



World Ecology Report

Critical Issues in Health and the Environment

Knowledge brings new choices. Education brings new knowledge.

SPECIAL FOCUS: *Food Security For All*

WORLD FOOD SUMMIT, NOVEMBER 13-17, 1996, ROME, ITALY

The World Food Summit organized by the Food and Agricultural Organization of the United Nations is focused on the formulation of international agreements on the pressing issues regarding the production, distribution and consumption of food around the world. This critical meeting takes place after the major United Nations summits of the nineties and while the scale of this summit is smaller than that of its immediate predecessors, the significance of the outcomes will be just as important. The issues addressed at the preceding summits—children, environment and development, population, women, poverty, and urbanization—refocused the development agenda on the individual and away from the state. The United Nations Development Programme now issues the Human Development Report which examines the condition of human development rather than the economic growth of countries. It is generally understood now that the wealth of nations has to be measured in human capital. The emphasis of the Food Summit is on establishing food security for the individual.

Without considering the politics of food production and distribution, or the politics of famines, there are approaches that would put world food security upon a sounder footing. The goal of providing food security centers around two elements: (1) promoting



secure conservation and optimal use of biological diversity of interest to food and agriculture; and (2) the fair and equitable sharing of the benefits derived from their utilization. A reorientation of the Sustainable Agricultural Rural Development (SARD) model is suggested here as a solution to current approaches to food security.

BACKGROUND

To better understand the need for a new configuration in SARD (Sustainable Agricultural Rural Development), we will review what has been done. Until the 1980's the development model around which programs were built contained the assumption that development in the industrialized countries would serve as a model for developing economies in the countries of the South. The object of development under this model was to move away from a food-based economy to a more industrial economy. To achieve this goal, Southern countries were encouraged to increase agricultural production as a way of funding urban and industrial development. The focus was on intensive use of chemical inputs and capital-intensive technology transfer from the North to produce key agricultural commodities: goods that bring money in international markets; and goods over which the country has a "comparative advantage."

The production systems in the South were modeled on Northern agriculture: large-scale, high-yielding,

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genetically uniform monocultures of cash crops, dependent on off-farm inputs like chemical pesticides and fertilizers, “improved” seeds, machinery and irrigation. Intensified agriculture was to be achieved through a combination of extension and inputs; extension was viewed simply as a series of transfers of “technology packages” aimed at boosting production and generating wealth. For many years, the World Bank and FAO agricultural projects focused on extending these “technology packages” with a wide range of supporting services like credit and extension advice to the medium and large scale farmers of a country’s most productive regions, through whom such innovation was expected to “trickle down” to the more “backward” subsistence farmers. The “technology packages” were developed by scientists and government officials, with virtually no input from farmers or rural communities.

This model contained environmental and ecological problems which became apparent as did social problems linked with this development approach. The Green Revolution was initially viewed as a success because of the dramatic increase in rice and wheat production in southeast Asia. However, the channeling of aid to the “progressive” or better-off farmers, and the need to purchase so many inputs led to concentration of land and capital, the marginalization of small farmers, a

growing increase in the number of landless laborers and the evolution of the phenomena of rural-urban migration. Hunger, the basic problem the Green Revolution was supposed to address, did not disappear—and became worse.

In the early seventies, the limits of this model were highlighted by the coupling of two incidents: the global energy crisis and a fall in cereal production in several of the major cereal producing exporting countries. World cereal prices almost tripled while fertilizer prices quadrupled. Food became more expensive and the problem of feeding the poor, particularly the urban poor who no longer lived on subsistence farms, suddenly loomed large for many developing countries. Food security became identified as a major issue for the first time.

By the nineteen eighties the need for a new model was apparent. In 1988, FAO adopted a definition of SARD: “Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in the agricultural, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate,

economically viable and socially acceptable.”

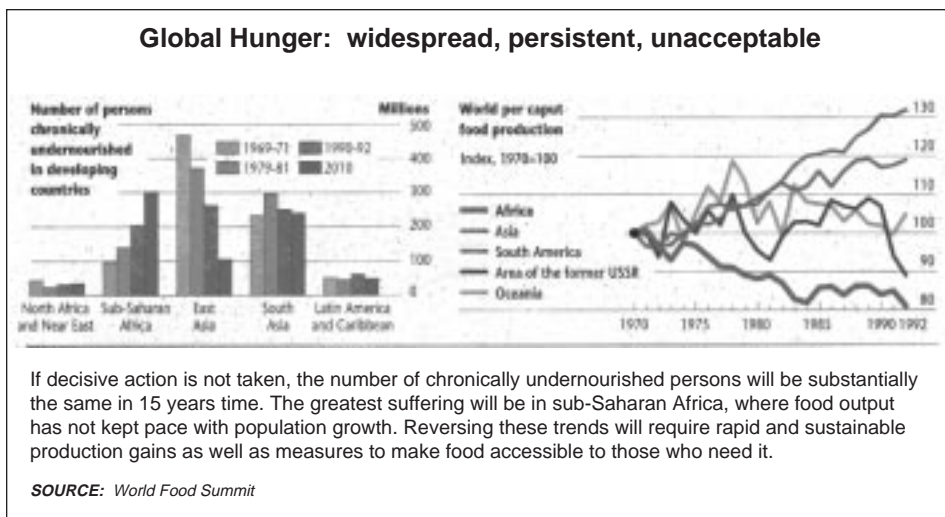
The implementation of this definition required considering new ideas. Agricultural development projects must be ecologically sound and socially just. Also, people’s participation would be incorporated into every aspect of agricultural development work. Extension work with its dissemination of knowledge would be at the core of sustainable agriculture; sustainable agriculture would be described as a thought-intensive approach.

These points were highlighted at the first meeting of FAO SARD, held in 1991 in Den Bosch, Netherlands. This meeting produced the Declaration and Agenda for Action, which laid the foundation for replacing chemical-intensive agriculture with a more sustainable, holistic agriculture to provide for global food and fiber needs. It calls, among other things, for restructuring agriculture along sustainable lines, for international commitment to providing technical and financial assistance to SARD, and for involving rural people in developing and implementing SARD.

KEY PROBLEMS

The greatest problem of world food production is that farming resources are not distributed equitably around the world. Agriculture dominates the world’s land use. Agriculture (with pastures) takes about one-third of the land area, and its high yields have kept another third for forests. Cities take only 1.4 percent of the earth’s land area, and will occupy less than 4 percent in 2030.

According to one estimate, world population is likely to stabilize at roughly 9 billion people, in the year 2035. The world’s agricultural output must, therefore increase by at least 240 percent, and eventually triple. Human needs for food and agriculture will about double over the next two generations with the demand for animal products increasing more rapidly than that for plants, especially in developing countries. Asia will have 8-9 times as



many people per acre of cropland in 2030 as North America. Asia currently averages only about 15 grams of animal protein per person per day, compared to 71 in the US and 55 in Japan. By 2030, Asia will almost certainly demand Japan's current 55 grams of animal protein per day, for 4 billion people instead of 2.8 billion.

In developed countries consumer emphasis on product quality is increasing. Markets are becoming more segmented. Genetic development of animals for production, productivity and product quality is intensifying. For example, from 1970 to 1989, the total output of milk, poultry meat, pork and beef rose with fewer animals used. Fewer animals have reduced the need for corn as feed by 320 million bushels. With average yield 100 bushels per acre, this freed 3.2 million acres for which economic forces are finding other uses.

Over the next 15 years, the dependence of the developing countries on food imports is likely to continue to increase with net imports of cereals growing to over 160 million tons by 2010. The main developed countries are not likely to face major constraints in generating this level of net exports. Constraints regarding increases in production growth facing individual developing countries may continue to affect their prospects for progress in food security.

Over this same 15 year period, much of the very large regional differences in human needs for food and agriculture and in production capability will persist. Almost three-quarters of world agriculture will remain at the low- to medium-input levels, whereas animal production environments commonly adjust to stresses related to feed, diseases and climate.

ENVIRONMENTAL IMPACT

If more food is to be made available for the world's growing population, the potential global impact on natural resources of increased food production and distribution has to be considered. In the past, intensification of agricul-

ture contributed to resource degradation and environmental degradation. Deforestation for the purpose of expanding agricultural lands adversely affects the dual role of forests as habitats for biodiversity and as major carbon sinks. Biodiversity will continue to suffer from draining of wetlands for conversion to agriculture. Resource degradation leads to increasing poverty particularly in already impoverished countries where populations struggle at the edge of subsistence. This resource degradation disproportionately affects certain portions of society, notably women, children, and certain ethnic minorities. For poor nations, further deterioration of their resources augments the threat to present and future food security. These concerns hold special relevance for those policy specialists who advocate low-impact technologies and low-input or organic technologies for developing countries. While the goals of low-input, organic technologies include agricultural sustainability and biodiversity preservation, the concern remains centered around two questions: will such production systems create enough food for an increasing population to forward the goals of food security? If the answer to the first question is yes, the second question is this: will enough food be generated in a manner which won't sacrifice fragile ecosystems, with loss of habitat for wildlife and other systems of biodiversity?

One concern regarding biodiversity is agricultural nationalism. If the densely populated countries of Asia adopt the current model of national food self-sufficiency, their environmental losses may be severe. Indonesia recently announced that it would clear 1.5 million acres of tropical forest to grow soybeans as an example. The idea of "food security through self-sufficiency" has been viewed by some as actually reducing global food security, because no one nation's food production is as stable as the world total. No nation can guarantee food self-sufficiency. As the world triples its demands on farming resources, three-

fourths of the growth in demand will occur in the densely populated countries of Asia. The environmental costs of food self-sufficiency will become even greater than the economic costs if Asian nations make an all-out effort to achieve food self-sufficiency. Such an effort might cause massive deforestation, loss of wildlife habitats, creation of unnecessary new dams, and intense farm-chemical usage.

The current goals of agricultural development policy in the South are domestic food security and commodity export surpluses to finance debt service obligations. In the South the expansion of food and fiber production has highest priority. Maximizing production and productivity of sustainable agriculture in most production environments means using an interdependent mix of animal and plant species. A small number of animal species accounts for something more than 30% of the total value of food and agriculture. Animals make many other contributions to agriculture: draft for transport of family and goods and for cultivation, harvesting, and irrigation of crops; fuel for heating and cooking; a range of fibers for clothing and so on; hides and leather for many purposes; a range of medicinal and cultural contributions, including the pleasures gained from experiencing animals in fields and using them to maintain extensive mountain pasture resorts. In developing regions animals commonly also serve as the primary hedge against crop failure. Despite economic constraints imposed by the continuing debt crisis, developing countries are more concerned with food security and expanding the diffusion of modern capital-intensive agricultural methods,

"The task of government is to harness the energies of the people into a material force for growth and development. What is required is a partnership, among communities, government and the private sector."

—Nelson Mandela
President of South Africa

A CALL TO ACTION

World leaders will assemble in Rome from November 13-17, 1996, making a public commitment to action to eliminate hunger. The World Food Summit will provide a historic opportunity for governments, international organizations and all sectors of civil society to join forces in a concerted campaign to ensure food security—access at all times to the food required for a healthy, active life—for all the world's people.

The Food and Agriculture Organization of the United Nations (FAO) has called the World Food Summit to address both the present crisis and the challenge of the future.

As preparations for the Summit proceed, world grain stocks have dwindled to dangerously low levels, pushing export prices up by 30 to 50 percent...and serving as a reminder of the fragility of food supplies in a world that must produce more each year to feed a rapidly increasing population.

Over the past 50 years, agricultural production has managed to keep pace with and even outstrip population growth. Yet an estimated 800 million people are still chronically undernourished and 200 million children under the age of five suffer from protein and energy deficiencies.

Achieving food security for today's hungry, who constitute 20 percent of the population of developing countries, requires **policies that make it possible for them to grow or buy the food they need.**

By the year 2030, the planet will have to nourish three billion additional people. Simply maintaining current levels of food availability will require **rapid and sustainable production gains to increase supplies by more than 75 percent without destroying the natural resources on which we all depend.**

than controlling their environmental impacts. Several questions follow this policy adoption of high yield agriculture: (1) must there be investment in the capital-intensive equipment—the tractors, the drills, the seeders, fertilizers, herbicides, and in some cases pesticides that are a part of this technology; (2) may developing countries use this technology in part to enhance the effectiveness of traditional technology like draft power and traditional inputs like manure; (3) how can the technology be successfully transferred, and then maintained without the concomitant infrastructure necessary that is often lacking in developing countries.

A NEW MODEL FOR AGRICULTURAL DEVELOPMENT

In considering what an effective model for SARD might include, the first thing to consider is the population affected. Experience with agricultural development projects over the last several decades has clearly shown that projects will not make lasting inroads against hunger and poverty unless they take proper account of environmental factors in their design (are ecologically rational), and unless they take proper account of the needs and desires of their intended beneficiaries (are socially just). The only effective way to take proper account of the needs of beneficiaries is to involve them from the very beginning in project design and execution. This is often referred to as taking a "bottom up" or "people's participation" approach.

Agricultural development projects that are ecologically rational but lack people's participation, as well as projects that are based on people's participation but are not ecologically rational, generally do not turn out to be sustainable. A sustainable agriculture approach must always combine both of these elements.

Sustainable agriculture has been described as a thought intensive approach to improving productivity. Building up and spreading knowledge is central to sustainable agriculture. Education in agriculture, both formal

and non-formal, through extension and training of the rural population, is a pre-requisite to investment in new agricultural production technologies and sustainable agricultural development programs.

FAO's Office of External Relations (OER) proposed the "FAO-NGO Cooperation Programme on Supporting Small-scale Agriculture in Marginal Areas" which stated: "The long-term objective of the programme is to enhance the capacity of small farmers in marginal areas to identify, develop and manage technology (hard and software) favoring sustainable agriculture through a better understanding/knowledge of the opportunities and limitations of the technical options available to them, thereby allowing them to choose options in the light of their technical, ecological, economic, social and cultural suitability to their own situation. The immediate objective is to strengthen the technical and methodological capacities of NGOs working with small farmers in marginal areas, with a particular focus on participatory technology development/dissemination, and to facilitate better cooperation and institutional linkages between NGO work in this area and the work of national agricultural research centers and universities at the national level, as well as with FAO and IRAs at the international level."

In the advanced industrial countries, debates on agriculture and the environment primarily are concerned with the impacts of modern capital-intensive farming practices. For these countries, yield-increasing technologies may create issues of food security by creating risks to the productive potential of the agricultural resources stemming from the application of these very technologies. An example would be loss of yield potential because of pest resistance. Also, efforts to bring new land into cultivation or to use existing agricultural land more intensively can be associated with degradation and may not add permanently to total productive potential. Some industrialized countries have begun to launch pro-

Food Supply: Protein per person in grams per day

	GRAND TOTAL				VEGETABLE PRODUCTS				ANIMAL PRODUCTS			
	1961-63	1969-71	1979-81	1988-90	1961-63	1969-71	1979-81	1988-90	1961-63	1969-71	1979-81	1988-90
Developed, All	90.4	95.0	98.6	103.5	46.4	44.4	42.9	44.0	44.0	50.6	55.7	59.5
North America	97.1	101.3	101.7	109.1	32.9	32.6	33.7	38.98	64.2	68.6	67.0	70.2
Europe	88.0	92.2	99.1	102.1	46.2	44.1	43.0	43.7	41.8	48.1	58.1	58.4
Oceania	97.7	100.3	98.0	100.7	32.4	32.8	29.6	32.9	65.3	67.6	68.4	67.8
Former USSR	97.6	101.7	103.0	107.3	59.4	55.7	52.2	50.2	38.2	46.0	50.7	57.1
Other Developed	73.3	81.0	85.7	92.0	48.0	45.9	43.5	44.2	25.4	35.1	42.2	47.7
Developing, All	49.7	52.4	56.3	60.6	41.0	42.8	44.9	46.8	8.7	9.7	11.3	13.8
Africa	53.9	54.1	53.8	53.3	43.7	43.3	42.4	42.7	10.3	10.8	11.4	10.6
Latin America	61.9	64.5	66.9	66.8	38.4	39.8	36.6	37.9	23.6	24.7	28.3	28.8
Near East	63.8	67.1	76.2	78.5	49.6	52.8	57.6	60.5	14.2	14.3	18.5	18.0
Far East	46.1	49.1	53.3	59.2	40.3	42.3	45.2	47.7	5.8	6.8	8.0	11.5
Other Developing	43.1	48.7	53.3	56.7	28.1	30.3	31.4	34.9	15.0	18.4	21.9	21.8

SOURCE: FAO Production Yearbook, 1992

Food Supply: Calories per person per day

	GRAND TOTAL				VEGETABLE PRODUCTS				ANIMAL PRODUCTS			
	1961-63	1969-71	1979-81	1988-90	1961-63	1969-71	1979-81	1988-90	1961-63	1969-71	1979-81	1988-90
Developed, All	3031	3195	3287	3404	2206	2282	2320	2397	825	913	967	1008
North America	3054	3235	3330	3603	1907	2080	2235	2503	1148	1155	1095	1100
Europe	3088	3239	3371	3452	2219	2273	2288	2331	869	966	1084	1121
Oceania	3173	3287	3157	3328	1784	1902	1896	2074	1389	1385	1260	1254
Former USSR	3146	3323	3368	3380	2460	2513	2504	2430	685	810	864	949
Other Developed	2545	2722	2812	2975	2248	2279	2289	2399	298	443	523	575
Developing, All	1940	2117	2324	2473	1798	1957	2129	2233	142	161	195	240
Africa	2117	2138	2180	2204	1979	1992	2029	2062	138	146	152	142
Latin America	2363	2502	2693	2690	1969	2091	2221	2217	394	411	472	472
Near East	2237	2437	2845	2954	1990	2194	2530	2669	246	243	315	285
Far East	1825	2029	2245	2442	1729	1911	2096	2226	96	118	149	216
Other Developing	2116	2292	2425	2626	1893	2017	2099	2293	222	274	326	333

SOURCE: FAO Production Yearbook, 1992

grams encouraging adoption of low external input farming systems and to protect fragile rural ecosystems. In the developed countries, for example, certain soil conservation technologies are reducing soil erosion to near zero in these countries' high-yielding systems of agriculture. Agriculture has been drawn into environmental politics and, in turn, environmental priorities are being incorporated into the formulation of agricultural policy.

Any model for producing world food and agriculture and considering human population, should strive to:

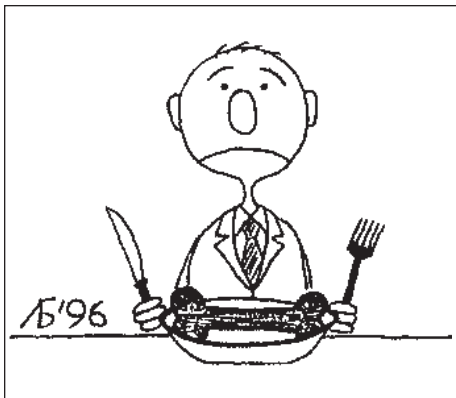
- supply the population needs
- use minimal inputs, i.e., maximize productivity
- be relatively benign in terms of

changes made to the preproduction environment

- approach an equilibrium where the (new) ecosystem is sustainable for a long period.

Food and agriculture production systems must increasingly use combinations of biological diversity—plant and animal, several species, and particular combinations of lines across species. Line development applies increasingly to particular production environments, in both developing and developed countries. In this regard genetic improvement in plants has generally been concentrated within environments to meet specific requirements. Animal breeding increasingly emphasizes developing just one or two

breeds per species generally only in high-input environments: by high levels of management, feed and nutrition, and control of pathogenic and parasitic diseases. These few genetic lines will not achieve high levels of production, productivity, and sustainability in each of the broad range of production environments and combinations of needs. To rely on these few lines globally and even on continual and systematic crossbreeding, including one or more of the lines, may substantially reduce food security over time in many situations. Further, such global reliance may well eliminate from future use large tracts of land capable of sustaining low- to medium-input food and agriculture. A preferred



SOURCE: Bogdan Lapchuk, Lviv State University

strategy for this land would be focusing work at developing the production traits in one or more indigenous breeds, which are already adapted and which local farmers are still prepared to use. Much of the very large amount of low- to medium-input agriculture is likely to remain for much of the next century. Some medium- to even high-input pockets of agriculture are emerging in some developing countries, particularly around large cities to better use waste products. These situations enable use of some higher demanding and producing genetic resources, particularly when the stresses of disease, parasites, and climate are substantially and permanently reduced by other changes to the production environment. Even in most of these countries low-input rural production from a range of species will remain important and will require highly superior adaptation to achieve sustainable agriculture. It is also of interest that in these adapted types under the low-input and otherwise high-stress environments the relative variability between animals for the production traits is often very high, suggesting that rapid rates of improvement in these traits under these stresses may be feasible.

CONCLUSION

Marked changes in food and agricultural production are inevitable consequences of human urges to expand our habitation of the planet. The effects of continued population growth and migrations shape the ongoing

development processes associated with domestication and use of plants and animals necessary to sustain ourselves. We may use new combinations of plants and animal species and lines and may change management and production strategies. Changes to the existing local ecosystem will be involved, sometimes minor, sometimes significant. In these processes, new and acceptable ecosystem equilibrium must be achieved if we are also to provide for our replacement generations. Genetic diversity is the foundation for building and maintaining these equilibria. Understanding the relationships and achieving the equilibrium for each production environment is the concern of sustainable agriculture.

It should be recognized, then, that resource degradation has different consequences for different countries and population groups. For poor countries, the consequences are serious because their welfare depends upon the productive potential of their agricultural resources. For the developed countries such as the major food-exporting countries, resource degradation makes the solution of the food security problems of the poor more difficult if it reduces the global food production potential.

Sustainability is not a static goal but an evolving process. Expansion and intensification of agriculture may augment pressures on the global environment but they may not have to, to the degree understood ten years ago. No one knows precisely what farming practices and systems will turn out to be the most sustainable, and under what conditions they can be achieved. More than likely, certain regions will be able to transfer high-yielding technologies, or parts of the technology, with varying degrees of success. In this way, different regions will have different results furthering their goals of food security in a sustainable, equitable manner. The response to the challenge of increasing food supplies and assuring access to food by all will be determined by the degree of flexibility and responsiveness demonstrated by an eco-agricultural policy. A sense

of humility and a healthy respect for our limitations is not a bad way to enter into discussions of such importance. If we lose our respect for the miracle of how all the pieces of our biosphere fit together, we will put ourselves and future generations into great danger. In the discipline of Sustainable Agricultural and Rural Development (SARD), there has evolved an abundant lack of consensus and polarity of views regarding definitions of language as well as positions on policy. This is unfortunate. To facilitate consensus in the development and implementation of effective paradigms of SARD, there may come a point in discussion where political agendas need to be left behind. It is important to recognize that there may exist more than one workable, effective answer for a country, or a region, wishing to empower their citizenry in a sustainable manner, equitably, and forwarding the goals of food security and protecting biodiversity. All options need to be included and all combinations of possibilities openly considered.

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GOOD NEWS

Environmental Awareness in Post-Soviet Countries: A New Player in the Field

Are all post-Soviet entrepreneurs, active in the countries of the former Soviet Union, ruthless and irresponsible? Most of the journalistic and research writings tend to leave us with this impression. However, a new generation of industrialists is quietly emerging from the turmoil, bringing to life unexpected idealism, sometimes of surprising proportion and value.

One of the most fresh-minded new post-Soviet capitalists is Sergei Chasarow. An Armenian born in the Soviet Union, he immigrated to Germany in the 1970's to explore the opportunities of the free world. In his new country, he found his way to the top ranks of economic power players, and immediately after the demise of the Soviet Union he returned to his homeland with innovative ideas, knowledge of market economy, and honestly earned hard currency. He was appalled by the scale of excessive environmental degradation, ecological ignorance of the population, incompetence and lack of initiative on the part of bureaucrats, responsible for environmental management. He found out that almost all recyclable materials were destroyed and the balance caused

maximum harm to the environment.

Shocked by the environmental situation in the former Soviet Union, Chasarow resolved to fight back at every level. He advocated recycling in the business community, at his meetings with government officials, and in the mass media. During the period of "Perestroika" Chasarow would carry with him everywhere a plastic bag to collect recyclable items that had been discarded. He would interrupt an important official meeting to pick up a sheet of paper thoughtlessly thrown away by a secretary and put it emphatically into his portable recycling bag.

Having realised the link between ecology and sport as two aspects of a healthy human life, he sponsors major sports events with an environmental dimension. In March 1995, Chasarow sponsored a major international soccer tournament, the Chasarow Cup. The event's motto was "soccer players for clean cities." Later the same year, he organised and sponsored an Ecologic Marathon in the center of Moscow. Some of the best Russian and international athletes participated in it. For that day, he obtained from the Mayor of Moscow, permission to stop all traffic in the most polluted central streets of the Russian capital. The motto of the Marathon was "Clean city—healthy citizens."

No one ever saw Chasarow throw away anything useful (even theoretically) or miss a chance to attract attention to burning environmental issues in his everyday life. The staff of the New York City Sheraton Hotel where he often stays during his business trips are surprised to see this apparently wealthy middle-aged man picking up loose pennies from the floor. "I respect money, he says, because it is the equivalent of someones time and labor." Co-

currently, he gives away thousands of dollars to support young athletes or sports veterans who are down in their luck. A WIT correspondent saw Chasarow picking up an empty can at the Sheraton and diligently place it into a recycling bin. "I'm not showing off, I'm just showing that I care," he explains. "If you want to see the world change—start changing yourself."

At the headquarters of the United Nations in New York City, Chasarow sponsors a soccer team composed of Secretariat staff-members and members of the permanent missions to the UN, who are nationals of Russia, Azerbaijan, Belarus, Tadjikistan and Ukraine. At a major international amateur indoor tournament in the Meadowlands in New Jersey, this past spring, the team played in green uniform with letters CHASAROW printed on them to show its concern with environmental degradation.

Today Chasarow is one of the most active and reputable recycling industrialists in the world. His projects extend from Armenia to Poland, from the Bahamas to the US. "It is difficult to reach modern people with the idea of necessity of total and scrupulous recycling," says Chasarow. "Perhaps everyone should have a personal portable blue bag" for recycling.



Sergei Chasarow

FOOD FOR THOUGHT: *Development and Poverty: A Balance Sheet*

DEVELOPING COUNTRIES

PROGRESS

DEPRIVATION

INCOME AND POVERTY

■ During 1960-93 real per capita income in the developing world increased by an average 3.5 percent a year.

■ Almost a third of the population—1.3 billion people—lives in poverty

HEALTH

■ In 1960-93 average life expectancy increased by more than a third. Life expectancy is now more than 70 years in 30 countries.

■ Over the past three decades the population with access to safe water almost doubled—from 36 percent to nearly 70 percent.

■ Around 17 million people die each year from curable infectious and parasitic diseases such as diarrhoea, malaria and tuberculosis.

■ Of the world's 18 million HIV-infected people, more than 90 percent live in developing countries.

EDUCATION

■ Between 1960 and 1996 net enrollment at the primary level increased by nearly two-thirds—from 48 percent to 77 percent.

■ Millions of children are still out of school—130 million at the primary level and 275 million at the secondary level.

FOOD AND NUTRITION

■ Despite rapid population growth, food production per capita increased by about 20 percent in the past decade.

■ Nearly 800 million people do not get enough food, and about 500 million people are chronically malnourished.

WOMEN

■ During the past two decades the combined primary and secondary enrollment ratio for girls increased from 38 percent to 78 percent.

■ During the past two decades fertility rates declined by more than a third.

■ At 384 per 100,000 live births, maternal mortality is still nearly 12 times as high as in OECD countries.

■ Women hold only ten percent of parliamentary seats.

CHILDREN

■ Between 1960 and 1993 the infant mortality rate fell by more than half—from 150 per thousand live births to 70.

■ The extension of basic immunization over the past two decades has saved the lives of about three million children a year.

■ More than a third of children are malnourished.

■ The under-five mortality rate, at 97 per thousand live births, is still nearly six times as high as in industrial countries.

ENVIRONMENT

■ Developing countries' contribution to global emissions is still less than a fourth that of industrial countries, though their population is four times the industrial world's.

■ About 200 million people are severely affected by desertification.

■ Every year some 20 million hectares of tropical forest are grossly degraded or completely cleared.

POLITICS AND CONFLICTS

■ Between two-thirds and three-quarters of the people in developing countries live under relatively pluralistic and democratic regimes.

■ At the end of 1994 there were more than 11 million refugees in the developing world.

FOOD FOR THOUGHT: *Development and Poverty: A Balance Sheet*

INDUSTRIAL COUNTRIES

PROGRESS

DEPRIVATION

INCOME AND POVERTY

- Between 1960 and 1993 real per capita GNP grew by more than 3 percent a year.
- The average annual rate of inflation during the 1980s was less than 5 percent.

- The total unemployment rate is more than 8 percent, and the rate among youths nearly 15 percent. More than 30 million people are seeking work.
- The poorest 40 percent of households get only 18 percent of total income.

HEALTH

- By 1992 life expectancy was more than 75 years in 24 of 25 industrial countries.

- Nearly two million people are infected with HIV.

EDUCATION

- Between 1960 and 1990 the tertiary enrollment ration more than doubled—from 15 percent to 40 percent.

- More than a third of adults have less than an upper-secondary education.

WOMEN

- Between 1970 and 1990 the number of female tertiary students per 100 male tertiary students studying science and technology more than doubled—from 25 to 67.
- Women now account for more than 40 percent of the labor force and about a quarter of administrators and managers.

- The wage rate for women is still only two-thirds that for men.
- Women hold only 12 percent of parliamentary seats.

SOCIAL SECURITY

- Social security expenditures account for about 15 percent of GDP.

- More than 100 million people live below the official poverty line, and more than 5 million are homeless.

SOCIAL FABRIC

- There are more than five library books and one radio for every person, one TV set for every two people. One person in three reads a newspaper.

- Nearly 130,000 rapes are reported annually in the age group 15-59.

ENVIRONMENT

- Aggressive conservation measures and more appropriate pricing policies dramatically reduced energy use per \$100 of GDP between 1965 and 1991—from 166 kilograms of oil equivalent to 26 kilograms.

- Each year damage to forests due to air pollution leads to economic losses of about \$35 billion—equivalent to the GDP of Hungary.
- People in industrial countries consume nearly nine times as much commercial energy per capita as people in developing countries, though they constitute only a fifth of the world's population.

¹Excludes countries in Eastern Europe and the Commonwealth of Independent States.

SOURCE: 1996 Human Development Report

MORE FOOD FOR THOUGHT: *Putting Your Money Where Your Mouth Is*

Before proudly announcing "We, the peoples of the United Nations," take off the blinders and see how willing the rich are to sacrifice the poor in an economic triage of global proportions.

To ask who we are is a way of asking what future we should try to build. William James envisioned us all within a global cooperative commonwealth aiming to distribute the planet's resources in such a way that no child would lack the opportunities for individual development. Someone with more aristocratic ideas, like Nietzsche, would scoff at such a project. One can imagine him saying that even if democratic egalitarianism was a good idea or possible in 1990, nobody put it forward as a practical proposal now without being either hypocritical or self-deceptive.

I must concede to Nietzsche that no foreseeable application of technology could make every family rich enough to give their children anything like the chances that are taken for granted in the lucky parts of the world. Nor can we expect that the people in industrialized democracies will redistribute their wealth in creating bright prospects for children of the undeveloped countries in such a way as to threaten the prospects of their own children.

THE LUCKY BILLION

I do not know whether it is indeed as hopeless to build a global cooperative commonwealth as I have suggested. But instead of making predictions, I am concerned with describing the present moral situation of the world's rich and lucky inhabitants in answering, "who are we?".

One answer lies in the traditional expression of moral idealism wherein a smaller group identifies itself imaginatively with a larger one, as was the case 51 years ago when government representatives announced, "We the peoples of the United Nations." Today, we must ask whether it is still possible to use this phrase in referring to a moral community which has still not emerged either out of the cruelty and greed of rich nations or because it is simply impossible.

Suppose that we cannot offer decent life-chances to the world's poorest five billion while preserving the democratic socio-political institutions cherished by the richer one billion. Suppose that we have passed the point of no return in the balance between population and natural resources. Suppose that the lucky billion come to believe this is the case not out of greed but as a result of accurate economic calculation. Inevitably, the rich will exclude this poor majority from their moral life. They will become unable to see the poor as their fellow humans, as part of the same "we."

This may seem overstated. For surely, it might be argued that one can identify with people whose suffering one has no way of alleviating. There must be some leeway between morals and money, between what one ought to do and what one can do.

This is a plausible but unconvincing argument. When a hospital is deluged with an impossibly large flood of victims of a catastrophe, the doctors and nurses perform triage: they decide which victims are "medically feasible" in administering the limited resources. For the sake of their own sanity and for the sake of the less grievously wounded patients, the doctors and nurses must blank out all those moaning victims left outside the hospital. They must cease to count them among the living.

When the world's unlucky five billion are told that it is economically unfeasible to ease their poverty, they are in the same situation as the untreated victims. In both cases, those deciding on feasibility are answering the question, "who are we?" by excluding certain people from membership in "we, the ones who can hope to survive."

HYPOCRISY

If you cannot render assistance to people in need, your claim that they form part of your moral community is empty. This illustrates a general philosophical point of Charles S. Peirce: beliefs are habits of action. Thus, to believe that someone is "one of us" is to exhibit readiness to help them when they are in need. This accounts for the hollow ring of "We, the peoples of the United Nations" when said by those who do not believe that the industrialized democracies can bring either hope or human rights to the needy billions. The UN's founders were not hypocritical when they originally used the phrase, for they were laying the foundations of a project to build a moral community out of a mass of people which had not yet formed any community. The UN was created not only in a spirit of hope, but among a plethora of practical and possible proposals.

Perhaps there are feasible political proposals to be made today which would entitle us to use the "we" phrase. I have none to offer and can only make the following philosophical point. Any morally significant answer to "who are we?" must take money into account. A politically feasible project of egalitarian redistribution of wealth requires enough money to ensure that the rich will still be able to recognize themselves afterwards. The only way in which the rich can think of themselves as part of the same moral community with the poor is through some scenario which gives hope to the children of the poor without threatening that of their own children. All of which depends on an ability to believe that we can avoid economic triage.

—Richard Rorty, *Philosopher & Professor*
University of Virginia, USA

Reprinted from UNESCO #79/May 1996

Country	Average per capita income	Per capita income of the poorest 20%
USA	24,240	5,814
Japan	20,850	9,070
Netherlands	17,330	7,105
United Kingdom	17,210	3,958
Korea, Rep. of	9,630	3,563
Chile	8,400	1,386
Hungary	6,050	3,297
Brazil	5,370	564
Guatemala	3,350	352
Indonesia	3,150	1,370
Nigeria	1,400	357
India	1,220	537
Bangladesh	1,290	613
Nepal	1,020	464
Guinea-Bissau	840	88
Tanzania	580	70

SOURCE: Human Development Report 1996



DID YOU KNOW?

■ In 1994 the United Nations General Assembly proclaimed 1996 as the International Year for the Eradication of Poverty. Its object was to create “a greater awareness of the fact that the eradication of poverty is...fundamental to reinforcing peace and achieving sustainable development” and to catalyze concrete actions resulting in a “distinct and significant contribution to the efforts to eradicate poverty.”

SOURCE: United Nations General Assembly resolution 49/110, 1994

■ Poverty is inseparably linked to lack of control over resources, including land, skills, knowledge, capital and social connections. It imprisons individuals and, in a wider context, poses one of the gravest threats to society, undermining political stability, social cohesion and the environmental health of the planet, thus poverty and peaceful development are incompatible.

SOURCE: U.N. Department for Policy Coordination and Sustainable Development e-mail: kan@un.org

■ Many of the world's poor live in the 48 least developed countries (LDC's). The United Nation's original 1971 list of 25 LDC's has now swelled to 48.

South Asia: The largest concentration of severely impoverished people—about half of the world's total—live in South Asia (i.e., India, Pakistan, Bangladesh, Maldives, Sri Lanka, Bhutan and Nepal), which is 21 percent of the world's overall population.

Africa: Fully half of all Africans are

impoverished. As a continent, Africa has 16 percent of the world's poor, most of them (60 percent) in rural areas of sub-Saharan Africa.

Economies in Transition: Former Soviet countries have experienced grave, inflation-aggravated economic problems. Hard hit are the elderly and those formerly protected by social safety nets that no longer exist.

Although developed countries have only 1 percent of the world's poorest people, over 15 percent of the population now lives below the national poverty line in both the United States and Western Europe. With joblessness increasing since 1960, there are some 34 million unemployed in developed countries today; in European Union countries alone, there are an estimated 52 million poor, 17 million unemployed and 3 million homeless.

SOURCE: U.DPI 1736/SOC/29586/Oct. 1995

■ The last three decades have also been characterized by increasing poverty. Every minute of every day 47 babies are born to poverty—that is 7,080 additional poor every day.

Of the 5.7 billion people in the world, 1.5 billion are desperately poor and the number is increasing daily.

Twenty percent of the world's pop-

ulation survive on a daily income of less than \$1.00.

Today one billion of the world's poor live in rural areas, but by the year 2005 every second person will live in cities or towns, bringing a growing “urbanization of poverty.”

The majority of the world's poor are women. Children and other vulnerable and disadvantaged groups, such as indigenous people, the disabled, the elderly, refugees, migrants and the long-term unemployed are the most susceptible to poverty.

SOURCE: UN Department of Public Information e-mail: vasic@un.org

■ In developing countries, over 95 million children under the age of 15 are estimated to be working to help their poverty-plagued families, while an equal number are estimated to be homeless, destitute “street children.” Many young people, even those with formal education, have little hope of finding productive work.

SOURCE: UN Dept. of Public Information 1736/SOC/29586/Oct. 1995

■ What do arthritis, Buillain-Barre syndrome, meningitis and stillbirths have in common? All can be caused by food-borne pathogens, and while most food-borne illnesses are temporary dis-



El Salvador

SOURCE: PNUD

“We believe that the government, which represents the authority of all the people, not just one interest group but all the people, has an obligation to actively—underscore actively—to seek to remove those obstacles which would block individual achievement—obstacles emanating from race, sex, economic condition. The government must remove them. We do not reject our traditions but we are willing to adapt to changing circumstances when change we must. We are willing to suffer the discomfort of change in order to achieve a better future. We have a positive vision of the future founded on the belief that the gap between the promise and reality of America can one day be finally closed. We believe that. This, my friends, is the bedrock of our concept of governing. These are the foundations upon which a national community can be built. Let all understand that these guiding principles cannot be discarded for short term political gains. They represent what this country is all about. They are indigenous to the American idea, and these are principles which are not negotiable.”

—Representative Barbara Jordan
(former Texas, USA, Democrat, 1976)

orders of the digestive tract, some experts estimate that 2 to 3 percent of all cases produce serious consequences.

SOURCE: *American Medical News* 6/10/96

■ The unrestricted use of chemicals in crop growing causes serious disruptions in the food chain and in ecosystems and leads to the eutrophication of rivers and lakes. Intensive animal production techniques are making increasing use of hormones, antibiotics and food additives resulting in increased risks to human health.

Monocultures and the conversion of forests, rangelands and swamps to other agricultural uses result in a marked reduction in biological diversity. The decrease in stocks of fish and other forms of life that depend on fish show that the seas are being overfished.

Acid rain caused largely by fumes from industries and motor vehicles, is

acidifying vast tracts of soil and industry and agriculture itself are putting toxic substances into the human food chain and into underground water supplies.

SOURCE: *FAO Reports*

■ The proportion of the world's population enjoying more than 5% annual per capita income growth has more than tripled from 5% during 1965-80 to 18% during 1980-1993. But the population of people suffering negative per capita income growth has also more than doubled during this period—from 12% to 27%.

SOURCE: *The Human Development Report 1996*

■ At the global level, the ratio of income of the richest 20% to the poorest 20% has increased from 30:1 to 61:1 during the last thirty years.

SOURCE: *The Human Development Report 1996*

■ If poverty is measured in terms of human capabilities, rather than income, there are 1.6 billion people who are capability poor in developing countries, rather than a billion income poor.

SOURCE: *The Human Development Report 1996*

■ U.S. Congress has banned the controversial practice of FGM (female genital mutilation) as a cultural or religious rite. Practiced on more than 110 million young girls each year, the practice is imbedded in the culture of many African and Middle Eastern countries and in Muslim communities in Indonesia and Malaysia. The procedure which is outlawed in France and Great Britain is now illegal in the United States. In addition to imposing criminal sanctions, the law mandates education programs aimed at immigrant groups that practice the custom and urges economic sanctions against countries where it is allowed.

SOURCE: *American Medical News*, October 28, 1996

■ The Pantanal—along the border of southwestern Brazil, Paraguay, and Bolivia—is the world's largest remaining wetland, rich in biodiversity and containing more than 150,000 species

of birds, plants, and animals. This critical ecosystem of global importance is threatened by a planned massive navigation project (Hidrovia Paraguay-Parana). Although Brazilian officials have publicly stated that they will exclude damaging engineering works, the feasibility studies funded by the Inter-American Development Bank and the UN Development Program, continue to focus on designing the project through the Pantanal.

SOURCE: *EDF Letter*, Vol. XXVII, No. 6, 1996

PRICING URBAN POLLUTION

■ What is the price of lead and dust pollution? An average of ten percent of the annual city incomes of Bangkok, Kuala Lumpur and Jakarta.

■ How much does traffic congestion cost? In Bangkok, at least \$400 million a year, which could be saved just by moving peak-hour traffic ten percent faster.

■ What does unsafe drinking water cost? In Jakarta, an estimated \$300 million a year in impaired health. In Bangkok, six percent of deaths every year from dysentery, enteric fever, encephalitis, polio, typhus and acute diarrhea.

■ What can be saved by cutting dust and soot in urban air? In 18 Central and Eastern European cities: 18,000 fewer premature deaths annually and \$1.2 billion a year in working time gained from achieving European Union air pollution standards.

■ How many lives will cleaner air save? In Cairo, with the highest emission levels among the world's 20 largest cities, 4,000 to 16,000 lives now lost to pollution from industry, power plants, motor vehicles, trash burning, construction and natural sand and dust.

■ Where can pollution be cut and savings gained? Efficiency gains of 20 percent in electricity output and use would save Asians \$90 billion by the year 2000 in new capital investment.

SOURCE: *Environment Matters*, World Bank, Summer 1996

“Today's demand for equity—denser and more powerful—is searching for new institutional vehicles. It is no longer the monopoly of one group or class. It is now a collective task—to give a human sense to development.”

—Fernando Henrique Cardoso
President of Brazil

Chernobyl Update

Ten Years Later

On April 26, 1986, the most serious accident in the history of the nuclear industry occurred in the former Soviet Union, at the Chernobyl power plant in Ukraine. It took 10 days to control the disaster, during which large quantities of radionuclides were released into the environment with serious consequences to health and the environment, as well as to the social and economic life of the people of Belarus, Ukraine and neighboring parts of Russia. It was not until November 1986 that a "sarcophagus" could be constructed to cover the damaged reactor core.

On the occasion of the tenth anniversary of the accident, a major International Chernobyl Conference was organized in Vienna, from April 8-12, 1996. It has summed up the present scientific understanding of the major social, health and environmental consequences attributed to the accident. More than 800 scientists and governmental experts in the fields of nuclear energy, radiation safety and health participated in the meeting. The Conference was jointly organized by the International Atomic Energy Agency (IAEA), the European Commission (EC) and the World Health Organization (WHO), in cooperation with the United Nations and concerned specialized agencies and intergovernmental organizations. There was high-level participation by the Governments of Belarus, the Russian Federation and Ukraine and also participation by delegates from over 70 other States and organizations.

HIGHLIGHTS OF THE FINDINGS INCLUDE:

a) **Accident's initial fatalities:** The 1986 explosion and early releases of radionuclides resulted in 30 deaths, including 28 attributed to acute radiation sickness. Since then, 14 more patients died, although only some of

these might be attributable directly to radiation exposure.

b) **Thyroid cancer:** About 800 cases of thyroid cancer resulting from radioiodine exposure have been diagnosed in people who were children at the time of the accident, of whom three have died. However, a significant increase is anticipated over the next decades. A few thousand more cases might be diagnosed among people of that generation, but successful treatment is possible, subject to early diagnosis.

c) **Other types of cancer:** There has been no statistically significant deviation from the norm for that region with respect to the incidence of other types of cancer, such as leukemia, attributable to radiation exposure from the accident.

d) **Other health-related factors:** Many health problems have been observed in the exposed population, but not as a direct result of radiation exposure. Widespread disorders and symptoms, such as depression, anxiety and various psychosomatic disorders constitute a serious problem. These may well be the most harmful legacy of the accident and subsequent social upheavals.

e) **Environmental consequences:** No dramatically obvious long-term and irremediable impacts on populations or ecosystems have been observed. At specific sites effective countermeasures can be taken to achieve significant reduction in the uptake of radiocaesium in food.

REMEDIAL MEASURES:

a) **Nuclear safety:** Urgent measures are needed to stabilize the "sarcophagus" built to confine the destroyed nuclear reactor. The safety features of all 16 Chernobyl-type reactors in Ukraine, Russia and Lithuania have been improved but further improvements have been recom-

mended. The IAEA, the European Commission and the OECD are providing major assistance in all matters of nuclear safety.

b) **Health:** Medical science and adequate resources can bring the problems of thyroid cancer and other health problems under control. The WHO is playing a vital role.

c) **Agriculture:** Technology offers many solutions to reduce radionuclides in food and water. The IAEA and FAO are making significant contributions.

d) **Social and psychological effects:** UNESCO, UNICEF and other organizations are playing a useful role but more needs to be done.

The tenth anniversary conference of *Health and Environment: Global Partners for Global Solutions* held on April 26, 1996, by World Information Transfer, was a culmination of a series of recent, scientific meetings whose findings were fed into the proceedings, especially those resulting from two major international conferences: one hosted by WHO (November 1995) and the other organized by the European Commission in Minsk (March 1996), together with the Governments of Belarus, Russia and Ukraine. These findings about the limited direct health effects of radiation exposure and the major indirect health and socio-economic consequences of the disaster are meant to present the problem in a scientific perspective so that future decisions, resources and multilateral cooperation can be directed for optimal effect. A common understanding of the still serious situation today may contribute to the urgent need to mobilize desperately needed resources from the international community, in support of the intensive efforts of the affected countries.

SOURCE: Dr. Berhan Andemicael, Representative of the Director General, International Atomic Energy Agency

Voices

■ Children from one of the most devastated regions following the aftermath of the Chernobyl nuclear disaster have recently been the recipients of 91 crates of humanitarian aid donated by three humanitarian, non-profit organizations: Hunger Relief and Development, Ukrainian-American Veterans Association and World Information Transfer. The three organizations have an ongoing project of providing hospital and medical supplies for neonatal and children's divisions and clothes and toys for orphanages. All of the supplies are made available by various hospitals and donors who are interested in relieving the pain and suffering of those devastated populations where a dramatic increase in thyroid cancer and other malformations are prevalent, the result of the worst man-made nuclear accident in the history of civilization. For further information contact: Dr. Christine Durbak, World Information Transfer, 212-282-1996; Mr. Julian Helbig, Adopt a Hospital Project, Ukrainian-American Veterans Association, 201-652-1511; Mr. Vito Mazza, Hunger Relief and Development, 203-936-3501.

■ *Ecotherapy: Healing ourselves, Healing the earth* by Howard Clinebell, Ph.D., sheds light on humankind's most serious health challenge ever—how to save our planet as a clean, viable habitat for our future generations, by highlighting strategic opportunities to help our endangered human species cope constructively with the unprecedented challenges presented by our deteriorating environment.

The theories and practical applications presented in *Ecotherapy*, explore long-overlooked issues at the boundaries of human health and the health of natural environment. It bridges disciplines to call for a necessary shift in consciousness and

combines theoretical formulations and experiential exercises with action-oriented suggestions that can be readily implemented by others. *Ecotherapy* is especially significant in its effort to tie together ecotherapy and eco-education on all levels, political, economic and social.

Professor Clinebell has done a highly valuable service in bringing together in one book the thinking of many present and past day writers and thinkers to help heal humans and move toward creative living. He reminds us that "to save a healthy planet, there can be no doubt that our species must have an explosion of innovation and creativity in many areas of life."

■ *The Dream of the Earth*, written by Thomas Berry and first published in 1988, continues to have bearing on environmentalists today. Though a great deal is now known about the state of global environmental degradation and regeneration, this book retains its appeal to the spiritual side of the environmental movement. The general discussion here of ecological decay pits the Western idea of Progress against mystical notions of the earth which the author suggests hold truer meaning. What Berry overlooks is that the wonder and awe of the earth, that he thinks has been lost in Western culture, is the stimulus to scientific thinking and to the creativity of the scientific enterprise. *The Dream of the Earth* is written in language that is sometimes difficult to understand if not simply meaningless as it offers new phrases that try to illuminate lost connections to the earth. For example: "The human...is genetically coded toward a further transgenetic cultural coding whereby we invent ourselves in the human expression of our being." (p. 200) The beauty of the book emerges in other places and in a sense the whole work is a paean to

the planet. The greatest drawback to Berry's view is its embrace of the non-scientific on environmental problems that can only be ameliorated by the application of scientific knowledge. Such complex problems as global warming require a difficult and sustained effort, such as the IPCC (Intergovernmental Panel on Climate Change) studies. *The Dream of the Earth*, on the other hand, urges us to return to the "primordial design" for the "guidance needed for the task" ahead. [*The Dream of the Earth*, Thomas Berry, San Francisco, Sierra Club Books, 1990]

■ *BioWare* is a software application designed to model and simulate arbitrary ecosystems. Using BioWare, a group has built several such models including farmlands in Oklahoma and sea-land component interactions in the Aleutian Islands (Western Alaska). The models allow researchers to predict the evolution of farmlands after abandonment, to understand why the Aleuts may prefer sea food resources, to analyze the effects of man-made pollution on food supplies, etc.

BioWare is designed to be arbitrarily complex, but it also hides the complexity of the underlying ecosystems from the user under a user-friendly graphical interface. It convincingly shows that ecosystems, natural or human made, have to be understood as sparsely connected systems where "everything depends on everything else." It also provides a powerful tool for policy decision makers who are interested in modeling the consequences of human regulations or natural events on food resources. For more information, please send email to yves@netid.com, or contact Yves Chavin, Ph.D., (415) 647-9402, Net-ID, Inc., Network Information & Decisions, <http://www.netid.com>

POINT OF VIEW *continued from back page*

Cape province rates an HDI value of 0.791, higher than the national score. The disparity is explained by the racial differences and income opportunities in the two provinces. North Transvaal's population is more than 90% black with an average per capita income of \$1190 (PPPS), compared to the Western Cape which has a black population of 17% and a per capita income of \$6,000 (PPPS). It would appear that the racial composition of the two provinces accounts for the economic disparity. The specific measures of the disaggregated scores vary for those nations that provided the data. Disaggregated measurements contribute to a clearer picture of human development, however, averages by virtue of their method of calculation tend to offer an illusion—a statistical portrait of an "average life" which exists only in the abstract.

Yet, even with this shortcoming, the *Human Development Report* and its Index continue to remain a most valuable tool as it brings together in one readable compendium valuable data about the quality of life around the world. The *Human Development Report* is a publication of the United Nations Development Programme, One UN Plaza, New York, NY 10017, USA. The principal coordinators of the Report are Mahbub ul Haq and Richard Jolly.

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POINT OF VIEW: *The Human Development Report 1996*

This year's *Human Development Report* explores the relationship between economic growth and human development. This is a fitting topic given the overriding belief by so many government and economic leaders that the global expansion of market economies will—ipso facto—enable nations to solve their problems. The economic success of the Asian Tigers is stunning, yet it contrasts dramatically with the decline of the CIS (Commonwealth of Independent States) countries where average incomes fell at least 20% between 1990 and 1993, and health and environmental degradation had seriously increased. The economic polarization that currently exists around the world is clearly illustrated in the following statistic from the *Human Development Report*.

"Assets of the world's 358 billionaires exceed the combined annual incomes of countries with 45% of the world's people." (p. 2) Put another way, 358 individuals together own assets worth more than the total incomes of 2.5 billion people, figuring the world's population at 5.7 billion.

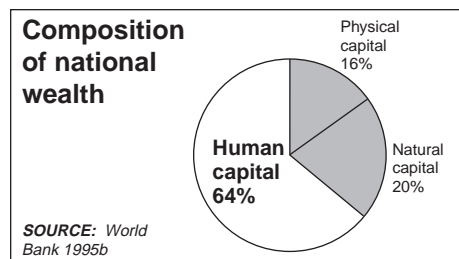
The Report begins with its conclusion. Noting the unevenness of global economic growth with ever widening income disparities, the Report suggests the necessity of increased economic growth with greater attention and direc-

tion "to supporting human development, reducing poverty, protecting the environment and ensuring sustainability." James Gustave Speth, chief administrator of the United Nations Development Programme writes, "The central message of the *Human Development Report 1996* is clear: there is no automatic link between economic growth and human development, but when these links are forged with policy and determination they can be mutually reinforcing and economic growth will effectively and rapidly improve human development."

The *Human Development Report* bases its conclusion on the Human Development Index or HDI which measures the quality of human life in three categories: life expectancy, educational attainment, and income. The HDI is determined by "measuring a country's relative achievement in each of the three basic variables and taking a simple average of the three indicators." The maximum HDI value is 1. A coun-

try's score indicates its distance from the maximum value. Canada's very high HDI value of 0.951 suggests high grades for each of the three indicators, but this is not necessarily so. If one of the indicators had been substantially lower than the other two, the use of the average score would have hidden this lower measure. That is why it is important for the reader of the *Human Development Report* to look beyond national HDI ranks and to examine the specific categories for particular countries.

The authors were aware that the use of the average score would create problems and generate criticism. Where the data was available, disaggregated HDI national scores are presented with a substantial discussion of the meaning of this calculation. The disaggregated score shows to a limited extent human development disparities within a nation. For example, the HDI for South Africa was disaggregated for nine provinces. The country's HDI value is 0.649 with a rank of 100 putting South Africa near the middle of those nations with medium human development. However, the disaggregated score reveals that the province of North Transvaal rates an HDI value of 0.450, considerably lower than the national score. On the other hand, the Western



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"Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it's the only thing that ever has."

Margaret Mead