

and give an exaggerated view of what can realistically be accomplished. A related problem is the difficulty of progressing from externally funded research projects to government-managed programs with all the constraints of manpower, motivation, and money. There is a wide gap between research success and program success, because what is feasible in the former may be unmanageable and even detrimental in the latter.

There is also the question of global rhetoric emanating from aid agencies, whether multilateral, governmental, or voluntary. They all use the same slogans and seem to be at risk of believing their own rhetoric, which was presumably initiated to motivate or fundraise. I am referring to catch phrases such as "intersectoral cooperation," "community participation," "comprehensive community health promotion," "health for all by the year 2000," etc. Some of these are very worthwhile concepts, but they have become dogmas that are applied uncritically to any context. The conventional role of academic institutions is to examine prevailing attitudes and dogmas critically, including clarifying their exact meaning, underlying assumptions, and the gulf between rhetoric and reality. This role of critical appraisal has not been fulfilled. One might more appropriately label this as malpractice than Berg's use of the word. The reasons for this almost naive acceptance of dogma are unclear, but may be related to subtle pressure from multilateral agencies, fear of accusations of cynicism, or lack of interest because it is not an issue worthy of scientific concern. Without a need to talk of a conspiracy, the medical press also seems to have accepted uncritically the prevailing rhetoric about the developing world, or at least suspended judgement due to a lack of good data.

With respect to data collection in the developing world, donor agencies are placing too heavy demands for data on ministries of health, who pass the responsibility on to clinics. An inordinate amount of time and energy is spent by health workers in poor countries collecting data that are unreliable or useless. This needs to be rationalized, because health workers have limited time and energy. We cannot just insist on better data, but have to base decisions on reasoned judgments that are based on limited data. This demand for data combined with the proliferation of grandiose programs for the primary-care level (eg, algorithms for malnutrition, diarrhea, malaria, pneumonia, and sick children) are at risk of causing the whole edifice to collapse. For example, we may have to choose between immunizing children and weighing them regularly. Vaccines against *Hemophilus influenzae*, *Pneumococcus*, and malaria could radically alter the health of children in Africa over the next decade or so and seem a much better investment than nutrition projects. Similarly, water and sanitation projects are arguably a more long-term health investment than supplementary feeding and related nutrition projects. In view of the limited resources available, perhaps our global pediatric priorities should be population, immunization, and water, sanitation, and hygiene programs rather than nutrition.

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Time to reconsider and redeploy: a perspective from the field

Dear Sir:

As I was preparing a talk to be delivered at the Experimental Biology Meetings on the practice of clinical nutrition in a Third World country, I examined the cover of the January 1993 issue of the *American Journal of Clinical Nutrition* and was impressed by Berg's lead editorial charging the academic community at large of nutritional malpractice for spending billions of dollars in international nutrition research and failing to make a difference. Having read this editorial and being from a developing country I felt an obligation to provide a commentary with a field perspective in response to Berg's challenge.

Berg's dismal picture of wasted resources is quite appropriate if one looks at the global picture from the frustrating window of the World Bank. Putting money in government coffers can often mean wasting resources and hence the accusation of widespread nutritional malpractice not only applies to the academic community but it applies even better to international funding agencies like the World Bank. Yet, looking at malnutrition and hunger with a field perspective one will conclude that notable progress has been made and indeed progress is being made on a daily basis. Undoubtedly, more needs to be done to fully disprove Berg.

Berg is not right if one looks at the notable advances in eradicating hunger and malnutrition in several socialist countries and many developing countries with mixed economies. China, Cuba, Taiwan, Malaysia, Chile, and Costa Rica have made substantial progress toward achieving this goal despite their differences in political and economic systems. Most analysts now accept that economic progress is only possible after investment in human capital is sustained over time, thus allowing for improved labor productivity and sustainable growth.

Intervention programs including immunizations, family planning, primary health care, and other preventive measures can make a difference. Chile, like some of the other previously mentioned countries, has experienced a continuous drop in infant mortality from 250 in the 1920s down to 15 per 1000 in 1992. Mean figures for low-birth-weight infants are slightly greater than 6%, marasmus occurs in less than 0.1% of children < 6 years of age, and stunting (defined as length-for-age 2 SDs below standard mean) affects less than 8% of our children. In the case of Chile, as in other countries, health and nutritional improvement clearly preceded and in some cases has served to catalyze economic development. Worldwide research documenting "why" malnutrition has an impact on growth and development carried out during the 1960s and 1970s led to operational research and program implementation on "how" these problems could be dealt with on a national basis. These programs, as part of integrated health promotion, preventive care, family planning, and control of infectious disease have made a difference.

Change can occur independently of economic growth and politics. The commitment to change of the local community is clearly a precondition for nutritional improvement. Scientists within this context play a crucial role in facilitating the political process to make things happen. Academicians in developing



countries must sometimes become the policymakers and always be the political advocates for nutritional improvement. The call for change needs to come from the affected community. Efforts by outsiders will be futile if the political will at the local level is not present. I disagree with Berg's assertion that political commitment is not a limiting factor. When I say "political will" I do not mean willingness to accept a soft loan from an international development agency but willingness to bring about real and lasting change.

On the basis of nearly two decades of commitment to the practice of clinical nutrition in a developing country, I can say that it can be crowned with great satisfaction or deep frustration. Individuals interested in working for nutritional improvement globally should set career goals that are compatible with their values rather than be forced into meeting academic standards that many times are opposed to problem-oriented work. Making a difference does not count for much in most promotion committees north or south of the equator.

The outcome of nutrition work in a developing country is largely determined by the motivation that guides you and the rest is determined by the adequacy of your tools. Training programs in North America and Europe for individuals from developing countries need to emphasize training with tools that they will need and have access to rather than making them dependent on sophisticated instrumentation. There is nothing intrinsically wrong with mass spectrometry or nuclear magnetic resonance as research tools, but they are not the answer to the most relevant problems facing developing countries.

The dilemma of basic vs applied research can be resolved only in a problem-oriented setting where the final objective is making a difference. There is no real conflict between basic and applied research if the goal is solving a problem. The need for basic research is conditioned by the final objective. The relevance of basic research in developing societies is enhanced by the problem-oriented approach. This requires multidisciplinary approaches to problem solving. Nutritionists, food scientist, public health planners, social policy experts, and engineers are all necessary to attain this goal. The strengthening and or development of collaborations between problem-oriented institutions throughout the world is crucial for the success of this effort.

Access to adequate amount and quality of food is a basic right and a precondition for health and social well-being. This is a basic tenant that should be sustained by the programs and actions we undertake. People have a right to food, our job is to create the conditions where this need will be met. If one child is without proper food, all of us should feel affected. This view may be considered political by some and will not be shared by many, but unless equal opportunities are given to children during growth and development, freedom and democracy are empty words. Citizens of the Third World are willing to give up many rights considered traditional in the industrialized world and replace them with the right to have food and health.

Finally, I say to Berg that he should abandon the neocolonialist approach to solving hunger and malnutrition from Washington, DC and point the finger not only north but also to the south. Much of what is not done is due to the failure of politicians and scientists in the developing areas of the world to respond to the challenge he poses. I appreciate the opportunity he has provided the readership of the *Journal* to rethink our personal and collective responsibility in the eradication of hunger and malnu-

trition. It is time to do more than good science, it is time to put good science to the task.

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Ending malnutrition: whose responsibility?

Dear Sir:

Berg's article explores the reasons why malnutrition persists in the developing world, and apportions a good deal of blame to the international nutrition community. I agree. But who makes up the international nutrition community? Everyone who is involved in malnutrition control and ending hunger. The nutritionist or nutrition scientist is only one of a number of actors needed in these social engineering efforts.

Berg's coinage of the term "nutrition malpractice" appears to lay the guilt at the doorstep of nutritionists or nutrition scientists. This provocative concept (though sparking an interesting debate) essentially refers to individuals (as in medical malpractice), *not* the collective international nutrition community. It therefore unnecessarily targets nutritionists and personalizes the important issues he brings up, raising the hackles of many of those who have made sterling contributions to the field of nutrition science and malnutrition control.

Nutrition (like health and so many other concerns) is too important to leave exclusively to specialists to decide on. Working in Asia as a nutrition planner (or perhaps "nutrition engineer") over the last two decades, I have come across numerous instances where it was precisely the professional nutritionists who stood in the way of a massive attack on malnutrition. Their influence on government administrators and policymakers was often disproportionate to their understanding of the complex of direct and underlying determinants of the problem—and, more important, of its solution. At times it was a minor unresolved scientific squabble or turf issue blown out of proportion by ego needs that stifled large-scale action commensurate with the magnitude and urgency of the problem—a problem endured silently by those who are voiceless and marginalized in society. At other times it was a lack of expansive thinking, a weak articulation of the strong case we have, a failure to apply cost-benefit and risk-benefit approaches to convince the hard-nosed holders of the purse strings.

But perhaps the most crucial deficiency was the lack of effective intellectual and visionary leadership to bring about the earliest possible end of hunger and malnutrition. And here, I believe, we should not underestimate the importance of a psychological factor at work: do the nutrition experts really believe that we can end hunger, say, before the turn of the century? Because if *they* don't, *who* would?

I'm afraid that too many of them I have had the privilege to work with were, deep down, overwhelmed and intimidated by the extent and complexity of the problem. They were unprepared

