimulate sustained remedial activity by local health workers and politicians. Hopefully, the upcoming (September 2001) UN General Assembly Special Session on Children will set attainable goals to address nutrition-related problems. Setting goals, however, must be followed by unrelenting resolve and flow of resources for implementing sustainable interventions to achieve the goals.

### Current Challenges

*Adult Undernutrition:* Adult PEM appears increasingly on global nutritional radar screens. Awareness and concern grow, as politicians understand the significance of an underfed work force for national and global economic and social development, as well as for individual quality of life. Adult PEM is apparent as slimness or a low body mass index (BMI). Slenderness may be fashionable, but not when it occurs among the impoverished and is associated with reduced physical capacity, higher rates of illness, premature mortality and perpetuation of poor reproductive performance. Limited global data are available to document the prevalence of low BMI. Nonetheless some estimates

indicate that 30-50 percent of adults in South Asia and 15-30 percent in Africa are underweight. Data are accumulating showing dietary quality (adequate intake of micronutrients) is critical in the preconception and gestational periods of a woman's reproductive life to lessen risk of defects in fetal development, reduce infant mortality and morbidity, and improve maternal survival and health.

Seasonal variations in food availability and energy expenditure contribute to adult undernutrition, with potentially adverse effects on rural women in particular. In many African countries these women constitute one-third of the total workforce and often three-quarters of the informal work sector, and provide over half of the country's food supply. Pregnant, working women and their progeny are particularly vulnerable when field and household work-demands do not diminish and food consumption does not increase. Too frequently the consequence is inadequate weight gain that results in intrauterine growth retardation. Lasting risks for diet-related diseases—including hypertension, diabetes, obesity, and heart disease—are associated with fetal and infant undernutrition. The global implications of not aggressively combating gestational and infant undernutrition now are obvious for the future of adult health. Clearly health and development planners need to take a life cycle perspective in preventive nutrition planning.

*Malnutrition in Transition:* The demographic transition toward longer life spans and urbanization in the developed world is affecting the developing world. Nutrition-related chronic diseases that are major killers in the West are emerging everywhere among relatively sedentary populations who overindulge in Westernized diets high in cholesterol, saturated fats and calories, and low in fiber, vegetables, and fruits. Before the last two decades, less developed countries had limited affluent populations with the capacity to mimic Western lifestyles and eating habits, but this situation is rapidly changing with no evidence that the trend is slowing. Relatively inexpensive, convenient fast-food restaurants have penetrated ever deeper into traditional and emerging markets. Rural migrant families moving to urban centers have relinquished traditional dietary patterns for convenient food sources. Urban jobs and household work often are less demanding of energy than rural activities. There may be more free time in urban settings, but there are also limited opportunities for inexpensive entertainment and low-cost urban housing frequently deprives inhabitants of traditional physically active forms of relaxation. Consequently, obesity is emerging as a global malnutrition problem not restricted to the affluent even in developing countries also faced with persistent undernutrition. The dilemma for nutrition and health leaders in such settings is how to communicate consistent and relevant nutrition and health messages to address the range of problems observed with changing social, economic, and ecological

conditions. It is likely that these conditions will continue to change and even accelerate in the next century.

### **Shifting Demographic Trends, Economic Winds and Subsidies**

Although global population growth rates have slowed, the total world population continues to grow. According to projections, the world's population will increase from about 6 billion today to an estimated 7.9 billion in 2020, with most of this growth occurring in the less developed world. Furthermore, the global population is aging. Those over age 45 are expected to number 2 billion by 2020, double their population size in 1996. Again, this will occur increasingly in developing nations.

The growing and graying world population is shifting the balance of health concerns between communicable and non-communicable diseases, even in the less developed countries. National health budgets are increasingly stretched to combat both infectious diseases still afflicting younger populations and chronic diseases of growing numbers of the elderly. In Africa, as elsewhere, the HIV/AIDS pandemic is devastating health budgets and productive-age populations. Urbanization also has accelerated in the developing world, with over 60 percent of the world's population expected to inhabit cities by the year 2020. Much internal migration results from young people leaving rural areas in search of increased urban opportunities, which have diminished as a result of slowed economic growth.

Without doubt, in recent years progress in combating undernutrition has occurred in many countries. The gains, however, often were heavily subsidies with international funding to local public health budgets for specific nutritional interventions, e.g. vitamin A capsule distribution for preschool children, iron-folate supplements for pregnant women or universal iodization of salt. Such curative and control programs are laudable, but progress is fragile if dependent on external subsidies and not line item expenditures incorporated into national

health budgets. International donor budgets available for nutrition programs increasingly are less accessible and may carry utilization constraints targeted to short-term achievements. Dependency on external support often shapes national policies and programs to donor priorities that may not parallel country priorities for sustainable programs. In the last two decades many countries have faced economic crises and stagnant or declining government budgets available for health expenditures. The dilemma is how best to gain self-reliance in sustaining progress when faced with soaring unemployment or underemployment that undermines household food and nutrition security.

### **Future Prospects for IUNS**

Obvious from these brief comments is an enormous challenge to the global community—all sectors (government, private and civil society) and professional disciplines. Fortunately, nutrition is an eclectic, inclusive discipline that embraces molecular biology, applied nutrition science, social science and communication science, to name but a few. The role of IUNS today and tomorrow—as in the past—is to foster nutrition research, facilitate scientific exchange internally through the periodic International Congress of Nutrition and IUNS committees, and to advocate for nutrition through participation in global agendas that cut across disciplines and development agencies. For IUNS to meet its key role as the international voice for the broad spectrum of concerns embracing the nutritional sciences and humankind, we will need to maximally utilize modern communication technology to span the gaps between and among region and country nutritional scientists.

I am delighted that the African Journal of Food and Nutritional Sciences is inaugurated to highlight nutrition issues and nutritionists in Africa and bring African concerns and accomplishments to prominence among the global family in nutrition and development.