Development Perspectives

front: TRANSPLANTING RICE IN CIAT’S EXPERIMENTAL PLOTS IN COLOMBIA. (CIAT)

back: IITA’S INTEGRATED STRIGA SPP CONTROL PROGRAM COMBATS THE DEVASTATION TO CEREAL CROPS IN AFRICAN FARMLANDS CAUSED BY THIS PARASITE. (IITA)
Partnerships are key to the renewed CGIAR. This is clear, for instance, from the efforts of the CGIAR to turn itself into a fully South-North enterprise, the collaborative arrangements between CGIAR centers and NARS, the establishment of CGIAR partnership committees with NGOs and the private sector, and the involvement of the CGIAR in the growth of a thriving global agricultural research system.

While the strongest element of partnership is within the agricultural research community, the CGIAR seeks to establish and strengthen partnerships well beyond that circle of collaboration. The rationale for this approach has been clearly articulated by CGIAR Chairman Ismail Serageldin on many occasions. He has said:

We approach the second quarter century of the CGIAR with confidence, ready to confront new challenges and fight new battles, with the ingredients of past successes distilled for a new century. Scientists in their laboratories and farmers in their fields have to reach out to each other and to learn to march in step, for they are in truth engaged in a common endeavor.

Economists emphasize the right prices. We need to be equally emphatic about the right roles of the multiple forces engaged in creating a new development paradigm. Herein lies the new beginning, the combined efforts of diverse actors—farmers, scientists, NGOs, policymakers, the private sector—in a convergence of past experience and future possibilities.

We cannot fight the battles against poverty and hunger alone. That calls for a combined effort by a Coalition of the Caring.

In that spirit, this edition of the CGIAR Annual Report opened its pages to development perspectives from three outspoken members of a potential Coalition of the Caring.

- Noeleen Heyzer, Director, United Nations Development Fund for Women, assesses UNIFEM’s role in cooperative efforts to translate the Platform for Action adopted by the Beijing Conference on Women into concrete measures at the national and regional levels; the importance of empowering women, particularly those in the poorest strata of rural society, and some of the means by which this can be realized; the need to increase women’s access to land and other productive resources in order to achieve sustainable agriculture and natural resources management; and, how a gender perspective and changing
perceptions of women are bringing about a revision in traditional development paradigms.

- Razali Ismail, President of the United Nations General Assembly and the first Chairman of the post-UNCED United Nations Commission on Sustainable Development, explores evolving world views toward development, the affects of globalization on developing countries, the commitment of the global community to meet a range of contemporary and future development challenges, and the future role of the United Nations as a catalyst of development.

- Jacques Cousteau, the world renowned oceanographer and environmentalist, spells out his views on the importance of protecting Mother Earth and her precious resources for future generations, and how this can be achieved.

Ms. Heyzer and Ambassador Razali were interviewed for the 1996 CGIAR Annual Report by veteran foreign correspondent Thalif Deen of InterPress Service who specializes in the coverage of international development issues at the United Nations.
“From the grassroots to the global Internet, from village councils to national governments, from local banks to world trade, women are reaching new levels of participation and partnership with men. We are truly climbing to equality,” says Noeleen Heyzer, Director of the United Nations Development Fund for Women. She acknowledges, however, that there are major barriers that women continue to face in their fight to achieve economic and political empowerment and equality.

Ms. Heyzer, a native of Singapore, worked for twenty-five years in Asia and the Pacific before joining the United Nations in 1994. UNIFEM’s business of engendering systemic change is undertaken in four distinct contexts: working with governments at the country level; building the capacity of women’s organizations on the ground; exploring new synergies among diverse sectors, drawing especially on innovative and socially responsible private sector initiatives; and, playing a catalytic role within the UN system.

Asked whether lack of political will and funding are major constraints for UNIFEM, she said the fact that contributions to UNIFEM have increased over time is a clear indication of political support for gender issues. “We are also able to work extremely well with governments at the country level,” she added. Unlike many cash-starved UN bodies and agencies, UNIFEM is in robust financial health. When Ms. Heyzer took over in 1994, UNIFEM had an annual budget of about $14 million. The contributions to UNIFEM rose to $20.4 million in 1995, including a one-time contribution. In 1996, the budget stood at $17 million. Despite a climate of cost-cutting and downsizing, Ms. Heyzer believes UNIFEM’s budget can be sustained, and says she plans to double it by the year 2000.

The following are excerpts from the interview with Ms. Heyzer for the 1996 CGIAR Annual Report.

QUESTION: Eighteen months after the Fourth World Conference on Women in Beijing, what do you think has been achieved internationally with respect to equity for women in development?

MS. HEYZER: Since the 1995 Conference on Women, the United Nations has been working with women’s networks, policymakers, and women at the grassroots level to develop strategic plans for the implementation and evaluation of the Platform for Action adopted in Beijing. The whole emphasis in Beijing was on action, not just on commitment. If I look at it from the point of view of UNIFEM, we have assisted sixteen governments, including India, Brazil, Kenya,
Chile, Jordan, and Syria, to come up with their own action plans on women and also to incorporate gender components in their national budgets. Although the Beijing Platform is not legally binding, more than 100 countries and most UN organizations have made formal commitments to develop implementation strategies with specific timelines, benchmarks for monitoring, and funding recommendations.

UNIFEM is working to facilitate the implementation of the PFA and to achieve our mandate to promote women’s economic and political empowerment. For this, UNIFEM is using the following strategies:

- strengthening the capacity of women’s organizations and networks to serve as advocates for women;
- supporting innovative programs and projects benefiting women;
- leveraging funds and support for innovative strategies dealing with critical issues affecting women;
- acting as a catalyst within the UN system and at the regional and national levels to advance women’s empowerment; and
- documenting and disseminating best practices and lessons learned.

**QUESTION:** The CGIAR focuses on strategic and applied research to develop agricultural and natural resource management technologies. Priority clients are poor rural women. How can they be reached most effectively?

**MS. HEYZER:** There is a rich canvas of successful experiences from India in the effective mobilization of women. Landless and self-employed women from the informal sector, for instance, have been successfully mobilized for their socioeconomic development. The common characteristics of these success stories are the involvement of organizations at the grassroots level to raise the consciousness of women, genuine involvement of women at the grassroots level in action to improve their situations, and development of support and information networks with other groups. The leaders of these organizations often see themselves as facilitators—as opposed to authoritarian and patronizing leaders—who have merely created the opportunity for women of the target group to come together around an issue of need, and who have encouraged dialogue from which new insights for action have been gained.
Many of these successful organizations, for example, the Self-Employed Women’s Association and the Working Women’s Forum, are involved not only with the mobilization of specific groups of women such as street vendors, bedi-workers, and fisherwomen, but also the upgrading of their training and the provision of rural credit. Loans are given to women individually and collectively based on their needs, capability to repay, and ability to utilize the money in ways which generate regular income.

Every small step and action taken on behalf of women in the poorest strata of rural society can eventually add up to become the foundation on which more basic changes can be built. Interventions may only be a means of ensuring that the position of these women does not worsen, but this is better than having no intervention. Interventions can range from legislative change; sensitizing bureaucracies, the media, political organizations, and trade unions; building communications and information networks and linkages; consciousness raising; participatory strategies; changes in leadership and management styles; development of service centers; and, creating more responsive organizational structures and processes.

The development process, whether we like it or not, has already released many forces of change in society. It is crucial now to influence and intervene in the process to ensure that those forces create more opportunities than barriers for the poorest women to gain more control over their lives and to have more choices. This includes training women in skills which are in demand and which would allow them to be employed more productively, rather than concentrating on skills associated with homemaking. Such training should be linked to credit and marketing facilities to ensure success. There should be an increase in the intake of female extension staff in rural development agencies to ensure that poorer women have better access to state resources. There should at least be joint ownership of land between men and women to ensure some security for women. Also, rural organizations set up by the state should provide training to rural women, as well as men, in agricultural technology and innovation. Where necessary, training in the management of money should be conducted prior to the payment of compensation.

**QUESTION:** Has a focus on women in development and gender contributed to a revised development paradigm? If so, how?

**MS. HEYZER:** I think so. Definitely. Let us examine what revised development paradigm we are talking about. If we are talking of a development paradigm that focuses solely on economic growth, then obviously when the gender perspective is taken into account, that kind of paradigm will have to be shifted. I want to go a little
The issue of concern is what kinds of institution building, training, and approaches to management and administration can assist women of the poorest strata of rural society to gain access to new economic resources, skills, and opportunities.

How does economic growth lead to human development? It is via households, via decisions made in households, and via employment. The links there are very, very central. Furthermore, it is not just focusing on women, it also depends on how the focus actually takes place and the nature of that focus. One very good example is the population issue. Family planning programs always focused on women. There was no decision making and there were no choices. It was the 1994 International Conference on Population and Development in Cairo that changed this. Now women are being talked about, not as passive clients, but as women with empowerment. There was a total change in thinking on several issues, including the issues of decision making and of reproductive and health rights. I think even the World Bank now talks of social investment. I was very pleased to discover that during the Microcredit Summit (in Washington in February) the Bank was talking even in terms of violence against women as a problem for development. That is something new.

**QUESTION:** A persistent barrier to women's increased and sustainable productivity in agriculture and natural resources management has been their restricted and/or conditional access to land. What can be done to help increase women's access to land and other productive resources?

**MS. HEYZER:** The issue of concern is what kinds of institution building, training, and approaches to management and administration can assist women of the poorest strata of rural society to gain access to new economic resources, skills, and opportunities. The issue is not simply of equity, but also of dignity and the development of women's collective strength to influence the social processes that affect their lives.
New opportunities have been created for the rural poor in terms of cooperatives, rural credit, mobile banks, farmers’ associations, village community organizations, training in the use of new technology, extension services, and new information, marketing outlets, and welfare schemes. These opportunities, however, are often molded and introduced into rural areas based on concepts and values of government departments, implementing agencies, and NGOs that often emphasize planning from the top. Few are really programs that have emerged out of a consultative process in which the target group and program personnel share their knowledge and resources and, therefore, create a better fit between needs and capabilities of the beneficiaries and the resources of the agency.

One outcome of this top-down approach is that most agencies plan as though only men support families, when in reality it is men together with women who do so, and often it is the women who are forced to do so alone. As a consequence, even if in theory resources are available to both sexes, in practice this seldom happens. One of the means of helping women to gain access to productive resources is through microcredit. Microcredit has become a powerful tool helping women transform their lives and the lives of their families and their communities. Microcredit is about much more than access to credit. It is about women gaining control over the means to make a living. It is about women achieving economic and political empowerment within their homes, and within their villages, town, cities, and countries.

UNIFEM recognized early on the importance of providing credit to women as an essential ingredient in building institutions at the grassroots level. We facilitated the formation of the International Coalition on Credit, which consists of thirty-two of the world’s leading microcredit and business NGOs, with more than 200 affiliated organizations. Together they provide more than 3 million of the world’s poor with funds to begin and sustain their enterprises. Due in part to this coalition’s advocacy before and during the World Conference on Women, the Beijing Platform for Action embodies robust language on women’s economic empowerment.

In an increasingly globalized economy, we must use innovative approaches to enable women entrepreneurs and producers to benefit from new market opportunities. One way could be to support a network of women community producers. This network would provide women producers better access to the global marketplace.

**QUESTION:** Your own experience has included a focus on women and natural resources management. What do you think are the most important issues with respect to women and the environment and natural resources management?
MS. HEYZER: What kind of world do we see from the perspectives of gender, environment, and development? The number of rural women living in absolute poverty has risen by 50 percent over the last two decades compared with a 30 percent increase for men. Feminized poverty is still very much a rural phenomenon. It also brings up the issue of access to land, credit, and technology. One of the criticisms is that much of the work of rural women is invisible and not socially recognized. They are seen as casual workers in national data. We are now trying to give a higher value and recognition for their work. With that comes access and control.

Women were first seen as victims of environmental degradation. Poor, rural women were pictured in major international magazines and television programs staggering under huge loads of wood or walking miles to fetch water. While this coverage highlighted real problems, it also presented a one-sided image.

Women were then recognized as managers of such resources as forests, water, and fuel, and as active participants in agriculture. Their knowledge about the environment began to be acknowledged and they came to be seen as part of any solution to energy and water problems. This led to the perception that women are resources themselves. But was it fair, as many critics asked, to make women responsible for the global clean-up, to add the burden of environmental caring to all their other caring roles? Was the recognition of women’s environmental knowledge empowering or merely instrumental? How could women’s rights to resources be highlighted at the same time as their knowledge and their responsibilities?

The public perception shifted with the emergence of such powerful examples as the Chipko movement in India to the image of women as protectors and defenders of the environment. Some attributed the commitment of women to environmental protection to their need for resources to sustain livelihoods, while other saw it as part of women’s deeper understanding of and connection to nature.

There was also the view often called “ecofeminism.” Women were seen by some to be in harmony with nature. It was part of a woman’s essential being, in contrast to men, who were seen to be less involved with nature, and more prone to destroy than to nurture or protect. The strength of this position is that it promotes the idea of unity among women, but it fails to ask whether all women really have the same interests. It also overlooks such differences—often divisions—as class, race, and region, and urban versus rural backgrounds.
Lastly, the concentration on women and the population question. Many groups concerned with the environment assume that population exceeds resources. This, however, ignores such causes of degradation as the distribution of resources, consumerism, war, and growth policies. These have contributed significantly to the doubling of the number of poor rural women worldwide during the last two decades. The vast majority of the 1.3 billion people now living in extreme poverty throughout the world are women and girls, with some estimates of the proportion ranging as high as 70 percent.

As I said earlier, the climb ahead will be hard, but I believe women will reach the summit of equality.
mbassador Razali Ismail of Malaysia, President of the United Nations General Assembly, warns that the decline in development assistance is an “alarming trend” that has to be halted. A senior UN diplomat who has represented Malaysia as its Permanent Representative for over eight years, Mr. Razali was also the first Chairman of the United Nations Commission on Sustainable Development, created after the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. A strong spokesman for the causes of the developing world, Mr. Razali has also warned of the impending dangers of excluding developing nations from sharing the benefits of technology.

The following are excerpts from the interview with Mr. Razali for the 1996 CGIAR Annual Report.

QUESTION: From your vantage point as President of the United Nations General Assembly, how do you see views on development issues evolving, as the world moves toward the new millennium?

MR. RAZALI: I am not optimistic. I am prepared to go on record to say that I am alarmed at the way views on development issues are evolving. The Uruguay Round and the liberalization of world trade—the “recipe” for renewed partnerships in development—have not benefited the least developed countries, despite their economies having to adjust to the new rules of the General Agreement on Tariffs and Trade. The Uruguay Round has heaped more problems on the poorest countries, beyond the already huge challenges of debt and structural adjustment.

At the same time, there has been no counter balance in terms of increased development assistance. Even the private sector—the new partner of governments in development—marginalizes those countries in Africa that do not attract quick profits. Foreign Direct Investment levels remain very low, with less than five percent of FDIs going to Africa. At the General Assembly, we adopted several resolutions on development issues, adding to the consensus already reached at global conferences; for example, the resolution entitled “Enhancing International Cooperation Toward a Durable Solution to the External Debt Problem of Developing Countries,” which focused on recent initiatives, such as those of the Bretton Woods institutions, that seek to bring the debt burden of the most indebted countries to sustainable levels.

These resolutions are significant but small steps which do not provide comprehensive solutions to the development crisis. The United Nations also has to raise its profile in mobilizing increased development assistance, even as it tries to factor its decisions into the Bretton Woods policies. The United Nations must be able to
make a legitimate claim to development funds in its own right, particularly as it undergoes reform and enhances its delivery capacity. I am not sure that this will happen, but the United Nations should nevertheless try, being the one institution that attempts to level the playing field; democratically allows the exchange of all views of all governments; is not donor driven; and, is the natural focal point for looking at global issues on development and marginalization. Unfortunately, development assistance in the United Nations is not always on the basis of dealing with root causes.

Development as a global issue, too, has changed. Humanitarian impulses are dying. Further assistance is predicated not only on results, but on how engaged citizens of donor countries are on certain issues. My other view on development is about how some developing countries view sustainable development. There is still a hot debate, regrettably, with many questions about sustained economic growth and sustainable development unresolved.

**QUESTION:** The ratio of Official Development Assistance to Gross National Product has dropped from 0.3 percent in 1994 to 0.27 percent in 1995, well below the 0.7 percent target for the environment and development adopted by the United Nations in 1970. Do you consider the decline as a trend, and, if so, how do you assess its significance?

**MR. RAZALI:** ODA is declining. The trend is alarming, and is linked with globalization, where governments have virtually abdicated their role and left it to the private sector and to FDIs. Much hope is being placed on the role of Japan, as Japan magnifies its commitment globally; for example, by playing special attention to Africa.

**QUESTION:** Globalization is very much part of today’s development debate. Does the South stand to gain or lose from this phenomenon?

**MR. RAZALI:** There are winners and losers in globalization. The countries of East Asia, and some in Latin America and in Africa, can become winners, if they can handle the challenges of market forces and the private sector from a position of strength and acquired experience. East Asia benefited from development at a time when development assistance was available; for example, Malaysia benefited from the predictability of Japanese assistance.

Times have changed. There are many poor countries that will lose out in globalization unless there are global programs that especially benefit them and provide them with the opportunities to participate in a world that is fast globalizing. The
Special Program for Poor Countries, under which $5 billion has been pledged to the world’s poorest nations, is a good start, but not good enough. We still need to be able to leverage private sector pledges, in partnership with government and multilateral pledges, so that investments are made in the areas that private sector funds would not go if they were invested on their own. The United Nations has a special role to play in monitoring and balancing the effects of globalization in poor countries.

**QUESTION:** New information technology is at the heart of globalization. Are safeguards needed to ensure that this development will not result in “technology apartheid”?

**MR. RAZALI:** Information technology is the cutting edge of research and development, and will make a huge difference. However, if countries are excluded from it or not able to deal with information technology, the gaps will widen even further. Technology in this instance is a power apparatus that can virtually diminish sovereign rights. Technology has already made obsolete certain primary commodities of developing countries; for example, copper and tin. Biotechnology can also threaten the livelihoods of traditional farmers, without sustained efforts to ensure that the benefits of biotechnology are available to all.

**QUESTION:** The new information technology can influence development in a positive way, for instance in agriculture. How can these benefits be spread widely?

**MR. RAZALI:** Information technology can obviously influence development by leap-frogging the process of trial and error. Benefits can be immense, but what must be paid in return? Also, whoever controls information technology controls, in a sense, the development choices by keeping alternatives out.

**QUESTION:** Great strides have been made in food productivity since the 1960s, but millions remain poor and malnourished. To what extent is this paradox the result of mismanagement and unrealistic domestic policies?

**MR. RAZALI:** We religiously observe World Food Day and, certainly, much has been achieved in the quest for food security. The international community has, however, failed to free hundreds of millions of people from hunger in an era of human scientific achievement. There are many reasons for this, including bad governance. A major problem is the inability to critically examine the root causes of hunger and the need to find multiple solutions. The huge dimensions of hunger and food insecurity that we face today are closely linked to poverty and land tenure issues, unsustainable production and consumption patterns, property rights regimes
that erode the diversity of genetic resources, the impact of technology on small producers, the role of women in agrarian communities, and the multiple guises of power politics which use food as political and economic weapons in the globalized marketplace.

**QUESTION:** In an earlier decade, the United Nations was the focal point of several attempts to forge a new South-North relationship. Looking back on those efforts, what do you think they achieved?

**MR. RAZALI:** The experience was not entirely negative. In those days, the United Nations helped to define the North-South dialogue, even if it was purely prescriptive and done in the context of the ideological tussle of the Cold War. The North-South dialogue continues to be well-defined in UN global conferences, but the means of implementation remains elusive. Questions can be asked about the Uruguay Round and the World Trade Organization. Were these not initially UN inspired? However, now they have a life of their own, which in some ways does not promote a level playing field.

**QUESTION:** There is a great deal of “soul-searching” about the role of the United Nations in the post-Cold War world. Is it likely that as part of a reorientation, the emphasis will move from political to development issues? If so, in what way?

**MR. RAZALI:** Through the reform process, the United Nations must devise a coherent and feasible strategy, identifying priorities and mandates and securing resources that will allow it to play a leadership role, relevant and vital for the future. As the new Secretary General has said, the United Nations—both the governmental delegations and the Secretariat—must not be afraid to handle change. Clearly, a vital element of that change must be an improved capacity, with full legitimacy for the United Nations of the future, to deal effectively with the issue of development. It is not a question of moving away from the political to development, but the United Nations must address itself on both issues, including also social justice and the state of the planet.

**QUESTION:** “People at the center” has been a widely accepted principle at many recent world gatherings. What are your thoughts on what this really means in practice?

**MR. RAZALI:** The credo is readily accepted about “people-centered” development, and there is no dispute about the potential benefits of that. How far have we
really gone on this road? UNCED in 1992 talked about empowerment in the critical areas of decisionmaking, but how many governments have actually brought peoples and communities into decisionmaking?

**QUESTION:** Your own country, Malaysia, has benefited from policies that have resulted in a successful development effort. What are the lessons that the rest of the South can draw from this experience?

**MR. RAZALI:** In a nutshell, affirmative action programs to ensure equity and distributive justice, making people stakeholders to motivate them, an early emphasis on education and investing in skills, and a political leadership that is people-focused.

**QUESTION:** You have personally been at the center of international efforts, post-UNCED, to strike a balance between environmental protection and economic growth. What more needs to be done toward implementing Agenda 21?

**MR. RAZALI:** Even if the balance is not yet set, there is acceptance that economic growth needs to take into account environmental protection. The debate continues, and governments need to be constantly reminded about their commitments to Rio and intragenerational equity, so that they do not “hawk away” the future for the needs of the present. Agenda 21 will have to be looked at critically and with honesty at the next UN Special Session. There are many areas of Agenda 21 that have not been implemented and there is indecision on the means of implementation.

**QUESTION:** Finally, what advice would you give the international development community as it looks to the year 2000 and beyond?

**MR. RAZALI:** We must move from the defining and prescribing stage to one of meeting operational targets and enhancing delivery capacities. There is a need for agencies to understand the risks of competing with each other for resources which are always finite, without looking at the issue of development as a whole, and without establishing priorities in the context of the real needs of people in marginalized areas. The United Nations, as the international body that is democratic with full legitimacy and support, should attempt in the years ahead to enhance its right to development resources. Obviously, this means that the United Nations must first reform and increase its delivery capacity, if it is going to be accepted as an important player.
The rights of future generations have long been a subject of passionate interest to me. One reason is that my incessant cruises and investigations throughout the world have shown me that wherever modern techniques penetrated, they were implemented by decisionmakers preoccupied with short-term profits, with no thought to the medium-, long-, or very-long-term consequences of enormous technological projects. Thus, the short-term ruled, catastrophically, for the environment.

The second reason that inspired my fight for future generations dates from astronaut Neil Armstrong’s landing on the moon, an event which greatly accelerated the birth of a “planetary consciousness.” That was twenty-six years ago. I swore I would consecrate my life to stopping the ignorance, the egoism, the greed, and the nearsightedness of decisionmakers, and the logical absurdities from damaging, soiling, ruining, and perhaps even destroying our extraordinary planet.

The Apollo mission awakened in humanity a global awareness. With it came an important warning: to ensure the very existence of humanity, civilization, and the marvels of biodiversity for which we are responsible, we must protect the future of those who will take over from us—the future generations.

After twenty years of an environmental mission, of utilizing the media, and of mobilizing a team of philosophers and scientists presided over by Dr. H. S. Thayer, we drafted a Bill of Rights of Future Generations in the hope that it will be endorsed by the United Nations General Assembly. It states:

**Article 1.** Future generations have a right to an uncontaminated and undamaged Earth, and to its enjoyment as the ground of human history, of culture, and of social bonds that make each generation and individual a member of one human family.

**Article 2.** Each generation, sharing in the estate and heritage of the Earth, has a duty as trustee for future generations to prevent irreversible and irreparable harm to life on Earth and to human freedom and dignity.

**Article 3.** It is, therefore, the paramount responsibility of each generation to maintain a constantly vigilant and prudential assessment of technological disturbances and modifications adversely affecting life on Earth, the balance of nature, and the evolution of mankind, in order to protect the rights of future generations.
Article 4. All appropriate measures, including education, research, and legislation, shall be taken to guarantee these rights and to ensure that they not be sacrificed for present expediencies and conveniences.

Article 5. Governments, non-governmental organizations, and individuals are urged, therefore, to imaginatively implement these principles as if in the very presence of those future generations whose rights we seek to establish and perpetuate.

The Population Time Bomb

We must urgently attend to our future. The fuse connected to a demographic explosion is already burning. We have less than ten years to put it out. We must reverse this trend and avoid the “population big bang.” Yet, there is a certain lack of clarity and purpose in tackling such a giant threat.

In the 1960s international scientists led by American geneticist Norman Borlaug succeeded in improving threefold the yield of basic crops—wheat, rice, and maize—a feat which led to harvests that were called the green revolution. This saved millions of people from famine in India, Pakistan, and China, and brought him the Nobel Peace Prize in 1970. In his acceptance speech, Mr. Borlaug suggested that we had only thirty years to harness the population explosion.

“Not only did they [world leaders] ignore the warning,” Mr. Borlaug told me a few years ago, “but they have never discussed, not even mentioned, the population explosion. Twenty-two years have passed and there may be only eight years left.” Mr. Borlaug was referring to the mischievous “law of silence” observed by all of the major politicians, and observed, as well, in discussions at the 1992 United Nations Conference on Environment and Development.

Developed countries acquire from poor countries, at very low prices, the raw materials needed to feed their industries. They sell at high prices to the same less-favored countries the products manufactured with these essential materials, which explains why the rich get richer and the poor communities get constantly poorer. In 1991, the balance of payments between the “haves” and the “have nots” reached $20 billion transferred from the poor to the rich.

All of those inequalities are growing with the exponential population increase. Uncontrolled population growth aggravates all of the crucial problems of the environment: squandering, loss of biodiversity, climate change, exhaustion of the ozone layer, mediocrity of education, and pollution of air and water.
If we reach the forecasted 11 billion human beings, this population will be divided approximately into 2.5 billion fairly rich people busy getting richer and 8.5 billion outcasts, often starving and hopeless. There is no freedom in misery—no freedom to use choice, no freedom to exercise rights, and no freedom to indulge a sense of responsibility. The result is easy to foresee: jealousy and famine produce anger, then violence, and then a fight for survival—an unimaginable genocide.

What Should We Do?

Knowing that birth control must remain voluntary, that all authoritarian methods have to be rejected, that rich countries will never make the necessary sacrifices, what should we do?

The first act is to provide drinking water to everyone on Earth. There are 1.3 billion people with no access to potable water. The result is appalling and is connected to overpopulation. The young girls of the family are sent to bring back buckets of potable water—sometimes ten miles away from their home—instead of going to school. Today almost 35 percent of young girls in developing countries do not go to school, while their brothers do. The cost of making clean water available to all has been estimated at $100 billion over five years, which means that, just for potable water, we need $20 billion a year.

The second act, if we do succeed in sending girls to school, is to build new schools because there are not enough, and to pay for teachers, books, pens, and paper. This is estimated at $200 billion over five years, which means $40 billion a year.

Finally, one of the main reasons for overpopulation is that, in developing countries, especially the smaller ones, not only is there no social security, but there are also no pension plans. Parents want many children to ensure their old age. Girls do not count, so in order to have three boys they must have six children, and hope that one of the three boys will be nice enough to take care of their aging parents. Creating a pension for aged people in all developing countries would cost $200 billion for the first year and grow year after year to $300 billion. If you add a little percentage for waste, the total cost would amount to at least $400 billion a year.

Today we are very far from the 0.7 percent of Gross National Product for the environment and development asked for at the Rio Conference. We must realize that, if we want to be efficient and get some results, that is the kind of money we have to find. Where can we find these formidable amounts of money? There are only two reasonable ways: from military expenditures or from the drug trade. The
amount of money that the military spends every year worldwide is about $1 trillion. One-third of that would practically solve our problem. Drug commerce reaches between $300 billion and $500 billion a year.

Refusing the “Law of the Jungle”

We have seen that almost all of our social evils, famines, shocking differences between rich and poor communities, desertification, decreases of biodiversity, increases in the number of hereditary taints, and even the warming of our planet, originate in the population explosion. That explosion is due to the fact that our new set of antinatural values—generosity, solidarity, and pride in our first medical victories over traditional evils—had been enthusiastically applied long before we developed their logical counterpart, birth control.

Our lack of synchronism between part and counterpart shows that we have been very slow to understand that our revolutionary new course, replacing harsh natural rules with our own ideals of equality, fraternity, and justice, implied new duties and perils. From victims of nature, we became relentless protectors of nature. By refusing for ourselves the “Law of the Jungle,” we committed ourselves to making sure that the natural vegetal and animal kingdoms around us would still benefit from the very “Law of the Jungle” they cannot survive without.

Our recent divorce from nature is irreversible. For modern man the overwhelming burden is to invent a behavior that is at the same time acceptable biologically and satisfying for our moral ambitions. If we want our precarious endeavors to succeed, we must convince all human beings to participate in our adventure, and we must urgently find solutions to curb the population explosion that has a direct influence on the impoverishment of the less favored communities. Otherwise, generalized resentment will beget hatred and violence.

Our rejection of the “Law of the Jungle” came from our minds, not from our genes. The moral laws and principles that we have invented, preferred, and adopted will take a long time to conquer our genetic heritage. We realize now that the subtle trail of our original wildcat nature has been saved, has grown, and has finally blossomed in the liberal economy. This liberal economy is by far the most efficient system, as evidenced by the collapse of communism.

However, once the East-West competition is over, a closer look leads to unanswered problems. Efficiency? What for? To boost the wealth of the rich fifth and sacrifice the poor four-fifths of humankind? Efficiency to favor the currency specula-
tors? Efficiency to increase unemployment, to create millions of poor and homeless in the richest countries? To waste resources here that are lacking elsewhere? Efficiency to provide youngsters with only one moral ideal: to get rich? As long as the free market economy will not be far more severely controlled and submitted to our new set of moral values, it will be as cruel, as unjust, and will kill as often as the “Law of the Jungle.”

**Meeting the Challenge**

The world can no longer survive without the help and total commitment of all of us. Isolationism is unacceptable. Scientists are absolutely vital to translate highly technical issues to all those who will choose decisionmakers. Citizens of the world must understand the consequences of, and the alternatives for, every course of action. Factual knowledge is insufficient by itself. There are moral and ethical issues which cannot be ignored. The success of the Rio revolution is in our hands. We are millions of human beings, inspired by the Rio spirit and ready to serve as apostles to improve the habitability of Earth.

Threatened as we are by the imminence of disasters caused by uncontrolled and accelerated population growth, education has become our last recourse, especially the education of women and girls. Can we meet this formidable challenge? Is it feasible to train children from all origins without severely harming the precious diversity of cultures all over the world?

Today 800 million children lack adequate education, or even any kind of education. To provide one pencil to all those kids would cost $6 million. To provide one very cheap schoolbook to each would cost $200 million. The schools themselves must be built, and there are not enough teachers. Electronic devices are out of the question. If the affluent communities were to decide to make the enormous sacrifices necessary, we would also be obliged to face the fact that the population explosion would in thirty years bring the number of children needing help from 600 million to 1.2 billion! Let us not forget that what is at stake is who will win the race between an orderly human community or chaos. We can only win if we have the courage to face such realities without flinching.

To contribute to this indispensable endeavor the Cousteau Society is dedicated to the following program:

- to have the *Bill of Rights of Future Generations* approved by the United Nations General Assembly;
to create Cousteau schools in Russia, Romania, Germany, France, and South America, where young people can be involved in the physical and social environment in which they will live;

to distribute our magazine for young people, Cousteau Junior, in Europe, North and South America, Japan, and Korea;

to continue inviting television audiences throughout the world to understand the ecosociological climates in which diverse populations live through our Rediscovery of the World series;

to develop a new ecology that will study the underlying causes of pollution and destruction, to seek the disease, not just treat the symptoms; and

to create an academic network to teach Ecotechnie so that the decision-makers of tomorrow will know how to consider the consequences of their decisions, not just in the short-term, but in the medium-, long-, and very-long-term.

Finally, we are introducing a new program, “The Human Voice.” Africa, the continent of oral tradition, of memory, and of wisdom, has things to say to future generations. We know the influences of African tradition on twentieth-century art, from jazz to Picasso. Even beyond borders, African musicians bring a great deal to the “world music” that today is spread by young people everywhere. We want to give voice to Africa, to its history, its heritage, its creations, its hopes, and the hopes of future generations.
I have talked with our people here at the Bank to see how it is that we can make better use of the remarkable achievements of this remarkable organization, because for us, the CGIAR’s work is absolutely pivotal. It is remarkable in many ways. It is remarkable because it is perhaps the most successful partnership in the history of development.

—James D. Wolfensohn, World Bank Group President, at the celebration of the CGIAR’s twenty-fifth anniversary, ICW96

Agricultural research, if it is to be relevant and realistic, must be built in collaboration with farmers and farmer organizations. In addition to such farmer-scientist partnership, there must be public sector-private sector partnership, so that all available assets are tapped in a united effort to generate public goods of benefit to the poorest. There also must be partnership between national and international agencies, rich and poor countries, and formal and informal sector institutions of civil society.

—Ismail Serageldin, CGIAR Chairman, at the Global Forum on Agricultural Research, ICW96

As the CGIAR system moves toward a partnership mode in a world of interdependence, where no one is too poor to give and no one too rich to receive, we also begin to recognize that, even in an era of globalism, individuals do make a difference.

—Gelia Castillo, Professor Emeritus, University of the Philippines at Los Baños, and the first woman Chair of a CGIAR center, at the celebration of the CGIAR’s twenty-fifth anniversary, ICW96

Sustainable agriculture is feasible at the local and community levels when people and institutions cooperate. But for these experiences to become the norm rather than the exception, they need to be supported by a conducive national policy environment and by international development agencies.

—Maurice F. Strong, delivering the 1997 Sir John Crawford Memorial Lecture at ICW96

Africa’s problems must be solved by scientific solutions which have been applied with success in other continents. The greatest need is to build partnerships. Partnerships must be forged at all levels—at the local level within countries; among NARS of individual countries coming together to form subregional research organizations and eventually regional research organizations; and, with CGIAR centers, advanced research institutions, public sector research institutions, and other international organizations. Existing partnerships must be strengthened first, and then broadened.

—Joseph Mukiibi, Chairman of the Association for Strengthening Agricultural Research in East and Central Africa, at the Global Forum on Agricultural Research, ICW96