



Creating the Nation's first BioPark

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Letter From the Desk of David Challinor
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As the economic gap between rich and poor nations continues to widen inexorably, national and international institutions and private organizations (NGO's) in prosperous nations increase their efforts to reverse or at least slow the trend. Despite the best of intentions, progress towards the goal of reducing this breach has been painfully slow or, as many might claim, nonexistent. Forestalling these noble efforts to improve the lot of impoverished nations have been the twin specters of uncontrollable human population growth and internecine struggles for political control in many of the target countries.

At the national level, using the United States as an example, the incentives for developmental aid were and still are primarily political and economic. During the Cold War, vast sums of U.S. foreign aid were allocated to developing countries to help them industrialize. The goal was not only to create future customers for U.S. goods but also to bring the recipient nations into the American "sphere of influence," thereby excluding the Soviets from gaining such strategic footholds, as they had in Cuba. The recipient nations in turn played one donor off against the other; the most "successful" example of this was probably the building of the Aswan High Dam on the Nile by the Soviets, who finally started building the dam in the early 1960's after Egyptian negotiations with the U.S. broke down. Besides the donor's political incentives, there were economic ones as well.

A commercial example was a U.S. program to fund the Pa Mong dam construction project on the Mekong River in Thailand. Part of the agreement for A.I.D. financial support was that American-built earth-moving equipment should be used. From the U.S. taxpayers' point of view, this makes good sense; it is an indirect way of subsidizing American heavy machinery in foreign markets. Thus, if Caterpillar and Euclid tractors and trucks were used in Thailand for a decade-long construction project, then local agencies for these American companies could become so well established that European and Japanese construction equipment manufacturers would find it hard to compete. This project never was realized as political, social and environmental costs were too high.

Although political and economic incentives were strong, U.S. policymakers realized that the task of global development was too great for the U.S. alone to carry and the World Bank became increasingly involved in development projects. The World Bank



grew out of the Bretton Woods Conference which was convened 50 years ago to make financial arrangements for handling the reconstruction of Europe after the impending defeat of Germany and Japan. It evolved into a way to make multi-national financing available to Third World nations for major commercial, industrial and agricultural projects. Although few people in the late 50's and early 60's could have predicted the results of this bold initiative, enough time has now passed to measure some of the unexpected costs against the obvious gains.

The World Bank today has become a huge bureaucracy occupying two large downtown office buildings in Washington, D.C. Its generous salary scale has attracted many western-educated Third World nationals who negotiate development loans with former colleagues in borrowing countries. A bright light in the WB's operations is the relatively recent expansion of their staff of environmental experts who now seriously consider the potential environmental effects of large construction projects. The Bank actually stopped funding the huge Sardar Sarovar dam in India because of its long-term adverse effects (see my April 94 letter). Because the World Bank lends only to governments, the negotiating process is slow and cumbersome, and benefits to farmers in rural areas seem minimal compared with those to local officials who administer the loans. Further, women in the developing world have not until very recently, and at present only minimally, benefited from World Bank-financed projects.

Non-governmental organizations (NGO's), on the other hand, sponsor much smaller developmental programs and consider the WB to have done at least as much harm as good. Some of the more radical NGO's even believe that the best way for the WB to celebrate its 50th birthday would be to close its doors. These clashing perceptions of how best to handle development are based on the antithetical approaches of the two groups. In light of the aforementioned lending constraints of the WB, NGO personnel in Third World countries often consider WB loans to be politically determined. In contrast, NGO personnel feel their efforts to be motivated by religious conviction or by sincere compassion. Being small and flexible, NGO's can work closely with impoverished farmers and women's groups and thus achieve more immediate benefits for their clients than the cumbersome governmental bureaucracies can deliver.

I have simplified this dichotomy between the two approaches to development, and I do not imply that all WB or USAID projects are harmful and all NGO ones are beneficial. However, in the 50 years since Bretton Woods, the prosperous First World has finally learned that money and technology alone will not insure success. The Tanganika groundnut (peanut) scheme of the 1950's was a good example of the failure of that approach by Great Britain. For those who have forgotten this caper, vast sums were spent

plowing the east African savannah so that peanuts could be planted. Unfortunately, this crop was not suitable for the area and the project was soon abandoned. Other agricultural programs have been relatively successful: the slow and careful development of short stem high yielding wheat contributed significantly to the miraculous green revolution. The benefits of the green revolution in India, however, were not equally shared. The major recipients were often the Punjab's large landholders who could afford the expensive seed and the extra fertilizer and water the new wheat strains required; the small farmers lacked access to sufficient capital to take the risks more easily assumed by prosperous growers.

Since the Bretton Woods Conference, the number of people in the world has more than doubled and in the next 20 years it is expected to increase by another third. This means that on a per capita basis, the amount of farm and forest land as well as inshore fishery harvests will all decrease significantly. Aware of this decline, international organizations involved in development have touted the concept of sustainability. I offer two examples of this concept: One is the Committee on Agricultural Sustainability for Developing Countries, on which I serve; and the other is outlined in the August 1994 issue of The Journal of Forestry which was devoted to ecosystem management as a way to *sustain* (italics mine) diversity and productivity.

The use of the word "sustain" seems to me to be ill-chosen because I believe it is being applied, as in the above examples, to cover an indefinite time period. For example, you can sustain a breathless condition for a few minutes, or a sprinter can sustain a speed of 34 mph for about ten seconds -- there is a clear time limit to sustaining anything, including agricultural productivity. For example, weather conditions or underinformed women (who do 80% of the work in developing countries) may limit the sustainability of any agricultural system. Such productivity is largely determined by weather conditions during the crop cycle. Also important to sustainable yield are the availability of quality seed and skilled husbandry; tending the crops is often performed by the least informed part of the population: women.

I doubt anyone believes that sustaining economic growth indefinitely is possible. The second law of thermodynamics should make that clear: the source of the added energy needed to increase such growth is finite. It has to come from somewhere, and the source is thus reduced. Perhaps we should think of a more accurate word than "sustainable" to describe the goals we have set for development in the Third World. "Sustainable" implies maintenance of existing outputs or production, which seems a reasonable target as long as adequate land remains available (and not consumed by housing needs) and the weather cooperates. There is little evidence that increased energy and

more sophisticated plant breeding resulting in higher yields can offset the growth in the number of people who must be fed. Perhaps our goal should be more modest: trying to "maintain" agricultural productivity at roughly its current global level until the world's population stabilizes. That would mean per capita consumption of food would drop while we alter our eating habits. For example, the world may soon become too crowded to enjoy the luxury of beef, which requires vast areas of arable land and grain for fattening. We may all have to become vegetarians. Surely this lifestyle alteration would be a small price to pay as a contribution to global survival.

My outline of the above world situation may seem gloomy to some of my readers. Yet what distresses me is the recognition that many in positions of power and informed citizens think that really serious problems can be solved without great changes in lifestyle for everyone and a great deal of hard thinking. "Business as usual" is becoming less and less possible for all of us. The companionship of working on these problems should maintain us as we work together to solve these great and vexing problems.

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