

World Ecology Report

Critical Issues in Health and the Environment

Knowledge brings new choices. Education brings new knowledge.

SPECIAL FOCUS:

Providing Scientific Environmental Information,

A report on ELSEVIER SCIENCE, a World Leader in Environmental Information

World Information Transfer looks for international corporations that address the critical connection between human health and the environment. Our annual conference titled *Health and Environment: Global Partners for Global Solutions* and our *World Ecology Report* highlight efforts of environmentally responsible businesses. WIT believes that in order for corporations to adopt sustainable business practices, companies require a bedrock of accurate, scientific environmental information on which to shape these policies. A leading provider of such information around the world is Elsevier Science, headquartered in New York City. Our Special Focus looks at Elsevier's contribution to the range of environmental disciplines through its publications.

For over 100 hundred years, Elsevier Science has been dedicated to facilitating the exchange of scientific and technical information. Today Elsevier Science remains committed to that objective, expanding its publishing activities to truly global proportions in recent years, with offices now situated around the world. Elsevier Science is the world's largest provider of scientific and technical information, publishing over 1000 journals, a wide range of books, and a rapidly growing number of electronic information products. Over 50 of these journals are in the fields of environmental science, ecology and related areas, reflecting the company's proactive approach to serving all the major scien-



tific disciplines, including policy, economics and management, and representing them in both the academic and professional sectors. The scientific information Elsevier provides to its audiences is split into three broad categories: Primary (original research), Secondary (bibliographic data and research paper abstracts) and Tertiary (review and reference information). In the environmental sciences, Elsevier publishes over 40% of the worldwide peer-reviewed literature under its Elsevier and Pergamon imprints.

Almost all of Elsevier's environmental publications have an international readership and authorship, with around 30% of authors and readers in North America, 40% in Europe, and the rest distributed worldwide, particularly in Japan, Southeast Asia and Australia. All publications are in the English language. The published information in books and journals reflects the readership; almost all material published is of international interest, with or local studies usually published only if they have significance to a wide audience. Reflecting the international nature of the program, Elsevier's staff come from a wide range of nationalities, and are based mainly in the UK, Netherlands and USA, although the company also has offices in Japan and Brazil.

PEOPLE AND THE ENVIRONMENT

The impact of environmental issues is pervasive in the worldwide community. Elsevier publishes a range of journals

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which address a range of these issues in a human context:

Journals which are focused toward discussion of the social aspects of environmental impacts include: *Global Environmental Change: Human & Policy Dimensions*, *Social Science & Medicine and Health & Place*. All three titles compliment Elsevier's overall environment program by providing perspectives on the human, ecological and public policy dimensions of environmental processes which are considered to potentially affect the sustainability of life.

The latter two of the three titles shown above compliment the environmental health & safety titles, *Applied Occupational and Environmental Hygiene and Environmental Toxicology and Pharmacology*, which are principally concerned with hazards in the human workplace (including the effects on physiological mechanisms of toxicological exposure).

Two environmental science journals published at Elsevier are equipped to influence international policy with regard to anthropogenic impacts on the environment, namely *The Science of the Total Environment and Environment International*. Both are influential journals in their own right, each providing an interdisciplinary forum for the publication of original and pertinent environmental literature. The former is primarily concerned with research covering environmentally damaging anthropogenic activities, while the latter highlights aspects of these activities and examines their impact on human health, public policy and the ecological system as a whole. The information published in these titles is therefore diverse and indicative of the constantly evolving relationship between man, economics and ecology.

ELSEVIER SCIENCE: A DYNAMIC FORCE IN ENVIRONMENTAL AWARENESS

The Elsevier Science environment program publishes most of the leading well-established broad scope journals in the fields of environmental chemistry and toxicology; these include *Environmental Pollution*, *Atmospheric Environment*, and *Chemosphere*. In addition, the program attempts, through close contact with the scientific and policy making communities, to reflect ongoing developments in the environmental field in its publications and products. This can entail the development of new publications and the redevelopment or repositioning of

existing products. As this important research area matures, several distinct specialist subjects have developed, many of which are supported by titles in the environmental program.

For example, *Journal of Cleaner Production* evaluates technologies, concepts and policies designed to help industry move toward sustainability. Principally it is concerned with the prevention of pollution, and the economic methods of initiating industrial efficiency. So-called Industrial Ecology¹ is an eco-efficient paradigm gathering a lot of momentum in recent issues.

Biological Conservation is one of the leading journals in its field, publishing articles dealing with the conservation of wildlife and the wise use of biological and allied natural resources.

Ecological Modelling and *Environmental Modelling & Software* are two successful titles which integrate a range of disciplines into an ecological or environmental framework, by using simulation and modelling methods. By introducing a complex array of parameters, modelers attempt to evaluate social, scientific and economic interrelationships in an environmental context. Often it is only through simulation that researchers can acquire a greater understanding of the environment and begin to predict impacts.

The water environment sector is also well-served, by the journals *Water Science and Technology*, and *Water Research*.

ENVIRONMENTAL MANAGEMENT

Ecological Economics is an exciting title concerned with extending and integrating the study and management of "nature's household" (ecology) and "humankind's household" (economics). It attempts to appraise economic and ecological policies, and identify ways of reducing the potential negative impact these two areas of policy can have on each other. This line of thought has recently opened new avenues in sustainable thinking and is paving the way for much more collective research between different bodies.

Resource conservation and protection is an area of study considered pivotal to sustainable and eco-efficient thinking. *Ecological Engineering*, and *Resources, Conservation & Recycling* are two journals that have supported this important area for many years. *Resources, Conservation & Recycling* publishes

detailed and comprehensive investigations, analyses and reviews of resource management, particularly with regard to conservation and long-term sustainability objectives. It is holistic in its approach, putting particular emphasis upon the economic aspects of resources, and upon associated recycling practices and policies. *Ecological Engineering* has an ecotechnological perspective and publishes peer reviewed findings predominantly from ecologists who are involved in designing, monitoring, or reconstructing ecosystems where they have been harmed or destroyed. The methods of restoration and/or reconstruction of ecosystems are vital to the sustainable management of economic and natural resources.

Water Policy is a soon-to-be launched journal that will provide a forum for a new dialog between private and public communities, including the industrial, urban, agricultural and transportation water communities. It will publish analyses, reviews and debates on all policy aspects of water resources.

Ocean and Coastal Management is an international journal dedicated to the study of all aspects of ocean and coastal management at international, national, regional and local levels. It covers disciplines ranging from the physical sciences to the social sciences, policy analysis, economics and law.

Landscape and Urban Planning takes the allocation and management of ecology, resources and land use into a specifically human framework, drawing attention to the interrelated nature of problems posed by the human use of land. Typical research published in this journal focuses on the sustainable improvement and creation of urban centers, which manage to support ecological habitats alongside human development.

The journal *Waste Management* takes a direct approach, and explores the validity of proposed strategies and technologies for the reduction and management of industrial, hazardous, and radioactive waste products.

Environmental professionals, particularly environmental consultants, engineers and lawyers in the USA, are served by Elsevier's journals *The Hazardous Waste Consultant*, *The Air Pollution Consultant and Water Quality Professional*. These journals provide guidance on compliance with US EPA regulations, and coverage of emerging

environmental technologies that will benefit pollution prevention, remediation, and control in these areas.

ENVIRONMENTAL ANALYSIS AND ASSESSMENT

To compliment the range of perspective, Elsevier Science journals (outlined above), a more analytical selection of titles are also available. The journal *International Biodeterioration & Biodegradation* is a good example. Publishing original research papers and reviews, it is concerned with the biological causes of deterioration or degradation. Details of detoxification processes and other treatment methods are sought in an attempt to address the severe problems of polluted and contaminated land. It is thought that biological treatments (many of which are still being discovered) hold massive potential for effective remediation of many contaminated materials and environments.

ELSEVIER BOOKS

Many topics covered in our environmental journals require expansion and further discussion. To facilitate this process Elsevier Science publishes a range of books, typically in one of the following series:

Air Quality Monographs
Developments in Environmental Economics
Developments in Ecological Modelling
Developments in Landscape Management and Urban Planning
Ecosystems of the World
Studies in Environmental Science
Trace Metals in the Environment
Water Science and Technology

FURTHER INFORMATION

All of the journals mentioned here will soon be available to subscribers electron-

ically via the world wide web through a new Elsevier service, ScienceDirect. Users at subscribing institutions will be able to access journal contents using sophisticated searching and browsing capabilities, at their desktop (see <http://www.sciencedirect.com> for examples and more information).

Some Ebooks1 are also published in the CD-ROM format, with an Ecotoxicology CD-ROM planned for 1998.

All Elsevier publications, and can be found at <http://www.elsevier.com> or www.elsevier.nl.

CONCLUSION

The growing accessibility of scientific, reliable environmental information world wide is of titanic importance for resolving economically and politically sensitive obstacles toward achieving a sustainable future. The growing body of and interest in valid information increases the opportunities for discussion grounded in knowledge rather than ideology or sentimentality.

At the same time, there is an ever increasing move away from science. Science has been erroneously and derisively associated with: Western culture; rational thought rather than instinctual knowing; scholarship rather than lived experience. In other words, science, Western culture, reason and research come under fire from fundamentalist, anti-intellectual and ultimately anti-democratic critics. Because of these forces, the providers of scientific information in all fields have an increasingly important role to play. Elsevier Science recognizes that role through its substantive publications on environmental issues.

Global Climate Change: Report on the third conference parties to the United Nations Framework Convention on Climate Change: 1-11 December 1997, Kyoto, Japan

In the Kyoto Protocol, Parties in Annex I of the FCCC, that is government representatives, agreed to commitments with a view to reducing their overall emissions of six greenhouse gases (GHGs) by at least 5% below 1990 levels between 2008 and 2012.*. Developed countries will be able to meet part of their commitments through "emissions trading" amongst themselves. In addition, a "clean development mechanism", will allow financing of joint projects for the reduction of emissions in other industrialized countries or developing countries to count towards the commitments of developed countries.

The agreed upon commitments set legally binding limits for greenhouse gas emissions in the world's industrialized countries. Under the protocol, reduction commitments relating to emissions of six greenhouse gases have been established for all developed countries. These gases are: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The total reduction in emissions for all developed countries by 2010 is estimated at 5.2% below 1990 levels. The individual reduction commitments are as follows: European Union (as a whole), most Central and Eastern European countries and Switzerland - 8%; USA - 7%; Japan and Canada - 6%; New Zealand, Russia, Ukraine - stabilization; Norway - 1% increase; Australia - 8% increase; and, Iceland - 10% increase.

Whether the Kyoto Protocol will affect climate change policy remains to be seen as the governments now must decide whether to ratify the treaty. The consensus among the world's scientific community is that the human species has contributed to the global warming trend which could pose a variety of economic and health threats in the near and distant future. One important outcome of the process that led to the Kyoto Protocol is that governments and business are very slowly learning the long term dangerous risks of treading so heavily on the earth.

SOURCE: *Earth Negotiations Bulletin, The Gallon Environment Letter, Rachel's Environment & Health Weekly, New York Times*



"And may we continue to be worthy of consuming a disproportionate share of this planet's resources."



GOOD NEWS

THE SPECIAL PROGRAMME FOR FOOD SECURITY

In November 1996, Heads of State and Government and high officials from 186 countries attended the World Food Summit convened in Rome, Italy under the auspices of the Food and Agriculture Organization of the United Nations (FAO). They pledged their political will and national commitment to eradicate hunger in all countries. Towards that end, they established a goal of halving by the year 2015 the number of chronically undernourished people in the world—today more than 840 million.

The goal is a realistic one, but must be met while feeding a world population expected to increase from 5 700 to 8 700 million by the year 2030. In Africa, according to a recent UN projections, the population is expected to jump from its present 758 million to 2.05 billion by 2050. To meet this increase in food availability, agricultural production must be rapidly increased and intensified sustainably while protecting natural resources and avoiding pollution.

Most of the chronically malnourished people in the world live in rural areas of the poorest developing countries which are known as Low Income Food Deficit Countries—86 countries— which can not produce enough food to feed their population and cannot afford to bridge the gap with food imports.

Over half of these countries are in Africa where the present food situation justifies urgent action and requires additional funds to finance development projects. In fact, countries in sub-Saharan Africa produce less food per person today than they did 30 years ago.

To meet the goals of the World Food Summit, FAO initiated a Special Programme for Food Security directed at

these LIFD countries. The Programme consists of two phases: a pilot phase of possibly three years and later, after the Programme has been closely monitored and evaluated, an expansion phase. The pilot phase starts with on-farm demonstrations by participating farmers to their fellow farmers. It is designed to pursue sustainable, intensified and diversified food production, increasing productivity, efficiency, safety gains, pest control and reduced water losses, taking fully into account the need to sustain natural resources.

In the fall of 1997, the Special Programme was operative in 19 countries, 14 of them in Africa. The increases in food production can be remarkable. Perhaps the most important long term constraint on agricultural growth in Ethiopia is the country's arid and variable climate and for this reason programs which reduce the drought sensitivity can play a major role. The program has been operative in three districts of Ethiopia since 1995 (Wofla Habra, and Gondar Zuria) with the active participation of 500 farmers who planted teff, wheat, maize, and sorghum on 250 hectares. The technology package included improved seed, fertilizer, pesticides, improved cultural practices, and improved techniques to conserve soil moisture and avoid water logging. Because of these improvements, yields in demonstration sites have doubled. It is true that these improved inputs cost money, but they returned over 100 percent profit. The national government has already incorporated lessons learned in the pilot phase into their extension package for dryland farming.

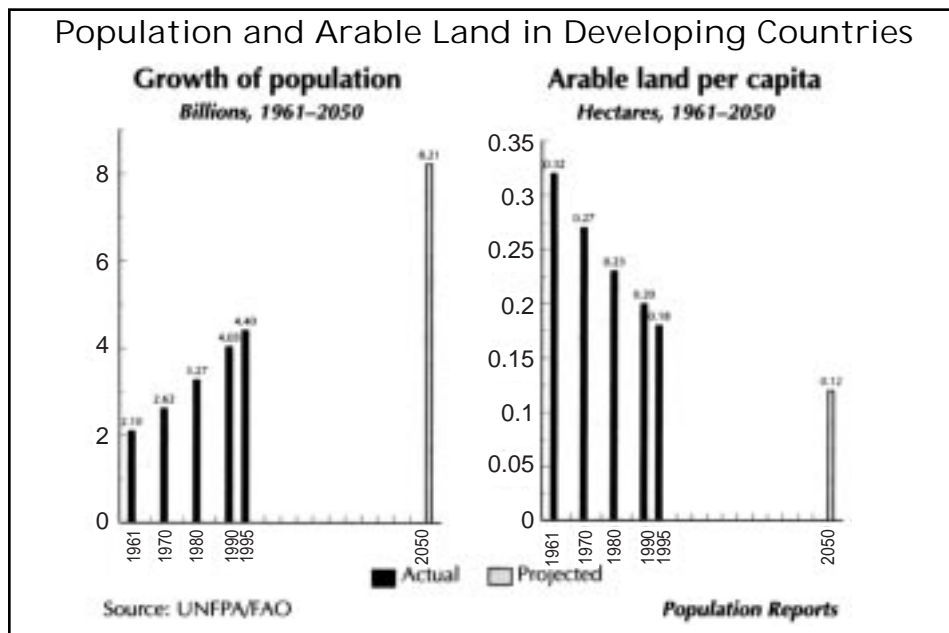
Rice and maize were the targeted crops in Burkina Faso when the program started in three agricultural regions covering 58 hectares in : Comoe', Hauts Bassins and Mouhoum. Two hundred and twenty farmers, joined in cooperatives, participated in the program. Rice yields at the Kou Valley were estimated at 20 percent above the levels of surrounding areas not using the improved technologies.

But the tragedy of widespread hunger and malnutrition cannot be eliminated through government action alone. What is needed- and needed desperately— is a broad mobilization of public and private commitment, of collective and individual resources to reverse the decline in support for agriculture: between 1982 and 1992, bilateral and multilateral aid to agriculture actually declined from \$US 10 billion to \$US 7.2 billion.

One organization which is taking the lead in private sector dairy development is Land-O'Lakes, a United States dairy cooperative started in 1921. Through its International Development Division, with funding by the United States Agency for International Development (USAID) it is helping develop dairy cooperatives in Uganda.

As in many African countries, agriculture forms the base of Uganda's economy and about 90% of its people live and earn their livelihood from agriculture. Industrial activity is largely agribased including milk-processing, as well as coffee, tea and cotton processing.

Uganda's farmers and farmer associations are eager to develop their farms and processing facilities into a thriving



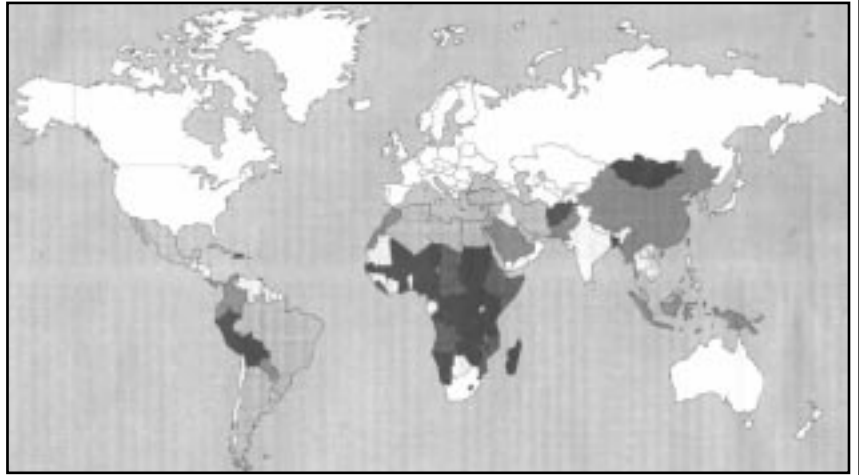
Chronic Undernutrition

Percentage of population undernourished, 1990-92

- < 10%
- 10-20%
- 20-30%
- 30-50%
- ≥ 50%
- Not comparably estimated

Undernourished is defined as lacking access to enough food to meet dietary energy supply requirement (2,200 calories per day for adults).

SOURCE: FAO Technical Atlas 1, Chronic Undernutrition, Rome 1996



industry. The Land O'Lakes programme focuses on assisting small-and medium size dairy processing cooperatives and associations improve their operations to meet local needs as well as develop export capabilities. There are now 35 dairy agribusinesses which have improved their operating and management activities and increased their profit margins not an easy task after long periods of instability.

The program has some other beneficial effects as well. Farmers are implementing a major change in their range and pasture management. Before the project began the philosophy for modernizing the farm or "okushmeza" meant massive soil erosion and environmental degradation. Now farmers leave as many trees as possible, soil is cultivated and pasture grasses and legumes are planted. In addition to protecting the land from soil erosion, these practices have tremendously improved the nutrition of their cows. Newly formed dairy cooperatives are now procuring, processing and marketing their members milk.

These farmers' associations or cooperatives, particularly those involving women are having their own strong contribution to sustainable agriculture. Cooperatives, such as these in Uganda, have the capacity to create better farming methods, better business acumen, better leadership development and consequently better living conditions.

In this way, as part of the implementation of the World Food Summit and Plan of Action, the international community and the private sector and voluntary organizations can work towards the goal of reducing by one half the number of hungry and malnourished people in developing countries.

CHERNOBYL UPDATE

This **Update** reviews recent initiatives in ecological engineering to redress some of the ecological damage caused by Chernobyl radioactivity and other environmental disasters in formerly communist Europe. We look briefly at the new field of ecological engineering which involves solving pollution problems with the help of nature. In a series of articles printed in Elsevier's international scientific journal *Ecological Engineering* in September 1997, several scientists discuss "natural" approaches to cleaning up the environment in the countries in transition. Our source is *Ecological Engineering* press release, September 15, 1997.

In one study, Ukrainian ecologist Vassili Davydchuk describes ecosystem recovery at the Chernobyl nuclear power plant accident. About 700 square miles [1850 square kilometers] of arable land and 600 square miles [1570 square kilometers] of forest were severely contaminated and lost for human use as a result of the disaster. Davydchuk summarizes three types of ecosystem remediation that have taken place in the 11 years following the accident: 1) maintenance of the forests to limit pests and fires; 2) artificial reforestation; and 3) natural restoration. He and fellow scientists in Ukraine found that natural restoration to grasslands and forests from former farm fields helped to stabilize the radioactivity as well or better than any hard engineering solutions, resulting in less radioactivity in downstream water supplies. Davydchuk proposes that similar ecological engineering approaches should be taken into consideration as strategies for still-polluted zones around Chernobyl.

A soil scientist from the Netherlands,

Joseph Fanta, describes the need for ecologically based forest restoration in the "Black Triangle," a heavily polluted region of Central Europe near the intersections of Poland, the Czech Republic, and Germany. After 300 years of poor forestry practices and 50 years of acid rain caused by excessive air pollution, traditional forestry practices and artificial chemicals are not the answer, according to Fanta. He believes that restoration can be most successfully achieved through slow, natural processes such as the colonization of degraded sites by pioneer tree species.

Other clean up programs in Central and Eastern Europe that apply this natural approach include stream-side vegetation in Estonia to control agricultural water pollution; using recycled water demineralizer resins as sources of plant fertilizers to treat degraded soils in Poland and Belarus.

More information on these specific initiatives is available by contacting Ecological Engineering, William J. Mitsch, editor-in-chief, Ecological Engineering, School of Natural Resources, The Ohio State University, Columbus, OH 43210 USA phone: 614-292-9774 fax: 614-292-9773 <mailto:mitsch.1@osu.edu>.

The European Commission in Brussels issued a directive that European industries can use very low levels of radioactive nuclear waste in recycled consumer goods such as glass, plastics and metals. Companies will not have to report this use or obtain a license in recycling tiny quantities of bone-seeking isotope Strontium-90 and 300 other radioactive isotopes, including Plutonium 239 and Caesium 137, with other waste. Dr. Alice Stewart of the University of Birmingham, UK commented that this "will add to the number of mutant cells in living organisms". She continued that this could cause an increased prevalence of people with mental defects.

SOURCE: *CornerStones*, No. 8, 1998.

FOOD FOR THOUGHT: *The Universal Declaration of Human Rights*

1998 marks the fiftieth anniversary of the Universal Declaration of Human Rights, adopted and proclaimed by the General Assembly of the United Nations on December 10, 1948. Following their adoption of the Declaration, the General Assembly called upon all member countries to publicize the text of the Declaration and "to cause it to be disseminated, displayed, read and expounded principally in schools and other educational institutions, without distinction based on the political status of countries or territories." Of the thirty articles which outline fundamental human rights, number 25 contains the only specific reference in the original declaration to health.

Article 25 was advanced on December 16, 1966, when the General Assembly adopted The International Covenant on Economic, Social and Cultural Rights, (resolution 2200A (XXI)). Article 12 of this Covenant declares the, "right of everyone to the enjoyment of the highest attainable standard of physical and mental health. " This is further delineated in the following statements: "(a) The provision for the reduction of the still-birth-rate and of infant mortality and for the healthy development of the child; (b) The improvement of all aspects of environmental and industrial hygiene; (c) The prevention, treatment and control of epidemic, endemic, occupational and other diseases; (d) The creation of conditions which would assure to all medical service and medical attention in the event of sickness." Three years later the General Assembly passed a resolution calling for states to provide "free health services to the whole population and of adequate preventative, curative facilities and welfare medical services accessible to all." (1969, Resolution 2542, art. 19a) More specific statutes regarding the health of women, children, laborers, the mentally ill, the disabled have been adopted thus building on these first principles.

The Universal Declaration, by placing health way down on the list of rights, presaged the attitude towards health over the subsequent fifty years. Health has never been a mainstream United Nations issue even though it is the primary ingredient for productive, progressive, economically viable societies. Moreover, the absence of healthy bodies and minds

all too often has led to war.

In commemoration of the fiftieth anniversary of the Universal Declaration, the editors of the World Ecology Report reprint the 30 articles which define the fundamental rights of every human being as determined by the United Nations member states in 1948 with the hope that greater emphasis will be placed on the health agenda in the next fifty years.

The Universal Declaration Of Human Rights

Article 1.

All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.

Article 2.

Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.

Article 3.

Everyone has the right to life, liberty and security of person.

Article 4.

No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.

Article 5.

No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.

Article 6.

Everyone has the right to recognition everywhere as a person before the law.

Article 7.

All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this

Declaration and against any incitement to such discrimination.

Article 8.

Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.

Article 9.

No one shall be subjected to arbitrary arrest, detention or exile.

Article 10.

Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.

Article 11.

(1) Everyone charged with a penal offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.(2) No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offence was committed.

Article 12.

No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation Everyone has the right to the protection of the law against such interference or attacks.

Article 13.

(1) Everyone has the right to freedom of movement and residence within the borders of each state.(2) Everyone has the right to leave any country, including his own, and to return to his country.

Article 14.

(1) Everyone has the right to seek and to enjoy in other countries asylum from persecution. (2) This right may not be invoked in the case of prosecutions genuinely arising from non-political crimes or from acts contrary to the purposes and principles of the United

Nations.

Article 15.

(1) Everyone has the right to a nationality. (2) No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality.

Article 16.

(1) Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage and at its dissolution. (2) Marriage shall be entered into only with the free and full consent of the intending spouses. (3) The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.

Article 17.

(1) Everyone has the right to own property alone as well as in association with others. (2) No one shall be arbitrarily deprived of his property.

Article 18.

Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and o

Article 19.

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Article 20.

(1) Everyone has the right to freedom of peaceful assembly and association. (2) No one may be compelled to belong to an association.

Article 21.

(1) Everyone has the right to take part in the government of his country, directly or through freely chosen representatives. (2) Everyone has the right of equal access to public service in his country. (3) The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.

Article 22.

Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.

Article 23.

(1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment. (2) Everyone, without any discrimination, has the right to equal pay for equal work. (3) Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection. (4) Everyone has the right to form and to join trade unions for the protection of his interests.

Article 24.

Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay.

Article 25.

(1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. (2) Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

Article 26.

(1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit. (2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace. (3) Parents have a

prior right to choose the kind of education that shall be given to their children.

Article 27.

(1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits. (2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

Article 28.

Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.

Article 29.

(1) Everyone has duties to the community in which alone the free and full development of his personality is possible. (2) In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society. (3) These rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.

Article 30.

Nothing in this Declaration may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

"If we also had the possibility to plan our families better, our chronic food shortages would not be such a burden. We would have fewer mouths to feed."

*Rangit Kaur
Thaska, India*

HEALTH AND ENVIRONMENT: *The Continuing Controversy over Electromagnetic Fields and Human Health*

The uncertain link between electromagnetic fields and cancer has created sensational news stories and untold anxiety. Recent studies shed some new light on a potential connection while exacerbating anxieties about another environmental factor which appears to influence malignant cell growth.

Electromagnetic fields, referred to by their abbreviation EMFs' and measured in milligauss (mG), surround all electric devices including the wiring that carries electric current. Public concern about the possible health effects of EMFs' arose in the 1970's when studies hinted at an association between childhood leukemia and exposure to high magnitude electromagnetic fields emanating from power lines or utility transformers. In 1990 the results of new studies suggested that childhood leukemia doubled with exposure between 1 and 2 mG and increased sixfold with exposures between 4 and 5 mG. These studies did not establish a clear link between EMFs' and cancer.

Other research conducted in the early 1990's indicated more sources of potentially hazardous EMFs' including insufficiently grounded wiring and common appliances found at home and at work. These studies suggested that size of the electromagnetic field was unrelated to the size or noise of the appliance. To complicate matters further, the same appliance manufactured by different companies carried different degrees of EMFs. For example, the highest exposure from a hair dryer was 700 mGs' if an individual were 6 inches away and 70 mGs' if the person were 12 inches away from the hair dryer. Some vacuum cleaners would expose an individual to the same 700 mGs' at the same distance of 6 inches, while a dishwasher, a larger appliance, at the highest end carried an exposure of 100 mGs' at a distance of 6 inches and 30 mGs' at 12 inches away. A color television and window air conditioner at their highest would expose an individual to 20 mGs' at 6 inches and at a distance of 12 inches, expose a person to 8 and 6 mGs' respectively. An individual can be exposed to 20mGs' from a computer monitor at a distance of 20 inches and 6 mGs' at a 6 inch distance.

Exposures to EMFs' are common in a world dependent on electricity, though the intensities of exposures to any person tend to vary widely in the course

of a day. The latest information indicates that the magnitude of the electromagnetic field to which one is exposed is potentially less damaging than the type of exposure. Reports of studies presented last year suggest that exposure to intermittent electrical surges poses the greater threat. Moreover, the recent studies suggest a mechanism by which exposure to EMFs' affects the human body.

A "melatonin hypothesis" had been proposed about 10 years ago by one researcher, Richard G. Stevens of the US Department of Energy (Pacific Northwest National Laboratory). He postulated that exposure to certain types of EMFs' might trigger cancer, particularly breast cancer, by suppressing the brain's natural ability to manufacture the anticancer hormone melatonin. Research presented at the end of 1996 at a conference at the US Public Health Service in Washington DC demonstrated that EMFs' have an effect on cells and tissue. Studies conducted at the Lawrence Berkeley National Laboratory by Robert P. Liburdy showed that EMFs' can interfere with the ability of both melatonin and the drug tamoxifen, a synthetic estrogen, to stop the growth of cancer cells. A similar effect of EMFs' has been demonstrated on another synthetic estrogen.

These studies reinforce the view that intermittent surges of EMFs' disrupt the body's production of melatonin, and are leading to another hypothesis about the way EMFs' may trigger types of cancer. EMFs' appear to alter the production of the hormones estrogen and testosterone. In a laboratory experiment, overnight exposure of women to 200 mG EMFs' elevated their estrogen levels. Other studies have indicated that increased exposure to estrogen heightens a woman's risk of developing certain cancers. EMFs' have also been linked to a reduction in testosterone levels in men, a condition that increases a man's risk of testicular and prostate cancer.

Two researchers at the Midwest Research Institute, reported that exposure to intermittent electromagnetic fields during sleep contributed to interrupted sleep, shortened the stages of deep dream sleep, and added to a feeling of waking up unrested. Another study of theirs associates intermittent EMFs' with changes in overnight heart rate. A group

of healthy people participating in this study were exposed to 200mG fields intermittently during their sleep. The researchers found that exposure to intermittent EMFs' decreased heart rate variability to produce a more stable pattern of heart rate. People with heart disease often exhibit a similar pattern suggesting that normal overnight activity of the heart is disrupted by EMF exposure.

What is especially disconcerting is that the exposures to EMFs' in laboratory experiments modeled real life exposure. Secondly, current research appears to indicate that electromagnetic fields which are a form of radiation, alter certain normal functions of the body during the period of exposure and seem at this stage to resemble the estrogen mimicking pollutants in their interaction with cells and tissue. According to a recent report in Science News (Jan. 10, 1998), the US government funding for continuing to study the human health impacts of EMFs' will end in 1998. However, government funds for research on endocrine disrupting pollutants are growing. Ironically, EMFs', unlike estrogen mimicking pollutants, are well suited for the definition of an endocrine disrupter in that they appear to interfere with, rather than imitate, key human hormones. The growing knowledge about the role EMFs' play in interfering with human health would indicate the importance of further research.

SOURCE: Science News, Vol. 153, No. 2, 1998.



The accumulation of carbon dioxide in the atmosphere closely parallels the increased use of fossil fuels by a growing global population. Unless emissions are reduced, the world's climate could become warmer, with serious effects on world food production.



DID YOU KNOW?

■ The number of fires in the Brazilian Amazon increased over 50% between 1996 and 1997. The NOAA-12 satellite recorded 29,571 fires in the Amazon region on 136 days between July 1, 1996 and November 30, 1996 and 44,734 fires on 118 days between July 1, 1997 and November 22, 1997, an increase of over 50% from 1996 to 1997, even though data are available for fewer days in 1997

than in 1996. The average number of fires per day increased 75%, from 217 in 1996, to 379 in 1997. The data are generated by the Advanced Very High Resolution Radiometer (AVHRR) on the NOAA-12 weather satellite, which detects thermal anomalies, and passes over the Amazon daily. Fires are mapped and counted by the National Institute for Space Research (INPE) in Brazil (http://condor.dsa.inpe.br/mapas_que). The largest differences between the two years occurred in November and October, resulting from increased economic activity, particularly burning of cattle pasture. The difference also reflects the extended dry season of 1997 caused by El Niño. The actual number of fires in the Amazon in both years is considerably higher than the totals obtained by the NOAA-12 satellite. New research from the region strongly suggests that fires are rapidly increasing Brazil's contribution to global CO₂ and other greenhouse gas emissions. However, close to 70% of the fires burn on land already deforested.

SOURCE: Environmental Defense Fund [September 23, 1997], 1875 Connecticut Ave., NW, 10th Fl., Washington, DC 20009

■ Two studies raise concerns about the next generations of Americans. In October, 1995, the National Center for Health Statistics reported that the proportion of obese children in the US doubled during the last 3 decades. The study found that 4.7 million American children (10.9%) between the ages of 6 and 17 were overweight, up from 5% in the period 1963-1965. Most of the increase in obesity occurred during the 1980s, the study said. A worsening diet and diminishing exercise were the suggested reasons. In early 1996, the International Narcotics Control Board of the United Nations reported that 10 to 12% of American boys between the ages of 6 and 14 are now taking the prescription drug methylphenidate whose brand name is Ritalin, a stimulant drug prescribed to control vaguely-defined attention-deficit disorders. Manufacture of Ritalin rose from 3 tons in 1990 to 8.5 tons in 1994, 90% of it prescribed in the US.

SOURCE: Rachel's Environment & Health Weekly, #580, (January 8, 1998), Fax: (410) 263-8944; Internet: erf@rachel.clark.net

MULTILATERAL AGREEMENT ON INVESTMENT (MAI) REPORT

The limited gains made in improving human health by redressing specific environmental problems, such as removing lead from vehicle exhaust, may be lost to the power of money. The Multilateral Agreement on Investment (MAI) on its surface is supposed to standardize criteria for investment including regulations governing environmental impact and labor practices. However, there is great concern that the MAI will impose the same rules on the U.S. and other developed nations that the International Monetary Fund (IMF) is now imposing on Asia. IMF policies have been credited with destabilizing the economies it was designed to bolster. The benefit of a stable economy is essential for continued environmental clean-up and prevention of further contamination. The costs in human health terms of putting environmental concerns on the back burner at this time would be staggering. International trade agreements that could impede the stability of any nation's economy should be carefully examined.

Originally designed to help countries with short term balance of payment problems with bridge loans, the (IMF) was also established to provide exper-

tise to help such countries maximize growth, build middle classes and thus consumer markets. Overtime, the IMF developed into a governmentally-funded enforcer for private banks. As a condition for loans, it compels countries to permanently redesign their economies, laws and governments to prioritize servicing private bank's hard currency loans. For instance, countries are required to switch farm production from staple foods into fruit and vegetables for export. While in IMF "restructured" countries citizens go hungry, the exotic produce that replaced their staple foods floods into countries where it can earn hard currency which is then used to service bank loans, often in the same wealthy country.

The effect of the IMF conditions in Asia and Latin America has been expanded debt, destabilizing quick in- and out-flows of investment, lower currency values, slower economic growth, wider income distribution, reduction of education and health services, weakening of labor law and increased hunger.

The Multilateral Agreement on Investment is a powerful treaty containing many of the same rules the IMF imposes. It has been negotiated in

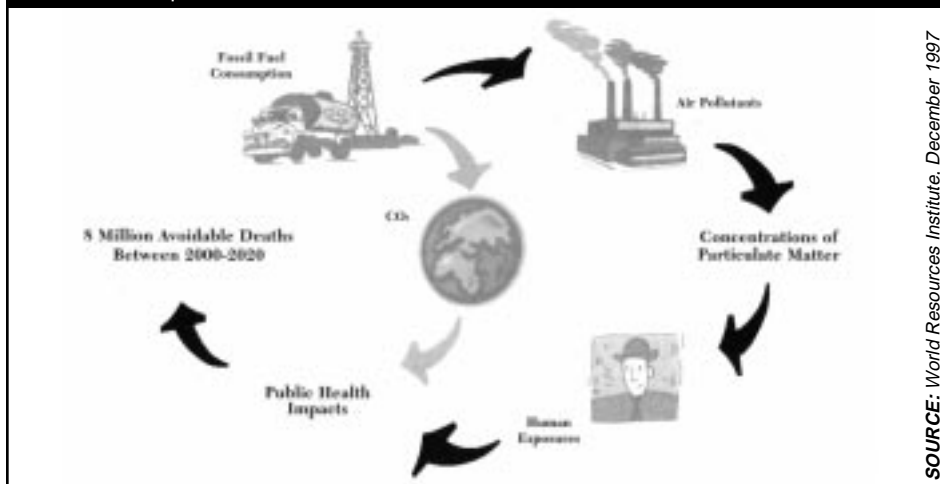
tight secrecy since 1995 at the Paris Organization for Economic Cooperation and Development (OECD). Key among both IMF's required "structural adjustments" and the MAI's core terms are:

- Guarantee all foreign investors the right to establish investments in all economic sectors, including services such as banking, communication and construction.
- Remove safeguards in stock markets that limit flash sell offs.
- Strip out other portfolio investment precautions, such as "speed bumps."
- Weaken labor and environmental standards to attract investment.
- Eliminate non-market currency rate-setting systems.
- Bar countries from adopting regulations which would restrict or control foreign investment in their countries.

IMF policies are becoming regarded more and more as creating a "casino" effect. The emphasis on short term growth blinds policy-makers from the long term possibilities of loss. With MAI negotiations occurring behind closed doors, WIT questions the wisdom of such secretive gambling with the future of everyone's children.

SOURCE: Public Citizen's Global Trade Watch. For more information contact Public Citizen's Global Trade Watch at 202-546-4996.

Global Impact on Public Health from Current Trends in Fossil Fuel Use



■ A Working Group on Public Health and Fossil Fuel Combustion sponsored by the World Resources Institute predict that from 2000 to 2020, the cumulative impact on public health related to the difference in exposure to particular matter (PM - sulphate, ozone, and other pollutants) directly related to fossil-fuel combustion processes that produce CO₂ and other greenhouse gasses could total 8 million deaths globally. In the USA alone, avoidable number of annual deaths from PM exposure in 2020 (without climate change control policy) would equal in magnitude deaths associated with AIDS (human immunodeficiency disease) or all liver diseases in 1995. The short term public health impacts of reduced PM exposures associated with greenhouse gas reductions are likely to be substantial even under the most conservative set of assumptions.
SOURCE: LANCET, vol. 350, 1997,

■ Air pollution from fossil fuel use has immediate local and global impacts on public health, because fine air-borne particles can move hundreds of thousands of miles and still be the cause of lethal respiratory infections. Breathing finely polluted air can produce slow and insidious effects (asthma, bronchitis) or devastating and immediate ones (emphysema, death). The benefits of adopting climate control policies now extend to both developed and developing nations. While four out of every five of those who might die by 2020 are in developing countries, the developed world also faces heavy losses. The benefits of reducing CO₂ emissions go substantially beyond averting potential disruptions of the Earth's climate. Even relatively small reductions in emissions worldwide will save lives.
SOURCE: World Resources Institute, December 1997

■ The International Society for Environmental Epidemiology (ISEE), held its ninth annual conference in Taipei, Taiwan, August 17 to 20, 1997. The conference which examined the topic, "Meeting of the West and the East: Prevention of Environmental Diseases through Integrated International Efforts," convened a special plenary session to examine the health effects of exposure to arsenic in drinking water. While it has long been known that arsenic is a human carcinogen, the magnitude of the cancer risk first became apparent from studies in Taiwan conducted by Dr. Chien-Jen Chen and his colleagues. These studies confirmed that ingestion of arsenic was associated with increased risk of developing skin cancer, and identified arsenic as a bladder and lung carcinogen. Dr. Allan Smith noted that studies consistently associate exposure to arsenic in drinking water at a concentration of 500 ug/L with an increase in overall mortality rates. He pointed out that interpolating over one order of magnitude to a concentration of 50 ug/L of arsenic in water leads to an estimated increase in lifetime risk of mortality from cancer of 1 per 100 persons attributable to arsenic exposure. Such estimates place arsenic in water as potentially one of the foremost environmental causes of cancer mortality in the world today.
SOURCE: Ruth A. Etzel, M.D., Ph.D. Natural Center for Environmental Health, Centers for Disease Control, Atlanta, Georgia

■ World population is growing by 1.5% per year today compared with 2% per year in the 1960s. In some developing countries, however, primarily in sub-Saharan Africa, population is still growing at 2% to 3.5% per year, rates at which populations would double in 20 to 35 years. Even growth rates of 2% or less create a powerful momentum for future

population increase, particularly as they are applied to ever larger numbers of people. Between 1985 and 1995 in 64 of 105 countries studied by FAO (Food and Agriculture Organization), food production lagged behind population growth. Africa now produces nearly 30% less food per person than in 1967.
SOURCE: Population Reports, Vol. XXV, #4, 1997

■ Low-income food-deficit countries are those that do not have enough food to feed their populations and for the most part lack the financial resources to pay for imports. FAO defines low-income countries as those with a per capita gross national product (GNP) (in 1993) of US\$1,345 or less and a net deficit in grain trade averaged over the preceding five marketing years.
SOURCE: UNFAO 1996 (99)

■ Genetic erosion is a serious impediment to increasing food production. Despite availability of 50,000 varieties of edible plants, only 15 varieties provide 90% of the world's food energy intake. Three of them—rice, wheat, and corn—are staple foods for nearly two-third of the world's people. These crops, like all cultivated plants, need to be reinvigorated every 5 to 15 years to provide continued protection against diseases and insects, and enhancing traits such as increased tolerance for drought and saline soils. However, since 1900 about three-quarters of the genetic diversity of domestic crops has been lost, as tropical deforestation, urbanization, destruction of wetlands, and cultivation of drylands have destroyed the habitats of many wild progenitors of domestic crops which have been used to provide enhanced traits to interbreed domestic varieties of plants. Unless the rate of plant genetic loss is halted, as many as 60,000 plant species (25% of the world's total) could be lost

"Climate change is already a factor in terms of the distributions of malaria, dengue fever, and cholera. Gradual warming, the rise of minimum temperatures, and increases in extreme weather events all contribute to disease outbreaks and epidemics."

Paul R. Epstein, M.D. specialist in tropical public health at the Harvard School of Public Health.

by the year 2025, affecting food security in the future.

SOURCE: *Population Reports Vol. XXV, #4, 1997*

■ Low-income food-deficit countries (per capita gross national product (GNP in 1993) of US\$1,345 or less) are those that do not have enough food to feed their populations and for the most part lack the financial resources to pay for imports. They include: AFRICA: Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Swaziland, Tanzania, Togo, Zaire, Zambia Zimbabwe; ASIA: Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Laos, Maldives, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka; NEAR EAST: Afghanistan, Egypt, Jordan, Sudan, Syrian Arab Republic, Yemen; LATIN AMERICA: Bolivia, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Nicaragua; SOUTHWEST PACIFIC: Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tuvalu, Vanuatu; OTHERS: Albania, Armenia, Azerbaijan, Georgia, Kyrgyzstan, Macedonia, Tajikistan, Turkmenistan, Uzbekistan.

SOURCE: *UNFAO 1996*

■ About 51,800 people were estimated to have died in 1995 because of lung and cardiovascular diseases linked to pollution in 36 Indian cities, according to a new study by the New Delhi-based Center for Science and Environment (CSE). The center based its estimate on government pollution statistics and a mathematical model devised by the World Bank. In the capital of New Delhi — among the most polluted cities in the world — 9,859 deaths were estimated to be caused by polluted air in 1995. In the eastern port of Calcutta, the annual pollution death rate increased to 10,700 in 1995 from 5,726 four years earlier. In addition, 25 million people were treated for related problems such as bronchitis, asthma attacks, respiratory tract diseases and skin allergy, the report said. Vehicle emissions account for 65 percent of the air pollution in New Delhi.

SOURCE: *Associated Press News Service, as printed in The Gallon Environment Letter, (Canadian Institute for Business and the Environment Vol. 1, No. 20), November 18, 1997*

■ The 1997 United Nations Global Environment Outlook report, summa-

rized the following trend regarding the growing threat to health of the widening use of chemicals: "The increasing, pervasive use and spread of chemicals to fuel economic development is causing major health risks, environmental contamination, and disposal problems." This threat is augmented by another global trend summarized as follows: "In many countries, there are trends toward decentralization of environmental responsibilities from national to subnational authorities, an increasing role for the transnational corporation in environmental stewardship and policy development..."

SOURCE: *The Global Environment Outlook, Oxford University Press, 1997. The Global Environment Outlook is available on the internet at <http://www.unep.org/unep/eia/geo1/> or at <http://grid2.cr.usgs.gov/geo1/>*

■ Negotiations on a new international trade convention regarding extremely hazardous chemicals and pesticides took place in Rome from October, 20-24, 1997. More than 250 delegates from about 100 countries attended the inter-governmental meeting. The legally binding convention is intended to manage more safely and ultimately contain the trade of chemicals and pesticides such as DDT, PCBs, Aldrin, Lindane, Dieldrin and others which are highly harmful to human health and the environment. The trade of extremely hazardous pesticides is currently monitored through the voluntary Prior Informed Consent Procedure (PIC) in which 154 countries are participating. According to this system, 22 harmful



Keeping pace with the rising number of new mouths to feed requires increasing gains in agricultural productivity. World population is growing by 80 million people a year. Most of this growth is in developing countries. As population grows, the amount of arable land per capita is declining sharply.

SOURCE: *Population Reports, Vol. XXV, #4, 1997*

pesticides and five industrial chemicals, which have been banned or severely restricted in a number of countries, should not be exported without the acceptance of the importing country. PIC is jointly administered by the United Nations Environment Programme (UNEP) and the United Nations Food and Agriculture Organization (FAO).

SOURCE: *The Gallon Environment Letter, Canadian Institute for Business and the Environment, (Vol. 1, No. 18), October 30, 1997.*

■ A World Bank survey estimated that air and water pollution in China cost (US) \$54 billion a year, or about eight percent of GDP, in damage to human health and lost agricultural productivity. China's rapid economic growth and booming economy faces a (US) \$34.5-billion bill in the coming years to clean up a degraded environment caused by lax enforcement of pollution laws, outdated technology and massive underfunding, according to the report, "The China Environmental Market: A Technology Transfer Approach", (published by the Singapore-based Regional Institute of Environmental Technology and Hong Kong's Fintrade-Mercer Group). About 80 percent of China's urban river water is polluted, commonly with ammonium, nitrate, volatile phenol and oxygen-consuming organic material. Solid-waste pollution alone was estimated to cost China about

(US) \$10.9 billion a year in economic losses.

SOURCE: *Nick Edwards Singapore (Reuters)*

■ Scientists and journalists have focused attention on global warming, popularly called the "greenhouse effect." The scientific community generally accepts that heat-trapping gases—mostly carbon dioxide, chlorofluorocarbons (CFCs), and methane—have been building up in the lower atmosphere, trapping rising heat and causing temperatures on the earth's surface to rise. The projected effects of such climate change on agriculture production vary depending on the particular model used. Most models project a drop in corn production, particularly in sub-Saharan Africa.

Human activities are chiefly responsible for the build-up of greenhouse gases in the atmosphere. The accumulation of carbon dioxide in the atmosphere closely parallels the increased use of fossil fuels by a growing global population. If current trends in energy production and use continue, population growth alone will contribute half of the increase in carbon dioxide emissions between 1985 and 2025.

International efforts to limit greenhouse gas emissions often lead to disagreements between developing countries and developed countries over responsibility for causing such problems and for

solving them. Unless emissions are eventually reduced, however, it is likely that the world's climate will continue to become warmer, with largely unknown but potentially serious effects on world food production.

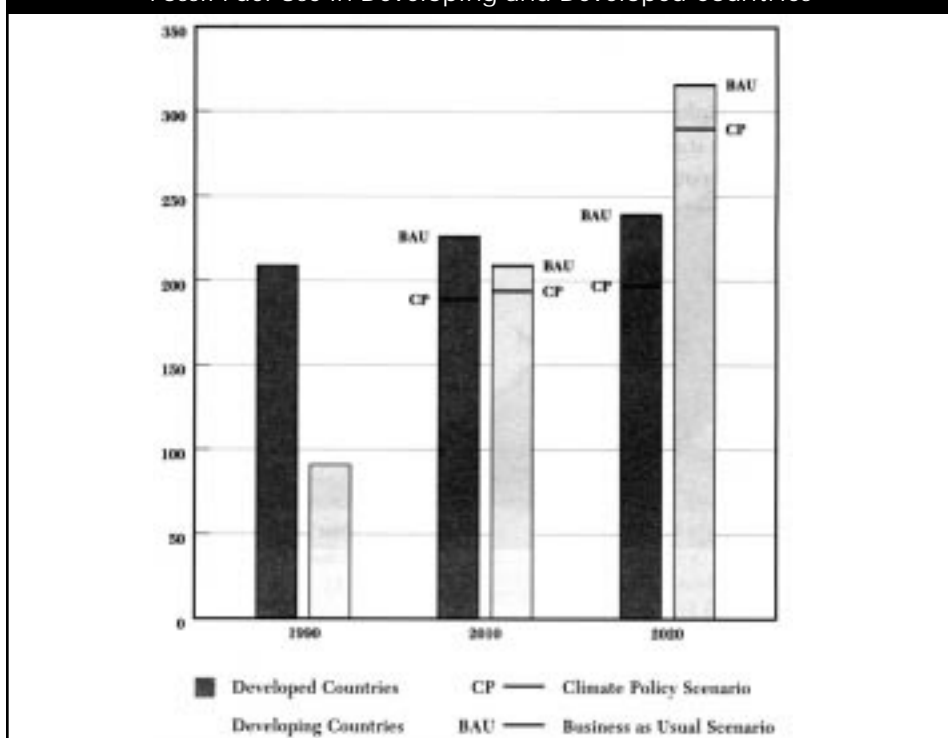
CURRENT AND PROPOSED AGREEMENTS FOR SUSTAINABLE FOREST MANAGEMENT

The European countries have agreed on criteria and indicators for sustainable forest management under the Helsinki Process, while the "Montreal Group" of nine other temperate-zone countries (Australia, Canada, Chile, China, Japan, Korea, New Zealand, Russia, and the United States) are working on a parallel consensus. Indonesia, Malaysia, and the Scandinavian countries are working on national/regional schemes for timber certification. And an independent international umbrella organization, the Forest Stewardship Council, has begun accrediting independent certification companies.

The Helsinki and Montreal groups of countries originally limited their criteria and indicators for sustainable forest management to country-level interventions. A third group of South American countries (Bolivia, Brazil, Columbia, Ecuador, Peru, Suriname, and Venezuela) went a significant step further in the proposal they issued after an early 1995 meeting in Tarapoto, Peru, by drawing up criteria and indicators to measure the sustainability of individual forest holdings. The Tarapoto Protocol calls for approved and monitored management plans for every forest holding within a lease structure that assures the security of long-term investments. It requires sustainable harvest levels, and conservation of ecosystems to protect plant and animal populations, conserve soil, and protect watersheds. In early 1997, the European countries drew up a proposal for similar forest-level criteria.

SOURCE: *Sustainable Forestry Working Group. John D. & Catherine T. MacArthur Foundation, 1997.*

Fossil Fuel Use in Developing and Developed Countries



SOURCE: *World Resources Institute, December 1997*

Voices

■ SEVENTH INTERNATIONAL CONFERENCE, HEALTH & ENVIRONMENT: Global Partners for Global Solutions will be held at United Nations Headquarters in New York City on April 16 and 17, 1998. The theme of the Conference is "Trauma of Environmental Disasters: consequences to Human Health". The Government of Bangladesh is the co-sponsor and the Minister of Health of Bangladesh will give the keynote address on April 16. International experts in the areas of medicine, environment, develop-

ment and psychology will address the participants. The program will be available on WIT's home page at <http://www.worldinfo.org>. Further information is available by contacting World Information transfer: tel: 212-686-1996; fax: 212-686-2172; email: wit@igc.apc.org. Pre-registration is required by UN security. The conference is free. WIT will hold a luncheon in the Delegates Dining room of the UN on April 16 with a guest speaker. Registration for the luncheon program is

separate and carries a fee. Speakers: H.E. Mr. Salahuddin Yusuf, Minister for Health and Family Welfare, Government of Bangladesh; H.E. Mr. Hennadi Udovenko, President of the General Assembly of the United Nations, (invited); Mr. Nitin Desai, Under-Secretary General of the Department for Policy Coordination and Sustainable Development of the United Nations (invited); H.E. Mr. William Richardson Permanent Representative of the United States to United Nations (invited); Mr. Miles Stoby, Deputy Executive Coordinator for United Nations (invited); Mr. Klaus Topfer, Executive Director of United Nations Environment Programme (invited); Mrs. Lyutha Al-Mughairy, Chief of the Public Liaison Service, United Nations Dept. of Public Information; Dr. Ruth A. Etzel, Chief, Air Pollution and Respiratory Health, Center for Disease Control; Dr. Yael Danieli, Past President and United Nations Representative of the International Society for Traumatic Stress Studies; Dr. Ronald Hoffman, Director, Hoffman Center; Dr. Michel Loots, President, Global Help Project; Dr. Patricia L. Myskowski, Memorial Sloan-Kettering Cancer Center; Dr. James O'Rourke, Dept. of Pathology, University of Connecticut School of Medicine; Dr. Scott Ratzan, Director, Emerson-Tufts Program in Health Communication; Adi Roche, Director, Children of Chernobyl Project; Dr. Charles Strozier, Co-Director, Center on Violence and Human Survival; Dr. Maritza Tennessee, Pan American Health Organization (PAHO) Dr. S. Ben Yahmed, Director, Centre for Vulnerability Reduction, World Health Organization; UNICEF Representative.

■ eNetDigest (tm), A Publication of Paragon Services, is a guide to Internet resources dealing with the environment, natural resources and agriculture. The current issue contains the Digest's review of the best Internet resources for 1997. Content was the primary determinant of the sites that made this list. However, the web sites that did not provide alternatives to image-map navigation were not considered, according to the Digest's publisher, Kathy E. Gill. The following list is excerpted from the Digest's 1997 review. *Biodiversity and Biological Collections*:

<http://muse.bio.cornell.edu/> Information about specimens in biological collections, taxonomic authority files, directories of biologists, reports by various standards bodies, listservs, access to online journals; *Earthshots: Satellite Images of Environmental Change*: <http://edcwww.cr.usgs.gov/Earthshots/> The EROS Data Center, a USGS facility near Sioux Falls, SD, collection of satel-

SCIENTIFIC COMMITTEE ON PROBLEMS OF THE ENVIRONMENT (SCOPE) OF THE INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS, 10TH GENERAL ASSEMBLY, JUNE 14-20, 1998. ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES INSTITUTE, PISCATAWAY, NJ

The Tenth General Assembly of SCOPE will be held at the Environmental and Occupational Health Sciences Institute (EOHSI), 681 Frelinghuysen road, Piscataway, New Jersey, USA, June 14-20, 1998. EOHSI is a joint program of the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School and Rutgers University.

SCOPE is a non-governmental organization of scientists. It was established in 1969 by the International Council of Scientific Unions to provide independent, scientific input on environmental problems that are inherently interdisciplinary and international. SCOPE projects, run by volunteers from many fields and nations, strive to identify emerging or potential issues likely to influence the world environment and to synthesize scientific information on global environmental problems. The topics of the SCOPE projects are diverse, ranging from environmental impact assessment, to global biogeochemical cycles, to environmental consequences of nuclear war, to methods for estimating risks from chemical exposure.

Currently, 39 nations are members of SCOPE. The SCOPE scientific program for 1996-98 is organized around the theme "Towards Sustainability." Seventeen projects, developed with input and advice from all of the member nations, operate under the leadership of separate scientific advisory committees to address fundamental issues underlying the prospects for and the limits to a sustainable future. SCOPE projects focus on natural mechanisms through which the earth system provides renewable resources, human impacts on those mechanisms, and new approaches for minimizing negative and maximizing positive aspects of human activities. The broadly international structure and operation encourages a balanced perspective on regional differences, cultural sensitivity and social fairness.

Every three years, SCOPE holds a General Assembly, which combines a business meeting, a reevaluation of the scientific program, and scientific symposia. The host organizations will be the US National Committee for SCOPE, which operates through the National Research Council, and EOHSI. Past General Assemblies have been held in Seville in 1992 and Tokyo in 1995.

The US SCOPE Committee has organized two scientific symposia to be associated with the 1998 Triennial General Assembly. These are a one day symposium on the Commons Revisited: An Americas Perspective, and a half day symposium on New Jersey as a Microcosm. The Commons Revisited will revisit the concept of a commons, reviewing not only changes in commons resources but also changes in the scientific understanding of the earth system processes that underlie the commons issues and changes in cultural values and regulatory environments that shape management of the commons. The symposium will take an Americas perspective addressing various aspects of global, regional and local commons issues from the viewpoint of the diverse cultures of South, Central and North America. New Jersey as a Microcosm will examine the interface between ecosystem health and human health using the example of New Jersey. Relationships between people and the surrounding ecosystems will be explored during this symposium.

Additional information on the SCOPE General Assembly is available by contacting Candace Botnick, EOHSI, Public Affairs Coordinator, 713-445-0206 or botnick@eohsi.rutgers.edu

lite images showing how our environment has changed over the last 20 years; Forest Finland:

<http://www.metla.fi/forestfin/>
Information about forestry in Finland including data on forest products, forest policy, history, conservation, research, organizations, health and education; *International Arid Lands Consortium*: <http://ag.arizona.edu/OALS/IALC/Home.html>/ This is an independent, nonprofit research organization providing research and support for ecological sustainability in arid lands around the world; *Right to Know Network*: <http://www.rtk.net/> provides access to databases, text files, and conferences on the environment, housing, and sustainable development. For further information about eNet Digest, send e-mail to: info@enetdigest.com in subject line, type 'info' or visit the Digest's web site at <http://www.enetdigest.com/>

■ The next annual meeting of the International Society for Environmental Epidemiology will be held in Boston, August 15-19, 1998, jointly with the International Society for Exposure Analysis. Further information about that meeting can be obtained from Carol Rougvié at 617-482-9485 or isee&isea98@jsi.com. More information about the International Society for Environmental Epidemiology, can be found at the ISEE home page: <http://www.med.ualberta.ca/PHS/ISEE>.

■ FUTURE CLIMATE CHANGE MEETINGS:

FCCC MEETINGS: The FCCC subsidiary bodies will meet from 2-12 June 1998 in Bonn, Germany. The subsequent subsidiary bodies meetings will coincide with the Fourth Conference of the Parties in Buenos Aires, Argentina, scheduled from 2-13

November 1997. For more information contact the UNFCCC secretariat in Bonn, Germany; tel: +49-228-815-1000; fax: +49-228-815-1999; e-mail: secretariat@unfccc.de. Also try the FCCC home page at <http://www.unfccc.de> and UNEP's

Information Unit for Conventions at <http://www.unep.ch/iuc.html>.

■ FOURTH INTERNATIONAL CONFERENCE ON GREENHOUSE GAS CONTROL TECHNOLOGIES (GHGT-4): This conference will be held from 30 August - 2 September 1998 in Interlaken, Switzerland. For information contact: Dr. Baldur Eliasson, Head, Energy and Global Change, ABB Corporate Research Ltd., Baden-Dättwil, Switzerland.; tel: +41-56-486 80 31; fax: +41-56-493 45 69 e-mail: baldur.eliasson@chcr.abb.ch.

■ ELEVENTH WORLD CLEAN AIR & ENVIRONMENT CONGRESS (& EXPO): The Congress is schedule from 13 - 18 September 1998 in

Durban, South Africa. For information contact: Conference Secretariat, PO Box 36782, Menlo Park 0102, South Africa; fax: +27 12 460 170 e-mail: wissing@iafrica.com.

■ CLIMATE-L: For information on COP-3 follow-up via e-mail, subscribe to IISD's CLIMATE-L list. For more information, send e-mail to enbinfo@iisd.org.

■ The Commission on Sustainable Development (CSD) will hold its sixth session at UN headquarters in New York from April 20 to May 1, 1998. The high level segment will take place between April 29 and May 1. The sixth session will emphasize the issues of industry and fresh water. Information about the commission's work can be found on the internet at <http://www.un.org/DPCSD>. The UN has recently launched a system wide web site on sustainable development: <http://www.unsystem.org/Agenda21>. Information about attending the forthcoming CSD session can be obtained from the CSD secretariat at (tel) 963-3170, (fax) 212-963-42260.

1998 Book Reviews

■ *When Corporations Rule the World*. David Korten, West Hartford: Kumarian Press and San Francisco: Berrett-Koehler Publishers, 1996. At this time of negotiation and understanding of the Multilateral Agreement on Investment (referred to as MAI), Korten's well received analysis of corporate globalization is worth rereading. The author reminds us that business itself is not the enemy, but that most of us have forgotten or at neglected our deeper relationship with nature and each other. In explaining how he came to develop the outlook that led to this book, Korten writes, "It seemed evident from our analysis that to reestablish a sustainable relationship to the living earth, we must break free of the illusions of the world of money...and root our economic institutions in place and community so that they are integrally connected to people and life." [p.7] Korten perceives the pursuit of money as the overwhelming purpose to many of our lives, and therefore, the leadership towards a sustainable future "must come from within civil society." The book provides the reader with important information on a variety of international trade agreements, the functioning of transnationals and the popular illusions held by most of us and on which rests the success of the corporate world view - pursuing money for its own sake in a global society of producers and consumers where very few reap huge monetary rewards.

Korten holds a Ph.D from Stamford University Graduate School of Business and began his career establishing business schools in developing nations. His

experience as advisor to various development projects as well as living in the developing world, notably in Asia, shaped his understanding of the deepening crisis of poverty and social disintegration, environmental degradation, and increasing inequality found all over the world including the richest cities. The purpose of this important book can be found in its introductory pages. "We now come back home to help our compatriots better understand the ways in which we have contributed to placing the world-ourselves included- on a self-destructive course. Only when we are prepared to assume responsibility for changing ourselves will others be able to fully reclaim social and environmental spaces we have appropriated from them and recover their ability to meet their own needs within a just, democratic, and sustainable world of cooperative partnerships." [p.9]

■ *The Nutrition Bible*. Jean Anderson, Barbara Deskins, eds. New York: William Morrow & Co., Inc., 1995. WIT recommends this large nutrition digest because it contains useful information clearly presented on foods, additives, preservatives and the gamut of contaminants. The nutrition content of many foods, definitions of terms and foods, as well as recipes are also included. The book lacks an index which would have made the wealth of information here more accessible, but on the other hand, the reader has the pleasure of perusing pages that might have otherwise been missed. The book is addressed primarily to a North American audience.

■ *Health and Environment in Sustainable Development: Five Years After the Earth Summit*. Geneva: World Health Organization, 1997. This paperback compendium of charts, graphs, images and maps is full of information on the relationship between health and environmental decay. The book veers away from gloom and doom by offering many examples of health improvements resulting from improvements in the environment such as the use of the catalytic converter to reduce vehicle emissions. The numbers of graphic depiction of trends in health and environment, analyzed since 1970, and boxes of specific data enrich this special edition produced by WHO for the UN General Assembly's review of Agenda 21.

MISSION STATEMENT

We have not inherited the world from our forefathers...we have borrowed it from our children. - Kashmiri Proverb

World Information Transfer, Inc. (WIT) is a not-for profit (501c3) non-governmental organization in consultative status with the United Nations, promoting environmental health and literacy.

In 1987, inspired by the Chernobyl nuclear tragedy, WIT was formed in recognition of the pressing need to provide accurate actionable information about our deteriorating global environment and its effect on human health to opinion leaders and concerned citizens around the world.

WIT exercises its mandate through four major activities:

1: The publication of the World Ecology Report, a quarterly digest of critical issues in health and environment, published in five languages and distributed to opinion leaders around the world, and for free in developing countries.

2. Our annual conference on Health and the Environment: Global Partners For Global Solutions held at United Nations headquarters in New York since 1992. The world's leading authorities in the field of environmental medicine share their latest findings and discuss possible solutions with leaders in governments, business, organizations and the media.

3. Since 1995, WIT has been providing and promoting humanitarian relief to areas devastated by environmental degradation. Supplies and equipment have been sent to hospitals and orphanages in areas contaminated by the Chernobyl fallout. This program has been rapidly expanding since its inception.

4. Centers for SustainAbility Studies providing centralized scientific data pertaining to health and sustainability issues. The objective of the Centers is to provide continuous monitoring, ongoing research, education and implementation of corrective programs. The first center was opened in Kiev in 1992 and moved to Lviv in 1996. The second center opened in Beirut, Lebanon in 1997.

WIT currently operates from headquarters in New York City with regional representative offices in Australia, Austria, Canada, China, Colombia, Egypt, Germany, Holland, Honduras, India, Iran, Israel, Lebanon, Nigeria, Pakistan, Philippines, Russia, Switzerland, Ukraine.

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POINT OF VIEW

MILLENNIUM REDUX: MUCH ADO ABOUT THE NATURAL PACE OF CHANGE

As we hurl toward the 21st century many wonder what will await us. The past century as it retreats gave us a world shaped by breakthroughs in theoretical and applied science and medicine, experiments in national economies, and both the division and consolidation of knowledge about human behavior. Life, once driven by a few powerful spiritual and political leaders whose theological and political interpretation, dogma and ritualization controlled the human spirit, was modified by scientific discovery and democratic strivings. Over the millennia, it has been a steady struggle to unleash and protect both the creativity and diversity in individuals and to focus on developing the reality of knowing oneself and finding oneself in the world. From these diverse and creative individual expressions, we can expect a tremendous impact on all aspects of human endeavor that can circulate and animate the world of the 21st century and the third millennium.

One clear trend of this century that has gained momentum at century's end and which furthers the spirit of individual creative expression is the world wide organizing of private citizens into non-profit, non-governmental organizations (NGOs). This trend demonstrates that a growing number of people have the creative capacity and the courage to develop new approaches to the world's problems or to apply known means to new situations. Particularly during the past half century, organizations have committed themselves to the goals of the United Nations, primarily in the areas of peace, human rights, humanitarian aid and social and economic welfare. To

facilitate their work, many international and national NGOs have attained consultative relationship with the Economic and Social Council of the UN (ECOSOC). Government members of the ECOSOC Committee on NGOs grant consultative status by evaluating NGOs, thus enabling non-governmental organizations to bring their knowledge and expertise as consultants into the ingovernmental deliberations of ECOSOC.

Fifty years ago a coalition of international NGOs formed to watch over this consultative relationship. We take the opportunity of this column to extend our respect and appreciation to that coalition, the *Conference of Non-Governmental Organizations in Consultative Relationship with the United Nations* (known as CONGO) for its highly effective work overseeing the growing relationship between non-governmental organizations and the United Nations. The cooperative relationship among NGOs, the Secretariat and UN Member states fostered by CONGO has additionally been brought about through the work of its substantive committees.

Quietly and with little drama, private citizens and governments have recognized that alone neither can accomplish their humanitarian goals. Working with the international mechanism of the United Nations has proven to be the most effective means to solve tough global problems. The pace has been slow and the process relatively inefficient, but these are the costs of democracy. The consultative relationship with the UN has demonstrated the importance, creativity and diversity of the

public voice. This relationship has been successfully extended through the NGO forums during the UN global summits and conferences of the 1990s and may take on a new dimension through Secretary General Kofi Anan's proposed Millennium Assembly.

The NGO Millennium Forum is proposed as a companion to the proposed UN Millennium General Assembly. The purpose of both governmental and non-governmental millennium meetings could be to create ways to mobilize support for implementing the agendas of the '90s global summits and conferences. The result might, however, turn out to be an expensive extravaganza of governments and civil society to gain more public attention while neglecting the real work already identified. At a time when public budgets are uncertain, when international problems seem intractable, when the global income gap grows, and when creative energies abound, is a Millennium NGO Forum the most effective place for creative and diverse people to put their collective energies? Putting the promises of the global agendas into practice requires first rene's reality, accepting that reality and then identifying obstacles to change. Will a Millennium NGO Forum facilitate this work? Or will the continued quiet, steady, and unceremonious activities of non-governmental organizations working in harmony with governments, and other segments of civil society, prove more effective for the benefit of the world society?

World Ecology Report

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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

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