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SPOTLIGHT ON
1999
The Year Ahead

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/linkages/journal/ **TOPIC - CHEMICAL MANAGEMENT****/PERSISTENT ORGANIC POLLUTANTS:
HAND-ME-DOWN POISONS THAT THREATEN
WILDLIFE AND PEOPLE***By the World Wildlife Fund Global Toxic Initiative*

The production and release of vast quantities of novel synthetic chemicals over the past 75 years has proved to be a great global experiment—one that now involves all life. Even before the Chemical Revolution moved into high gear at the end of World War II, the first warning sign appeared that some man-made chemicals might spell serious trouble. In 1944, scientists found residues of a man-made pesticide, DDT, in human fat. Seven years later, another study brought disturbing news of DDT contamination in the milk of nursing mothers. In the early 1950s, naturalists saw thinning eggshells and crashing populations of bald eagles and other birds. By 1962, Rachel Carson documented the growing burden of contamination in *Silent Spring*, which detailed the devastating impact of persistent pesticides on wildlife and warned about hazards to human health.

Ironically, chemicals that were developed to control disease, increase food production, and improve our standard of living are, in fact, a threat to biodiversity and human health. Because the risk from these originally well-intentioned chemicals outweighs their benefits, their continued use is no longer warranted.

Today, the contamination from persistent man-made chemicals is a pervasive global problem that urgently demands a global solution. Responding to the gravity of this threat, the international community has begun important steps toward stopping this unintended experiment. In June 1998, nearly a hundred nations embarked on negotiations with the goal of concluding a binding, global treaty on persistent organic pollutants (POPs) before the end of 2000. The outcome is critical since this process will determine the scope and pace of global action against persistent chemicals.

Because of their unique properties, POPs pose a special kind of challenge that makes it impossible for any nation to remedy the problem by acting alone. POPs don't degrade readily and, even more important, they don't stay put. They can travel thousands of miles in complex journeys on air, water currents, and through the food web, making one country's contamination inevitably the world's problem. POPs are now ubiquitous.

The scientific case against the POPs targeted in the treaty negotiations has been mounting since the late 1940s. Many countries have already banned most of the chemicals in question or severely restricted their use. But their trade and use continues in some parts of the world. In many places, old stockpiles of pesticides and industrial chemicals are an increasing hazard to those who live nearby and to the world at large as they leak, leach, and evaporate into the air from dump sites and inadequate or deteriorating storage containers. Until an effective and adequately funded disposal program is put into place, POPs will continue to escape and add to the existing danger.

The 12 persistent chemicals specified in the ongoing negotiations pose a host of hazards. Acute exposure in tropical agriculture has caused large numbers of human deaths and injuries, including severe nervous system and liver damage. Numerous studies have also linked these synthetic chemicals to cancer and other significant health problems in people and wildlife. Emerging science has also recently heightened concern about typical "background" levels of these contaminants and a new kind of hazard known as "endocrine disruption." Researchers find that PCBs (polychlorinated biphenyls) and their co-contaminants can do damage at extraordinarily low doses, measured in parts per trillion, and that they are already compromising the health and intelligence of the next generation.

POPs jeopardize human and wildlife health in all parts of the world: in the tropics through the continued use of persistent pesticides; in temperate industrial regions through the release of persistent combustion and manufacturing by-products; in many regions because of leaking stockpiles; and in wild and remote places where globe-hopping contaminants come to rest. There is no clean, uncontaminated place anywhere on Earth and no creature untouched by this chemical legacy.

Each of us now carries several hundred synthetic chemicals that were not present in the bodies of our great grandparents at the turn of the century. Every child born today has been exposed to persistent chemicals in the womb. Because these chemicals also become concentrated in breast milk due to their affinity for fatty substances, a baby can experience the heaviest exposure to contaminants in its lifetime through breast feeding. This exposure threatens the integrity of the next generation. Given these immense stakes, precaution dictates swift and strong action to eliminate the use and production of persistent chemicals. POPs by their nature cannot be managed. The time is long overdue to end this fateful legacy of hand-me-down poisons.

What Are POPs?

The greatest concerns about contaminants have centered on persistent compounds—synthetic chemicals that resist the normal processes of degradation. As detailed in Table I, page 4, the 12 persistent chemicals targeted in the POPs negotiations include eight pesticides (aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex, and toxaphene), two types of industrial chemicals (polychlorinated biphenyls or PCBs and hexachlorobenzene)¹, and two families of unintended by-products of the manufacture, use, and/or combustion of chlorine and chlorine-containing materials (dioxins and furans). Persistent organic pollutants are carbon-based chemical compounds and mixtures that share four characteristics: high toxicity, persistence, a special affinity for fat, and a propensity to evaporate and travel long distances. Toxicity. The 12 POPs targeted for immediate action are all chlorine-containing compounds that belong to a class of chemicals known as organochlorines. Because of long-standing concerns about their high toxicity, this dozen are among the most widely studied synthetic chemicals. Numerous studies have shown that these POPs are dangerous not only at high levels, but at low levels as well. Short-term exposure to high concentrations can be fatal or result in serious illness. Lower chronic levels have been implicated in a wide array of health and environmental problems.

All 12 targeted POPs have also been recently identified as "endocrine disruptors," chemicals that can interfere with the body's own hormones. Such hormone-disrupting persistent contaminants can be hazardous at extremely low doses and pose a particular danger to those exposed in the womb. During prenatal life, endocrine disruptors

tors can alter development and undermine the ability to learn, to fight off disease, and to reproduce.

Persistence. POPs are highly stable compounds that can accumulate and remain in the environment or in body tissue for years or decades before breaking down. Chemicals characterized as "persistent" resist the natural processes of degradation—by light, chemical reactions, or biological processes—that would eventually render them harmless. Sometimes, as with DDT, the breakdown products, notably DDE, prove far more stable and persistent than the original pesticide. The body cannot readily excrete persistent contaminants except through breast feeding, so most of the targeted POPs typically have long half lives in the body and with continued exposure their concentrations grow higher over time. Persistent contaminants are now pervasive in the food web, with animal products—meat, fish, and milk, in particular—the primary routes of human exposure.

Affinity for fat. POPs are not soluble in water, but they dissolve readily in fats and oils. Because of their resistance to degradation and this affinity for fat, POPs accumulate in the body fat of living organisms and become more concentrated as they move from one creature to another onward and upward in the food web. In this way, extremely small levels of such contaminants in water or soil can magnify into a significant hazard to predators who feed at the top of the food web such as dolphins, polar bears, herring gulls, and people. In Lake Ontario, for example, the tissue of herring gulls may contain 25 million times the concentration of PCBs found in the lake's water.

Global travelers. POPs share a notable physical and chemical characteristic that makes them highly mobile and capable of traveling to the ends of the Earth. These compounds are semi-volatile, a property that allows them to occur either as a solid or a vapor depending on the temperature. Once a persistent contaminant has evaporated, it can travel great distances in air masses, often hitchhiking on particles in the atmosphere like dust.

Through a process known as the "grasshopper effect," persistent chemicals jump around, evaporating in warm conditions and then settling in cool spots. When the temperature is right, POPs will again take flight and continue hopscotching travels that carry them anywhere and everywhere on Earth. Scientists detect them wherever they look in the world, even in regions where these synthetic chemicals have never been used. The pesticide toxaphene now contaminates fish in wilderness lakes in the Canadian Arctic, but there are no records of its use anywhere near that region. Toxaphene is often found in much higher concentrations than other organochlorines found in the Arctic. Persistent contaminants typical of industrial regions like the Great Lakes have been found in albatrosses on remote Midway Island in the middle of the Pacific. The penguins in Antarctica have become contaminated with a breakdown product of the pesticide chlordane and other persistent chemicals.

Emerging concerns. In the ongoing investigation of synthetic chemical hazards, scientists have come to understand how two particular characteristics of the 12 POPs under discussion—their tendency to accumulate in fat and their hormonal activity—combine to pose a special danger to the next generation. Throughout a woman's lifetime, the store of persistent contaminants mounts in her body fat. By unfortunate coincidence, the demands of pregnancy and breast feeding draw down these fat reserves, so a load of contaminants a mother has taken decades to accumulate passes on to her baby in a very short time. Even worse, these hormone-disrupting contaminants hit the baby at the most vulnerable period in its entire life.

During early development, hormones orchestrate key events such as sexual differentiation and the construction of the brain, so synthetic chemicals that interfere with hormone messages, including all the targeted POPs, can disrupt development and cause lifelong damage. In one study on dioxin, a fetus proved 100 times more sensitive to this hormone-disrupting POP than did an adult. A single low dose of dioxin to a pregnant rat at a critical moment in pregnancy did permanent damage to the reproductive systems of her pups, which showed notably diminished male sexual behavior and a sperm count drop of as much as 40 percent. The dose used in this experiment is very near the levels of dioxin and related compounds reported in people in industrialized regions such as Europe, Japan, and the United States.

Pervasive Harm

Following the ban or restrictions on the use of certain POPs, contaminant levels have declined from peak levels in many industrial countries over the past three decades. Not all trends are favorable, however. Contrary to the widespread impression, POPs are not an old problem that has already been addressed, let alone solved. A recent study of North Pacific minke whales found increasing levels of contamination from chlordane and PCBs—an indication, according to the research team, of "continuous fresh input of PCBs and [chlordane] in the North Pacific marine environment." Whatever the trends, environmental levels remain high enough to continue to affect people and wildlife. The existing global burden of POPs must be reduced and eliminated as quickly as possible.

Although some POPs-related studies have taken place in developing countries, few if any provide baseline data on levels and effects of POPs. Therefore, up to this point in time the bulk of the data has come from studies undertaken in industrialized countries. Resources must be provided to fill these critical gaps in POPs-related data. This is all the more urgent as exposure of people and wildlife to POPs in the developing world can be much more direct—at or near the point of release—than in the industrialized world. The lack of such baseline work, however, should in no way delay action on POPs.

Effects on Wildlife

An extensive body of scientific evidence documents the devastating toll of persistent contaminants on wildlife. In many parts of the world, wild species show signs of disrupted sexual development and a diminished ability to reproduce. Some sensitive species have disappeared altogether because of total reproductive failure linked to chemicals on the POPs list.

Threatened beluga whales. In the St. Lawrence River, the beluga whales suffer from an astonishing list of afflictions—several kinds of cancer, twisted spines and skeletal disorders, ulcers, pneumonia, bacterial and viral infections, thyroid abnormalities—seldom if ever seen in belugas living in less polluted water. Although levels of persistent contaminants in the river have dropped markedly in the past three decades, the belugas still show high levels of the targeted POPs, especially the young who acquire the contaminants from their mother's milk. One young whale found dead had 10 times more PCBs in its body than the level necessary to qualify as hazardous waste under Canadian law. Ongoing research on this population indicates that widespread hormone disruption is undermining reproduction and preventing recovery of the population.

Alligator abnormalities. POPs have also been linked to the stunted penises and reproductive failure in the alligators in Florida's Lake Apopka. Alligator eggs collected there had relatively high levels of a variety of contaminants, including toxaphene, dieldrin, and the DDT breakdown products DDE and DDD. Although the abnor-

mally small penises are the most dramatic symptom, male and female alligators also suffer from profound but invisible disruption of their internal reproductive organs and from skewed hormone levels. A new study shows that these wildlife problems are not limited to Lake Apopka, which once had a chemical spill. The discovery of alligator hormone abnormalities and reproductive failure in other Florida lakes indicates that chronic contamination from agricultural pesticides may be as hazardous as acute incidents.

Lake trout crash. Based on persuasive new studies, dioxin now appears in part or wholly responsible for the extinction of the native lake trout in the Great Lakes. Fishery officials had blamed the trout's crash in the 1950s on overfishing, habitat destruction, and predation by an introduced parasite, the sea lamprey. But University of Wisconsin researchers have shown that trout eggs die when exposed to a concentration of as little as 55 parts per trillion of dioxin. Studies of the lake sediments indicate that contamination from dioxin and dioxin-like PCBs reached a level high enough to begin undermining trout reproduction in the 1940s.

Vanishing mink and otter. PCBs are implicated in the disappearance or decline of several animal populations in the United States and Europe. Mink began disappearing from the shoreline of the Great Lakes in the mid-1950s. Despite restrictions on DDT, PCBs, and other persistent chemicals, mink have not yet returned. Studies done by Michigan State University biologists have demonstrated that mink are highly sensitive to PCBs. British researchers have also linked PCBs to the parallel decline among otters in Britain and Europe in the 1950s: Their analysis, showing that otters have disappeared in regions downwind from major industrial areas, points to the likely role of atmospheric transport.

Recent work on the Columbia River in the Pacific Northwest region of the United States found delayed or inadequate reproductive tract development in male otters as well as a significant dose-response relationship between these problems and synthetic contaminants such as certain PCBs, dioxins, and pesticides. More heavily contaminated young males had smaller bones (baculums) within their penises as well as lighter testicles. The animal with the greatest burden of contaminants had no testicles at all.

Abnormal behavior in wildlife. Over the years, scientists have reported behavioral changes in wildlife contaminated with persistent man-made chemicals. In gull and tern colonies in the Great Lakes, the Pacific Northwest, California, and Massachusetts, field researchers have found nests with twice the normal number of eggs, which is a sign that the birds occupying the nests were two females instead of the expected male-female pair. In some Lake Ontario colonies, birds showed behavioral aberrations, including less inclination to defend their nests or sit on their eggs, which increased predation and diminished the hatching and survival of the chicks.

Marine mammal die-offs. Over the past decade, scientists have also documented that contaminants, such as DDT, PCBs, and dioxins, weaken the immune systems of marine mammals and that animals become more vulnerable to disease as they accumulate increasing levels in their bodies. Based on this evidence, it now appears that contaminant-induced immune suppression may have contributed to the dramatic marine epidemics that killed thousands of seals, dolphins, and porpoises in the late 1980s and early '90s. The dramatic die-offs hit populations in the Baltic and North Seas, the Mediterranean, the Gulf of Mexico, the North Atlantic, the eastern coast of Australia, and even the seals in Lake Baikal in Siberia.

Effects on People

Because people and wildlife share a common environment, they carry the same mix of persistent man-made chemicals in their bodies. It is, therefore, not surprising that humans seem to be suffering increasingly from the same health problems reported in laboratory animals and in wildlife exposed to one or more of the dozen POPs. These problems include immune dysfunction, neurological and behavioral abnormalities, and reproductive disorders. Although the pattern of evidence is highly suggestive, it is virtually impossible to answer questions about the impact of these persistent chemicals on human health directly or definitively. Because everyone carries a load of these chemicals, there is no unexposed population to study as a control group. Moreover, scientists for ethical reasons do not conduct experiments on people. Nevertheless, the weight of the evidence indicates strongly that chronic exposure to POPs is a hazard to human health that more than justifies precautionary action to eliminate them.

Impaired immune systems. Human studies in Sweden and Canada have linked dietary intake of PCBs and other persistent contaminants to immune system abnormalities. The Swedish study noted a correlation between the amount of PCBs, dioxins, and furans in the diet and important reductions in the population of natural killer cells, which play a key role in the body's defense against cancer. The Canadian researchers reported that children who were exposed to high levels of persistent contaminants experienced 10 to 15 times higher rates of infection than comparable children. A recent Dutch study exploring the impacts of background levels of contaminants on children's development linked immune system changes in infants to their exposure to PCBs and dioxin before and around birth. This, the researchers noted, may presage such later difficulties as immune suppression, allergies, and auto-immune disease.

Learning and behavior problems. In an ongoing study, researchers at Wayne State University in Detroit, Michigan, have documented significant learning and attention problems in children exposed prenatally to PCBs and other persistent contaminants passed on by mothers who had eaten Lake Michigan fish in the six years prior to pregnancy. At age 11, the most highly exposed children had difficulty paying attention, suffered from poorer short- and long-term memory, were twice as likely to be at least two years behind in reading comprehension, and were three times as likely to have low IQ scores. This work is striking not only because of the lasting impact seen in the children, but also because the fish-eating mothers were not highly contaminated. The levels measured in their bodies fall on the high end of what is considered the "normal" background range in the human population. In a similar U.S. study at the State University of New York (Oswego), researchers found measurable neurobehavioral deficits in the newborn children of women who had eaten the equivalent of 40 pounds of POPs-contaminated Lake Ontario salmon in a lifetime. These children showed abnormal reflexes, a shorter attention span, and an intolerance to stress. The Oswego study has been the first to document a wide range of effects on temperament stemming from prenatal exposure to contaminants.

The role of PCBs and dioxin in learning and behavior problems. In a recent review of the scientific evidence, a branch of the U.S. Public Health Service concluded that PCBs and dioxins are responsible at least in part for the neurological and behavioral deficits reported in children exposed in the womb. This assessment by the Agency for Toxic Substances and Disease Registry notes the "remarkable parallels" in the human epidemiological evidence and corroboration from wildlife and laboratory evidence: "[T]he collective

weight of the evidence indicates that certain PCB/dioxin-like compounds found in fish... can cause neurobehavioral deficits. Further, these compounds have produced some effects in some Great Lakes fish consumers."

Pesticide jeopardy to children. A recent study in Mexico reported striking differences in the development of children exposed to agricultural pesticides compared to children with minimal pesticide exposure. In this work, researchers tested two groups of four- and five-year-old children living in the Yaqui Valley region in northwestern Mexico. The two groups were similar in all respects, ranging from ethnicity to diet, save for their exposure to pesticides. The families living in the foothills are ranchers who rely almost exclusively on traditional methods of pest control such as intercropping. The valley dwellers, on the other hand, live in an agricultural area that has seen heavy synthetic pesticide use since the 1940s. Samples of human breast milk and cord blood taken from valley women contained high levels of persistent contaminants including several targeted POPs: aldrin, endrin, dieldrin, heptachlor, and DDE. In tests developed to measure growth and development, the pesticide-exposed valley children fell far behind their foothill-dwelling peers. The valley children exhibited decreased physical stamina in a jumping test, a lack of eye-hand coordination evident in their decreased ability to catch a ball, diminished memory, and a notable inability to draw a person (see figures, page 12), which is used as a nonverbal measure of cognitive ability. The mix of pesticides used in the valley includes many synthetic chemicals—POP-listed compounds as well as non-persistent pesticides—that jeopardize neurological development.

Male reproductive problems. People also appear to be suffering increasingly from reproductive problems that laboratory and wildlife studies have linked to persistent contaminants that act like hormones—problems such as diminished sperm counts, genital defects, and testicular cancer. A recent medical study reports a doubling of the genital defect hypospadias in male infants in the United States between the 1970s and 1980s, which—together with similar reports of increasing incidence from five European countries and Japan—signals a disturbing health trend. This defect arises from incomplete masculinization of the male genitals and is reported in laboratory experiments in which males are exposed prenatally to anti-androgens like DDE.

In recent decades, the incidence of cancer of the testicles in men under age 34 has been increasing rapidly in many countries. Recent studies suggest this cancer in young men arises from events early in life or even in the womb, as evidenced by the higher rates of testicular cancer among men with developmental defects such as hypospadias and undescended testicles.

During the past five years, medical researchers' published reports of dramatic declines in sperm counts and increasing sperm abnormalities over the past half century have caused a contentious debate about whether these changes are, indeed, real. Two of Europe's leading reproductive researchers have hypothesized that increasing exposure to environmental estrogens, which include several POPs, is likely to be responsible not only for lowered sperm counts, but also for genital defects, testicular cancer, and other male reproductive abnormalities. Based on animal studies, it is also clear that humans are currently exposed to levels of dioxin roughly equivalent to levels that have caused significant sperm-count drops in male rats exposed in the womb. As researchers probe the cause of the reported human sperm-count declines and other male reproductive problems, POPs stand high on the list of suspects.

Moving Against POPs

The obligation to take action on POPs stems from the 1992 Earth Summit in Rio de Janeiro. There, over 170 governments committed in their "Agenda 21" to eliminating the emissions and discharge of organohalogen and other synthetic compounds that threaten to accumulate to dangerous levels.

Building on that foundation, the UN Environment Programme's May 1995 Governing Council agreed to initiate an expedited assessment of the 12 priority POPs and their alternatives. In June 1995, the governments of Canada and the Philippines held an International Experts Meeting on POPs in Vancouver. The final consensus statement of that meeting stated that, "There is enough scientific information on the adverse human health and environmental impacts of POPs to warrant coherent action at the national, regional, and international level. This will include bans, phase-outs and provisional severe restrictions for certain POPs."

With this scientific consensus in hand, a global UNEP conference convened in November 1995 in Washington. Although its focus was on protection of the marine environment from land-based activities, special attention was devoted to POPs, with a high-level ministerial segment agreeing by consensus that, "[i]nternational action is needed to develop a global, legally binding instrument, amongst other international and regional actions, for the reduction and/or elimination of emissions and discharges, whether intentional or not, and where appropriate, the elimination of the manufacture and use of [the 12 priority POPs]."

Building on this backdrop of scientific reviews and calls for global action, the Intergovernmental Forum on Chemical Safety (IFCS) developed recommendations in 1996 which also concluded that sufficient evidence existed to warrant a global treaty to minimize the risk from the 12 specified POPs. IFCS called for immediate action by UNEP and the World Health Assembly to reduce or eliminate POPs emissions and discharges. In February 1997, the UNEP Governing Council endorsed IFCS's recommendations and agreed by consensus to move forward with treaty negotiations.

The ongoing UNEP POPs negotiations build on several global, regional, and national decisions that address POPs and other hazardous chemical issues. (Table II on page 15 addresses where POPs have been banned, restricted, or are still in use. The sidebar on page 18, "Relevant Agreements," reflects a number of global and regional approaches that complement the proposed POPs treaty.)

At the opening of the negotiations in June 1998, UNEP Executive Director Klaus Töpfer declared that the ultimate goal for this treaty must be the elimination of POPs production and use, not simply better management. As negotiators move forward, they must wrestle with a number of issues that stand in the way of realizing that aim.

Officials from the World Health Organization (WHO) and delegates from several developing countries have questioned the elimination of DDT because of its major role in combating malaria and other insect-borne diseases. Malaria poses a threat to at least 2.5 billion people in more than 90 countries and contributes every year to 3 million deaths—over half among children under five years old. Although the WHO and its experts have slowly embraced disease fighting methods that reduce the reliance on DDT, African delegates stress the need to find and fund cost-effective alternatives.

Delegates from developing countries have also expressed concern about their ability to meet the obligations under the treaty and emphasized the importance of financial and technical assistance. Assistance will be needed to help countries identify and make available affordable alternatives to POPs and their sources, with those efforts

emphasizing nontoxic and nonchemical alternatives. Clearly, a meaningful agreement must include significant commitments for shared responsibility, including external assistance.

Although the elimination of persistent pesticides is a concern for developing countries where they are still in use, industrialized countries face a special challenge from the unintentional by-products dioxins and furans. Many industries favor "end-of-the-pipeline" management of these POPs, rather than more fundamental changes that would prevent their creation. The evidence has shown, however, that efforts to manage POPs have failed and have resulted in significant, long-lasting hazards. Eliminating these hazards will require a much greater commitment in the coming years to redesign products and processes so that few if any dioxins and furans are generated.

Negotiators also face the question of how to identify, collect, and destroy POPs that remain in obsolete stockpiles of persistent chemicals or in hot spots of environmental contamination. In a number of developing countries, obsolete pesticides, including POPs, are stored in extremely hazardous conditions, as are old PCB-containing transformers and capacitors.

Rising to the Challenge

POPs are a global problem that demand a global solution. Action to eliminate persistent man-made chemicals is long overdue. POPs jeopardize the environment, the health of wildlife, and the health, behavior, and intelligence of the next generation. The mounting scientific evidence that these dozen POPs are altering our children's ability to learn, to resist disease, and to reproduce has only added to the already compelling case for the rapid phaseout of these notorious man-made compounds.

Any global treaty must reflect the true magnitude of these stakes and heed the lessons from this century's unfortunate global experiment with persistent synthetic chemicals. Given what the emerging science is showing, it would be unconscionable to proceed with business as usual. The magnitude of the possible harm to wildlife and people makes a precautionary approach wise and necessary.

To meet this formidable challenge, the global POPs treaty now under negotiation must achieve several critical objectives:

set the clear and unequivocal global goal of POPs elimination, allowing for a rapid, orderly, yet just program for their total phaseout;

embrace the "precautionary principle," focusing on prevention and elimination of POPs at their source, with action taken before there is damage or conclusive scientific proof, and with a shift in the burden of proof to those whose activities threaten harm;

mandate a global ban on the production and use of DDT no later than 2007 to provide impetus for alternative methods to combat malaria that don't threaten human health and biodiversity;

ensure that the costs of phaseout and cleanup of POPs and their sources are shared, through extended producer responsibility, the "polluter pays" principle, and related measures that facilitate effective private sector responsibility;

ensure that the destruction of POPs stockpiles and associated contamination is carried out expeditiously, safely, and thoroughly such that no undestroyed POPs or newly formed POPs remain;

support and encourage POPs-related research in developing countries and help those countries shift to alternatives, e.g. more appropriate products, manufacturing and disposal processes, and pest management practices, through financial and technological assistance from industrialized countries, directly, and through multilateral development banks;

require industry and governments to undertake aggressive programs to determine the toxicity of many persistent chemicals which have not been adequately tested individually or in combination with regard to carcinogenicity and mutagenicity, endocrine activity, and developmental, immune, neurological, and reproductive toxicity; and

provide for transparent decision-making processes, including meaningful public participation and timely access to relevant government and private sector data.

Although concluding such a treaty will make POPs elimination an acknowledged global priority, that alone will not solve the problem. The full support of governments, industry, citizen groups, and consumers will be essential if we are to move energetically forward and achieve these critical goals.

Some companies have already begun to take voluntary action to change their production processes. Pulp and paper mills in Scandinavia and elsewhere have, for example, virtually eliminated their release of dioxin by shifting to chlorine-free methods of production. More such voluntary initiatives are obviously needed within various industrial sectors. At the same time, large buyers and large numbers of concerned consumers can help promote a shift in business practices away from POPs, and toward clean production.

Our decades of experience with persistent chemicals have demonstrated unequivocally that there is no way to manage POPs. The only responsible course is to eliminate their production, use, and release as quickly as possible, while recognizing and addressing the special circumstances of developing countries in need of assistance. The time has come to stop this experiment with "hand-me-down poisons" before it does more irreparable damage to wildlife, children, and adults.

For the complete version of this WWF Issues Brief, visit WWF's Global Toxics Initiative Web site at <http://www.worldwildlife.org/toxics/>.

/linkages/journal/



/TOPIC - BIODIVERSITY

/BIOSAFETY: AN INDUSTRY PERSPECTIVE AS THE DEADLINE APPROACHES

*Val Giddings, Ph.D., Vice
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As the final negotiating session of the Biosafety Protocol looms, the issues emerge with an unprecedented clarity. How they are resolved will be enormously significant to many different stakeholders: industry, of course, but also to those concerned for biodiversity, those who would like to see future economic development follow a more sustainable path than in the past, and particularly those who understand the enormous challenges facing agriculture around the world as we contemplate the continuing growth of the human population. It is possible, if they make wise decisions, that delegates com-

ing to Cartagena may make a substantial positive contribution toward some very important objectives. They may help production agriculture as it struggles to become more sustainable and productive by stimulating and speeding the development and dissemination of the best, safest, new agricultural products and techniques. And delegates may fulfill the hopes of many around the world that the Biodiversity Convention will emerge as a constructive and respected vehicle to enhance global stewardship of the environment. But all this is contingent on the delegates producing a pragmatic and realistic biosafety protocol. What are the key issues?

Above all, scope. There are two elements to the scope issue—scope of the protocol and scope of the Advance Informed Agreement (AIA) mechanism. The mandate of the Conference of the Parties is clearly laid out in COP Decision II/5: the protocol should focus “on transboundary movement, of any living modified organism resulting from modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity...”. Some have argued that the protocol scope should be expanded to include dead products of LMOs, such as pharmaceutical compounds, or materials intended for consumption or use in containment, such as commodity shipments of grain. Such an expansion of the protocol scope would not only be scientifically unsupportable, but it would result in a document manifestly not serious about its mandate. If implemented, global trade would be massively disrupted, hope for the biodiversity convention itself could be irrevocably shattered, and all with no benefit to the environment.

The AIA should be reserved for what is, in fact, a small subset of the LMOs that move across international boundaries—those that realistically present the potential for adverse impacts on biodiversity. A mechanism that fails to distinguish between LMOs that deserve scrutiny because they are likely to be problematic, or where there are significant unknowns, from those amply shown to be no different than traditional materials, will burden regulators with wasteful tasks that benefit no one. Assertions that there are still too many unknowns, that more research is needed, are astonishingly unburdened by any familiarity with our actual experience.

Transgenic crops were grown this past season on over 70 million acres worldwide, nearly 60 million acres in the U.S. alone. Genetically engineered crops have substantially cut the need for farmers to use a variety of costly inputs, most notably pesticides and herbicides. The only surprises have been at unexpected environmental benefits: improved weed control reduces the need for insect pest control by eliminating havens from which insects re-colonize fields; and more efficient pest control reduces insect damage and increases efficiency of fertilizer uptake, which in turn reduces contamination of runoff water. In fact, these technologies are so beneficial to farmers that every last seed that has been put up for sale has been bought by farmers exercising their own judgement and freedom of choice, to the enduring benefit of the global environment.

There are many other key issues too—capacity building, liability and compensation, treatment of confidential business information, trade with non-parties, socioeconomic impacts, and more. But as a practical matter, none of them will be important unless the issues of scope are resolved in a pragmatic way. Without a realistic outcome on the issue of scope, no Protocol can be workable. The negative consequences of such an outcome are something we can all agree should be avoided.

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/linkages/journal/



TOPIC - POPULATION

ARE THERE TOO MANY PEOPLE ON THE PLANET?: AN OVERVIEW OF CAIRO + 5

by Susan Davis

These days, the only people who still talk about “population controllers” are the anti-abortion fundamentalist minority. It seems that most everyone else who cares about the future of our planet and survival of our species has abandoned the language and trappings of “population control” in favor of women’s empowerment, choice and female education. How did this sea change happen? What does it mean? Will it last?

The debates in Cairo at the International Conference on Population and Development in 1994 focused more on feminism than on population control. Indeed, there is not even one reference to ‘population control’ in the 100+ page document. While the largely feminist tone may be “language co-optation,” there is a neo-Malthusian current that occasionally surfaces. A key question is to what extent does the “common ground” alliance between feminists and ‘population controllers’ remain intact?

Neo-Malthusians seeking to reduce population growth have demonstrated their willingness to call for the education of girls and women. They have backed up that call with resources and increased support. Given the dramatic changes in the global economy, the crucial question now is how this new awareness will influence the debate on new financial architecture. For example, will they call for “land reform, the redistribution of economic and political power, and the repudiation of international debt” as radical feminists challenged them to do a decade ago?

Advocates for women’s rights reluctantly accepted the expressions of concern in the Cairo document about population growth. Feminist wariness originates from viewing the history of population control as one based on “eugenic, racist, sexist and exploitative actions against certain races and classes of people.” It also arises from antipathy towards instrumentalist approaches. Feminists advocate education for girls as a matter of social justice, not simply as an efficient means to fertility control. As advocates of gender equality adopt the language of the market and argue that “investing in women” is economically efficient, there is inevitably some tension among human rights advocates. The difficulty surfaces because of trade-offs and resource allocations among competing priorities.

Five years after that landmark event in Cairo, the international conference on population and development, the global community of the world’s governments, legislators, funders, service providers and advocates are gathering again to take stock, assess and re-calibrate the long-term plan adopted amidst the pyramids. The review process will be predictably political and cumbersome; its dividends will provoke further questions. Nevertheless, organizers of the Cairo + 5 process ostensibly learned many lessons from the disappointing Rio + 5 process in 1997. And, undeniably, Cairo + 5 directions affect us all. The following is a quick overview of what to expect from this

process and how NGOs participating in it have framed the agenda for advocacy and negotiations.

Cairo + 5 Issue Clusters

Resources and advocacy: The availability of resources and strong advocacy, not only to mobilize these resources but also to bring about change, are critical components for the implementation of the ICPD Programme of Action. This issue area will focus for example on the mobilization of funding—what NGOs have learned about resource effectiveness; how NGOs can be involved in lobbying for more resources for the Cairo agenda in the next five years; what advocacy strategies have been most effective in reaching policy makers; and how to increase contributions by countries commensurate with the relative size of their economies.

ICPD ethos in practice—implementing policies and services: Discussions around the ICPD ethos in practice will consider issues such as the paradigm shift from family planning to sexual and reproductive health and access to quality sexual and reproductive health information and services for all sectors of society, particularly young people and other vulnerable and disadvantaged groups.

Rights—rhetoric to reality: As the Cairo Conference stressed the importance of reproductive rights, which were reinforced and strengthened at the Beijing Fourth World Conference on Women, this issue area will take up such issues as what sexual and reproductive rights mean in different societies; to what extent they are recognized and operationalized with respect to both policies and services; and how governments, service providers and others are accountable in this area.

Partnerships: To achieve the goals of the ICPD Programme of Action partnerships will need to be developed and/or strengthened between NGOs and other key actors such as governments, intergovernmental agencies, the private sector and other parts of civil society. These might include partnerships between government and NGOs in providing appropriate and accessible services for young people or between NGOs and religious and community leaders in order to work to reduce the prevalence of harmful practices such as female genital mutilation (FGM).

Links between reproductive health, population, environment and development: Since Cairo, the main emphasis on the implementation of its outcomes has been on reproductive health. This area will include issues such as the extent to which reproductive health has addressed the concerns surrounding environment and sustainable development and how stronger linkages can be developed, both in policies and in programmes.

Gender and Youth are cross-cutting issues: Is implementation gender-based or youth-based; what indicators are being used; and to what extent are women and young people involved in the decision-making process from planning to monitoring and evaluation.

The Cairo + 5 Process

Similar to other UN processes, the five-year review of ICPD is comprised of a series of expert group meetings, technical consultations, regional meetings, preparatory committee meetings and culminating in a special session of the General Assembly June 30-July 2, 1999 in New York. In 1998, UNFPA organized three technical consultations, three expert group meetings and participated in one special consultation. In addition, every UN regional organization carried out its review session. With support from the Dutch government, UNFPA is organizing a special global meeting in The Hague February 8-12. In advance of this government gathering, NGOs, youth and parliamentarians are holding their own forums. The

March meeting of the Commission for Population and Development will become the precom for the Cairo + 5 special session.

Overall, the UNFPA staff have been open and inclusive during the planning and preparations for Cairo + 5. A broad-based constituency has been actively involved throughout and information has been widely accessible through the Internet. Civil society organizations have worked well together to pool their resources, maintain their common ground alliance and maximize results.

Assessment of Progress and Areas for Further Negotiation

Money Matters: The ICPD Programme of Action made headlines because it included a US\$17 billion annual price tag by the year 2000 to make quality reproductive health services available to all in need of them. The international community's deal was that two-thirds would be financed by developing countries and donor countries would pick up the remaining one-third.

Not surprisingly, both donor and developing countries remain far from achieving the year 2000 ICPD funding goals according to reports by UNFPA and major NGOs such as Population Action Institute. Total spending on reproductive health in developing countries was about \$10 billion in 1996. Overall, eight donor nations paid for 90% of all external contributions (Denmark, Germany, Japan, Netherlands, Norway, Sweden, the United Kingdom and the United States), but donors contributed only one-fifth of the costs of the global effort in 1996, rather than the one-third agreed on in Cairo. According to PAI, this represented at most 35 percent of the year 2000 contribution required from donor nations. In contrast, developing countries provided roughly 70 percent of their US\$11.3 billion target for the year 2000. However, a few large Asian countries (Bangladesh, China, India and Indonesia) account for the bulk of domestic reproductive health spending.

PAI also notes that "Financial contributions from many governments remain negligible, including donor countries such as France and Italy and many developing countries in Africa and Latin America. Private household expenditures on reproductive health also vary greatly from country to country; overall, they represent an underutilized source of additional financing for reproductive health care."

The bottom line is that money is a metaphor for power in the market economy and money matters. Indeed, some cynical observers suggest that the entire Cairo + 5 process is a fundraising exercise by UNFPA and its NGO partners. Others point to the significant changes in the global economy and the radically altered development context. As the world begins discussing a new financial architecture for our global home, advocates at Cairo + 5 may wisely ask, who's building the floor? And will there be a ceiling? It is likely that the Financing for Development negotiations will become increasingly important in resolving these questions. There will be considerable attention on resources, but don't expect much of a breakthrough during Cairo + 5.

Shifts in practice: Governments agreed, albeit with some reservations, that "Everyone has the right to the enjoyment of the highest attainable standard of physical and mental health. States should take all appropriate measures to ensure, on a basis of equality of men and women, universal access to health-care services, including those related to reproductive health care, which includes family planning and sexual health. Reproductive health-care programs should provide the widest range of services without any form of coercion. All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so."

NGOs such as IPPF, FCI, IWHC, CEDPA and many others have led the way in shifting practices and improving services. After Cairo, few deny that the cost of denying sexual and reproductive rights is unacceptably high. UNFPA estimates that it has the following effects:

- 585,000 women - one every minute - die each year from causes related to pregnancy.
- About 200,000 maternal deaths each year result from lack or failure of contraceptive services. 120-150 million women who want to limit or space their pregnancies are still without the means to do so effectively. At least 75 million pregnancies each year (out of a total of 175 million) are unwanted; they result in 45 million abortions and over 30 million live births. 70,000 women die each year as a result of unsafe abortion: an unknown number suffer from infection and other health consequences.
- One million people die each year from reproductive tract infections, including sexually transmitted diseases (STDs) other than HIV/AIDS. There are an estimated 333 million new cases of STDs per year. Six out of ten women in many countries have a sexually transmitted disease. All face a higher risk of infertility, cervical cancer, or other serious health problems. 3.1 million people in 1996 were infected by the human immunodeficiency virus (HIV) which leads to AIDS. 120 million women have suffered female genital mutilation; another 2 million are at risk each year. The international community and governments have condemned the practice, yet it remains widespread in 28 countries.

The Vatican and its supporters disagree on the above assessment. They argue that the cost to the unborn is paramount and use figures such as worldwide, abortions range from 150 million to 500 million a year, or 300 to 1,000 per minute. They juxtapose these large numbers against only 120 million births a year. They also reject the number of maternal deaths, 585,000 estimated to occur a year as a result of unsafe abortions and proper reproductive health care.

Indeed, abortion is the Achilles' heel of the Cairo strategy. It is the basis of the current politics of paranoia that is threatening multilateralism as evidenced by the ability of this narrow minority to hold hostage US foreign policy and contributions to the UN and related agencies. The manifestations of paranoid politics are the repeated attempts to read everything as "code words" for abortion or homosexuality. Even recent negotiations in Rome on the International Criminal Court fell prey to such games around the term "forced pregnancy" which was being used to describe the repeated rapes of women with the intent to impregnate them. The anti-abortionists rejected this term on the grounds that it was a 'code word' and back door for abortion on demand. No one expects this faction to go away, hence the debate will continue. Fortunately, as reproductive and sexual health services improve, UNPFA is finding evidence that the number of abortions decline. Other pragmatists are betting on technological developments that make 'the morning after' pill widely available and render the debate moot.

Righting wrongs

Governments tried to negotiate an agreement on the most sensitive and personal issues. ICPD is about love and sex, marriage and fidelity, birth and death. It intersects with culture and tradition, religion and politics, economics and ecology. The reproduction of our species has also reproduced inequalities that became unacceptable.

Indeed, the Vatican and a few others worry about women's right to say "yes" to sex and childbearing outside of marriage but in fact, Cairo is more about the right to say "no" to sex and childbearing at any age and under any conditions or marital status. The negotiations by governments took into account gender differentiated power. Just as rape is about power, not sex, so too is the negotiation with a partner engage in sex, to use contraception and to get married. While abstinence and fidelity may be a better means of protection than condoms against HIV/AIDS and other sexually transmitted diseases, the current realities of gender roles make such a stance naïve and impractical. In Africa, it is life threatening: ravaged by AIDS, life expectancy has dropped to 47 years from 54 years.

Cairo established that "reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children, and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health. It also includes their right to make decisions concerning reproduction free of discrimination, coercion and violence, as expressed in human rights documents. In the exercise of this right, they should take into account the needs of their living and future children and their responsibilities towards the community. The promotion of the responsible exercise of these rights for all people should be the fundamental basis for government- and community-supported policies and programmes in the area of reproductive health, including family planning. As part of their commitment, full attention should be given to the promotion of mutually respectful and equitable gender relations and particularly to meeting the education and service needs of adolescents to enable them to deal in a positive and responsible way with their sexuality." Other ICPD Principles include the right to education and to gender equity.

A year after Cairo, governments agreed in the Beijing Platform for Action that the human rights of women "include their right to have control over and decide freely and responsibly on matters related to their sexuality, including sexual and reproductive health, free from coercion, discrimination and violence."

Power struggles and control issues are fundamental to these debates. They go to the core of the role of the state, the church and the family. Expect more emotional negotiations in this area particularly in the area of adolescents and gender.

For example, there is still a strong current that pits the state against "parents' rights." Anti-abortion activists tend to misconstrue the ICPD references to adolescents as a nefarious plot to encourage sexual freedom of 10 year olds, citing WHO's definition of adolescents. In most countries, girls who are educated, especially who attend secondary school, are more likely to delay marriage and childbearing. Girls with less education are more likely to become mothers as adolescents. In fact, some 15 million girls, aged 15 to 19 years, give birth every year. Another 5 million have abortions. In Asia, adolescent mothers tend to be married. The same is true for Sub-Saharan African countries. In industrialized countries, girls tend to marry later but initiate sexual activity in their middle to late teens. While there is a decline in teen pregnancy, the US still has the highest rate of teenage pregnancy among Western nations: 4 out of 10 girls will become pregnant at least once before they turn 20, 80% of them while unmarried.

In most countries, girls who are educated, especially who attend secondary school, are more likely to delay marriage and childbearing. Girls with less education are more likely to become mothers as adolescents. Indeed, there is ample evidence of steady progress in

educating girls and reducing the gender gap in education. However a recent PAI study found that 51 countries still have significant gender disparities in education. There were 75 million fewer girls than boys in school.

However, achieving gender equality, equity, and the empowerment of women goes far beyond eliminating gender gaps in education. There has been significant attention to awareness raising and improved strategies to eliminate violence against women which includes a range of specialized forms such as trafficking in women and girls, female genital mutilation, child abuse, child marriage, rape and battering.

Another area for highly emotional negotiations will most likely be in the assessment of male involvement and appropriate programs and services. Despite much language in the ICPD Programme of Action regarding gender equity and equality, the difference between the terms 'women's rights' and 'male involvement' are poorly understood. Increasing calls for "male involvement" has often been interpreted as increased attention to male access to reproductive health care services on the grounds of men having "equal rights" to services. This trend is at odds with the language adopted in Cairo that clearly states as the basis for action in the area of male responsibility and participation.

This issue is particularly significant as resources for sexual and reproductive health are relatively scarce, and more funding for "male involvement" is likely to come from budgets which would otherwise have been available to improve women's sexual and reproductive health despite higher reproductive morbidity and mortality of women.

Partners

Government officials, UNFPA and NGOs widely believe that forming and sustaining partnerships has been a crucial element in making the concepts and proposed actions of the ICPD both operational and development-oriented. Indeed, the HERA network suggests that research evidence supports this conclusion.

Partnerships seem to work well when basic principles like equality and democracy are respected. Certainly partners who share common goals, receive mutual benefits and who share certain ideological beliefs seem to sustain alliances over time. Others have successfully used coalition building and networking, core strategies of the women's movement, during the Cairo process as well.

In November 1997, the Vatican reportedly called for more NGOs that were 'pro-life' and 'pro-family' to become accredited with the UN. A new Catholic Family and Human Rights Institute was set up across the street from the UN to mimic activities of their feminist opponents. Their weekly fax regular covers population issues and keeps close tabs on UNFPA and their 'enemies,' i.e. feminists who are pro-choice and homosexuals who somehow threaten the traditional family by their very existence.

During the five years since Cairo, there have been many changes in our worlds, some of which impact on all of us and some of which are very area or country-specific. Many organizations have found, for instance, that changes in government often require a change in strategies or plans and partnerships, and therefore certain flexibility in implementation. In a number of countries, there is a need to strengthen government-NGO partnerships. Some governments still attempt to control and limit the activities of NGOs under the professed goal of improving coordination within the NGO community. In addition, a number of governments still view NGOs as unwelcome competitors for donor funds.

Expect to hear a lot more debate about accountability, transparency, and capacity building. All of these words mask underlying tensions in unequal partnership arrangements.

Links among reproduction, population, environment and development

At Cairo + 5, the global progress on slowing down the overall population growth rate may lead to the unraveling of the carefully-constructed political consensus. Since 1996, there has been a reduction of a half billion and since 1994, almost one billion as the population growth rates declined from 1.37% to 1.33% and projected to be .45% in 2050. The population estimates have declined from 7.6 billion to 11.1 billion in 2050 to 7.3 billion to 10.7 billion. Two years ago, there were 51 countries with below replacement level fertility rates; today there are 61 countries. The point is that unless we radically depart from the path we are now on, most experts conclude that we will never double our global population again.

The expert demographers are all talking about the "gray dawn" i.e. the aging of the population. These demographics have enormous implications for work and social security. It is likely to generate dramatic shifts in our political and cultural landscapes.

Fertility control and reproduction of life is moving ever more quickly along new frontiers of science that are likely to spark intense new policy debates. In an age of cloning, where the global economy will be shaped by biotechnology and biomaterials, much the same way the last part of the 20th Century was shaped by the revolution in computer and information technologies. As evidenced by the tremendous public discussion around genetic engineering, these new debates on ethics, rights and wrongs will be particularly challenging for policy-makers concerned with population and development policies including reproductive and sexual health.

Food security will become more in political and policy circles. Will the public let ADM become the 'supermarket to the world' or will their be limits to the centralization of agriculture?

We have 15 years ahead of us to complete the goals and actions agreed upon at Cairo in 1994. The ICPD+5 evaluation is an opportunity to take stock of our collective progress and reassess the appropriateness of our goals. At minimum, this process can highlight ways to enhance what's working and to promote new partnerships.

Perhaps the old debate on whether we have too many people on the planet is slowly being transformed. Viewed from above, Earth is one. Nation-state boundaries do not exist to complicate this question. With the transition to a global economy and the globalization of capital, the pressure on other factors of production increases. Are we creating a global labor market? International migration policies remain political lightning rods and too hot to touch at present. But the pressure on policy-makers to create a social floor for the global economy will increase. Thus, the key question is not are there too many people but how many enlightened people do we have on the planet? The answer at this time is, clearly, not enough.

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TOPIC - CLIMATE CHANGE

POPULATION, CONSUMPTION AND ATMOSPHERIC EQUITY

By Robert Engelman, Population Action International

The topic was only barely on the table at Fourth Conference of the Parties, but the issue of the fairness of current greenhouse-gas emissions patterns hovered over the recently completed negotiations in Buenos Aires.

The nature of the commitments agreed to in 1997 in the Kyoto Protocol obscured the point, but it really isn't so much nations – the size of which may be accidents of history, geography and demography – that emit greenhouse gases. It is human beings, living real lives, and possessing a framework of individual rights that has not yet evolved to capture this increasingly important one: the right to use the global atmosphere in ways that do not jeopardize the environment or other human beings.

Some human beings today send dozens of times their own body weight in carbon into the atmosphere, and take for granted their right to keep doing so, despite the impact of these emissions on other human beings who may send skyward less than their own weight. But as climate change becomes a more urgent public issue, and as governments face the need to shrink the global emissions total, more attention is likely to focus on the vast disparities in per capita emissions of carbon dioxide and other greenhouse gases.

One of the ironies of this change of focus will be an increase in interest in the impacts of different population futures on the goal of slowing human-induced climate change without impoverishing humanity. Indeed, the critical link between population and climate change can only be addressed from a perspective of equal access to the carbon-cycling properties of the atmosphere. Absent such perspective, population's role in climate change tends to be obscured by the yawning gap between high and low per-capita emitters of greenhouse gases. There seems little scope for considering population's role in future climate change while the industrialized countries, whose populations are growing relatively slowly and represent only a fifth of the world's total, contribute two-thirds of all greenhouse gas emissions.

Linked to the key concepts of climate sustainability and atmospheric equity, however, population trends emerge along with technological innovation as the greatest source of hope that humanity may actually succeed in resolving the problem of climate change before catastrophic ecological change has occurred. To illustrate this key point and to demonstrate the importance of per capita emissions to understanding climate change, Population Action International released in Buenos Aires an update to its 1994 climate report (*Stabilizing the Atmosphere: Population, Consumption and Greenhouse Gases*, excerpted in *Tiempo* No. 16, June 1995). The new report, *Profiles in Carbon: An Update on Population, Consumption and Carbon Dioxide Emissions*, features a nearly half-century record of the per-capita CO₂ emissions of 179 countries, most of which are

also ranked graphically by their 1995 emissions. The disparities in per capita emissions are vast indeed, demonstrating the impact unequal consumption patterns have on atmospheric change. According to PAI's analysis, 20 percent of the world's population is responsible for 63 percent of CO₂ emissions, while another 20 percent is responsible for only 2 percent of these emissions. This inequity correlates to some degree with per capita income and is similar to inequalities in wealth identified recently by the United Nations Development Program in its Human Development Index.

Those populations with the most financial and technical resources to adapt to climate change are disproportionately putting at risk other populations who lack these resources – and who are scarcely contributing to the problem, if at all. The situation is even less just given recent predictions that agriculture in the temperate latitudes may experience few serious impacts from climate change, while farmers in the tropical latitudes of the developing world may face significant challenges in food production. Climate change "winners" are considered likely to be the most northern populations of North America, Europe and Asia, where only a tiny fraction of the world's 5.9 billion people live.

Consider the estimate of the Intergovernmental Panel on Climate Change that global carbon emissions would need to be cut by at least 60 percent to stabilize CO₂ concentrations at roughly current levels. This suggests that, based on 1995 CO₂ emissions and population data, 2.55 billion human beings living in 69 countries emitted so little carbon dioxide on a per capita basis they essentially were helping to bring the atmosphere into balance. These people were hardly compensated for their global good citizenship, and in fact they were living in poverty in close correlation to the magnitude of their contribution.

These figures do not include emissions from biomass burning and land-use changes because of a lack of comparable country data. No doubt the full picture would reduce the proportion of "under-emitters" relative to "over-emitters" to some extent. Fossil fuel carbon is fundamentally different from that found in trees and soils, however, in one important respect: It was accumulated over hundreds of millions of years and buried securely underground. Once it is in the atmosphere – or in plants, soils and oceans – it will never be locked away so securely again.

In any event, the point remains the same. One of the best arguments against voluntary emission commitments by non-Annex I countries (a major topic of discussion in Buenos Aires) is this: Such commitments could result in long-term limits on per capita emissions that, even if generous by the country's historical standards, would condemn its citizenry to second-class status in using the world's fossil fuel reserves. And these are arguably the natural resource most associated, in today's world, with prosperity. What government would agree to that?

Much more likely, eventually, is a climate agreement that drives global emissions reductions through incentives based on the equal human right to use the atmosphere. This could take the form of government-to-government tradable emission permits based on the per capita emissions of trading partners. Both the benchmark for trading and the price of trades could be set by international agreement, through a process that would reflect public perceptions of the urgency of climate change and political will to address it. The goal would be to bring global emissions as close as possible to agreed-upon ceilings aimed at stabilizing atmosphere and climate, respecting equal human rights to use the atmosphere.

Where human population goes as climate change unfolds, however, will make a huge difference to how generous individual emissions allocations will be in the coming centuries. The good news is that, contrary to the assumptions of many analysts in the climate change field, the range of possible population paths in the 21st and 22nd centuries is wide indeed. Whether world population doubles or triples yet again or peaks by the middle of the next century depends in large part on policies and programs that governments put into place today. All the world's governments agreed on the principles and strategies governing these policies in 1994 at a historic international conference on population and development held in Cairo. All action on population, the nations agreed, should be grounded in human rights and the free and informed decisions that individuals and couples make about their childbearing. In particular, population policies and programs consist of social investments in human development – especially improved access to family planning and related health services, to education for girls, and to economic opportunities for women.

Global population policies are thus founded on the same basic principles of human rights and fair opportunities for development that governments are struggling to respect while addressing climate change through the Framework Convention on Climate Change and the Kyoto Protocol. If governments follow through on the commitments made in Cairo in 1994, the future of world population change could resemble the United Nations long-term low population scenario, which extends to the year 2150. Intriguingly, this curve somewhat resembles another curve representing a global carbon dioxide emissions path that would be needed to stabilize atmospheric CO₂ concentrations at 450 parts per million by volume, just under a doubling from pre-industrial times. This path was proposed by T. M. L. Wigley, R. Richels and J. A. Edmonds in *Nature* in January 1996.

If one converts the historic and proposed global CO₂ emissions path to comparable per-capita emissions paths based on the full range of UN population scenarios, the result is instructive. If population follows the high path, growing to 27 billion people by 2150, the resulting global per capita emission capable of stabilizing atmospheric carbon in that year would need to be held to the level of per capita carbon emissions in the middle of the 19th century. Under the low population projection, by contrast, with world population peaking around 7.7 billion and then gradually declining to 3.6 billion in 2150, the climate-sustainable per capita emission amounts to what it was just prior to World War II. The figure would actually be growing in the first half of the 22nd century, as world population gradually declined in the context of a relatively stable global ceiling on emissions.

Obviously a transformation of energy use from waste to efficiency and from carbon to non-carbon sources will need to occur between today and 2150, regardless of feasible demographic change. Just as clearly, the challenge this transition poses will be eased by a lower rather than higher population trajectory, and that difference could prove critical to the global environment.

In recent decades the Law of the Sea established a key principle: All human beings share an equal right to use the common property of humankind. Surely the atmosphere is such a global commons. Ultimately, the world's governments will need to recognize that long-term efforts to slow climate change will depend on a fair allocation of that right based on per-capita, much more than national, emissions of greenhouse gases. Once governments come to this realization, they are likely to reassess the priority of another historic

agreement: the Programme of Action agreed to at the International Conference on Population and Development in 1994.

That agreement provides a road map to a stable or even gradually declining population in the next century, based on the healthy childbearing decisions of free and informed couples and individuals. It also points the way to a world in which all human beings have access to the global atmosphere for modest emissions of greenhouse gases that could continue indefinitely into the future without adding to the risk of human-induced climate change.

Robert Engelman directs the Population and Environment Program at Population Action International in Washington, DC. The report referred to in the article, Profiles in Carbon: An Update on Population, Consumption and Carbon Dioxide Emissions, is available at no cost by contacting Akia Talbot; e-mail: atalbot@popact.org or by writing to her at Population Action International, 1120 19th Street, N.W., Ste. 550, Washington, DC 20036. The report is also available at PAI's website, http://www.populationaction.org/why_pop/carbon/carbon_index.htm/

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/linkages/journal/



/TOPIC - WETLANDS

/RAMSAR'S COP7: ACCELERATING THE APPLICATION OF THE WISE USE PRINCIPLE

Delmar Blasco, Secretary General

The Convention on Wetlands (Ramsar, Iran, 1971)

The Convention on Wetlands (Ramsar, Iran, 1971), while perhaps best known for the List of Wetlands of International Importance, is also one of the global instruments promoting sustainable development of our natural resources through its Wise Use principle. The Convention defines Wise Use as “*sustainable utilisation for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem*”.

The Convention's 1993 publication, “*Towards the Wise Use of Wetlands*”, documented 17 local, national, and international case studies showing wise use in action. Since then successive Conferences of the Contracting Parties have contributed to the further development of the principle through a range of Resolutions and Recommendations that have refined the major themes contained in the Wise Use Guidelines (Recommendation 4.10, 1990) and the Additional Guidance for the Implementation of the Wise Use Concept (Resolution 5.6, 1993).

Ramsar's 7th COP in San José, Costa Rica (10-18 May 1999), promises to provide detailed guidance to the Contracting Parties on a range of the key elements which should be considered when im-

plementing Wise Use. It is expected that the participants in Costa Rica will have before them for consideration draft guidelines on :

- developing and implementing National Wetland Policies;
- establishing participatory approaches to involve local communities and indigenous people in the management of wetlands;
- establishing programmes for education, public awareness and communications (the Convention's Outreach Programme);
- reviewing laws and institutions for wetland conservation and wise use;
- integrating wetlands conservation and wise use into river basin management;
- international cooperation under the Convention, including development assistance;
- wetland risk assessment and methods for predicting change in ecological character;
- taking a strategic approach to designating sites for the List of Wetlands of International Importance;
- priorities for wetland inventory at the global scale.

In addition, there will be keynote papers that will help to chart the course for the Convention up to its next COP in 2002 on:

- alien/invasive species and wetlands;
- wetlands and human health;
- Ramsar's role in responding to the global water crisis;
- wetlands as an element of National Water Policies;
- management of shared wetlands and river basins;
- restoration of wetlands as an element of policy and administration;
- incentive measures for promoting wetland conservation and wise use;
- strategic, environmental and social impact assessment under the Ramsar Convention;
- further guidance on management planning at Ramsar sites and other wetlands;
- global measures to conserve peatlands and mires

Ramsar's 7th COP will be a very busy meeting, but also one that provides assistance to the Contracting Parties on a full slate of issues which should allow the Convention's Wise Use principle to be implemented more effectively.

This same conference will also provide an opportunity to review the successes and continuing challenges for the Convention as it will mark the halfway point for the Strategic Plan adopted at the 6th COP in Brisbane, Australia, in 1996. The National Reports that have been submitted to the Convention Bureau and published on the Ramsar Web site (<http://ramsar.org>) are providing the information to make this assessment of progress possible. COP7 will also allow the Ramsar Convention to indicate with some degree of precision which areas of the Strategic Plan require more energy, commitment and resources at the global, regional and national scales. Through this, and the exciting technical and policy programme of the COP described above, the Ramsar Convention will continue to support its signatories with practical, hands-on guidance and assistance, while also setting out clear challenges and strategic direction for the future.

All of the documentation for Ramsar COP7 is presently being published on the Ramsar Web site, in Web, Word, and PDF formats, as it becomes finalized.

The RAMSAR site can be found at Internet: <http://w3.ipro-link.ch/iucnlib/themes/ramsar/>

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TOPIC - TRADE AND ENVIRONMENT

FIDEL, SADDAM AND THE WORLD TRADE ORGANIZATION

*by Stephen L. Kass and Jean M. McCarroll
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In a previous column, ("Sea Turtles and World Trade," New York Law Journal, April 24, 1998, 3:1), we discussed an April 6 decision by a Dispute Settlement Panel of the World Trade Organization (WTO) in the *Shrimp/Turtle* case that held that a U. S. Law, §609 of P.L. 101-162 (prohibiting the import of shrimp from countries that do not require "Turtle Excluder Devices" (TEDs) on fishing vessels to protect endangered sea turtles), violated the General Agreement on Tariffs and Trade (GATT) by improperly discriminating against trade with such countries.

We sharply criticized the panel decision for adopting an excessively narrow view of GATT's Article XX, which authorizes restrictions on international trade to protect the environment, and expressed the hope that the WTO's appellate body would either reverse or at least correct the major excesses of the Panel's decision. Failure to do so, we suggested, would seem to confirm the fears of those U.S. environmentalists who believe that global free trade threatens the validity of U.S. environmental standards in both domestic and international arenas.

On Oct. 12, the WTO's appellate body issued its decision affirming, but significantly modifying, the panel's report in the *Shrimp/Turtle* case. Because it represents the latest statement of WTO law on the subject, the appellate body's opinion sheds important light on the continuing tension between the international business community's desire to eliminate non-tariff barriers to trade and environmentalists' efforts to defend both domestic and international efforts to protect the environment.

Neither of these goals may appear to have much to do with Fidel Castro or, worse, Saddam Hussein. Yet, as explained below, international resentment toward a growing U.S. propensity for unilateral action to deal with complex international issues has a direct bearing on the world's willingness to accept U.S. decisions as to the proper balance between environmental protection and economic growth, particularly in developing nations. As a result, otherwise reasonable U.S. environmental standards may continue to be suspect if they fail to reflect multilateral views on the most appropriate ways to protect the global environment.

Background

Migrating sea turtles are "threatened with extinction" and, as such, entitled to the highest level of protection under the Convention on International Trade in Endangered Species (CITES). CITES protection, however, does little to protect sea turtles against the hazards of incidental "by-catch" by commercial shrimp vessels, whose nets

routinely capture sea turtles in both coastal and international waters around the world. To reduce (and effectively avoid) this by-catch, in 1987 the U.S. required all U.S. commercial shrimpers to employ TEDs.

In 1989, Congress enacted §609, which banned imported shrimp from vessels that failed to employ TEDs. In 1996, the U.S. Court of International Trade held that this required the Secretary of Commerce to prohibit the entry of shrimp from *all* commercial vessels from any nation failing to require TEDs on its commercial shrimp fleet, even if the shrimp in question were caught with TEDs. (Although this decision was later reversed by the Federal Circuit Court of Appeals, the WTO case was argued before that reversal.)

The import ban was challenged by India, Pakistan, Thailand and Malaysia, who were joined by Australia, Ecuador, China, Nigeria and the European Communities in alleging that §609 amounted to an illegal restriction on trade under GATT Article XI and was not entitled to the limited protection that GATT Article XX affords to non-discriminatory environmental measures.

GATT's basic premise is that international trade can flourish best in the absence of non-tariff barriers to the free movement of goods across borders. Nevertheless, Article XX permits an exception to this principle if a member state can show that its import restrictions meet both the threshold conditions of the article (known as its "chapeau") and the specific requirements of one or more paragraphs of that article:

Article XX, General Exceptions

Subject to the requirement that such measures are not applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

(b) necessary to protect human, animal or plant life or health;

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restriction on domestic production or consumption.

In its April decision, the WTO panel did not reach the issue of whether §609 satisfied the requirements of either Paragraph (b) (measures "necessary to protect ... animal ... life") or Paragraph (g) (measures "relating to the conservation of exhaustible natural resources"), as claimed by the U.S. It found, instead, that §609 did not satisfy the chapeau of Article XX since, in the panel's view, *any* unilateral environmental measure that restricted trade amounted to "unjustifiable discrimination" that threatened to undermine the WTO.

It was this wholesale refusal of the panel to consider the validity of any unilateral environmental measure restricting trade that was most vehemently attacked by the environmental community and, on appeal, by the U.S. in its brief to the appellate body.

Appellate Body Decision

The WTO appellate body affirmed the panel's ultimate finding that §609 failed to meet the threshold test of Article XX's chapeau and thus constituted "unjustifiable discrimination" in violation of GATT's Article XI. In arriving at this conclusion, however, the ap-

pellate body took pains to repair the damage done by the panel to the uneasy *modus vivendi* between trade law and environmental law and to demonstrate that, at least in some circumstances, Article XX could be applied in a way that permits international action to protect the environment even at the expense of free trade.

The appellate body's decision began with a polite reprimand to the panel for refusing, as a matter of law, to accept submissions from the numerous U.S. non-governmental organizations (NGOs) that had sought to submit *amicus curiae* briefs in defense of §609.

The panel had permitted the U.S., as a party to the dispute, to attach to its brief whatever NGO positions it wished to bring to the panel's attention (as part of the U.S.'s own statement), but the panel had found no basis for direct NGO submissions, which it clearly viewed as disruptive of orderly litigation among states. The appellate body, however, pointed out that WTO panels had ample authority to *request*, and thus to accept, NGO submissions where the panel believes such submissions can be helpful to its analysis.

Although this leaves future WTO panels free to reject NGO submissions in their discretion, even this first step toward acceptance of an *amicus* role for environmental (and other) NGOs is significant. While every government is eager to promote its nation's trade, relatively few are prepared to devote significant resources and political capital to defending the global (or even their domestic) environment in the face of possible trade disadvantages.

It has become increasingly apparent that the strongest supporters of many of the environmental measures challenged in trade disputes are not the governments involved but those NGOs that lobbied for their enactment in the first place. While many NGOs seek an absolute right to *amicus* status in WTO proceedings, the appellate body opinion represents an important advance over prior WTO practice and, as a practical matter, may prove more workable than permitting many conflicting *as-of-right* submissions from the hundreds of NGOs potentially interested in disputes affecting global trade.

The appellate body next turned to the underlying basis for the panel's decision -- and squarely rejected it. The panel erred, the appellate body said, in addressing the question of whether §609 was "unjustifiable" under Article XX's chapeau without first considering the environmental purpose and context of that statute under the specific authorizing language of Paragraphs (b) and (g). This was necessary in order to make an informed determination as to whether §609 was warranted by its environmental purposes, rather than, as the panel had done, simply declaring that *any* unilateral restriction on trade threatened to undermine GATT and was therefore "unjustifiable."

The panel's standard, wrote the appellate body, finds no basis either in the text of the chapeau or in that of either of the two specific exceptions claimed by the United States. The Panel, in effect, constructed an *a priori* test that purports to define a category of measures which ... fall outside the justifying protection of Article XX's chapeau It is not necessary to assume that requiring from exporting countries compliance with, or adoption of, certain policies (although covered in principle by one or another of the exceptions) prescribed by the importing country, renders a measure *a priori* incapable of justification under Article XX. Such an interpretation renders most, if not all, of the specific exceptions of Article XX in *utile*, a result abhorrent to the principles of interpretation we are bound to apply.

The opinion turned next to the substantive contentions of the U.S. that §609 satisfied the requirements of both Article XX's Paragraph (g) and, in the alternative, Paragraph (b). Paragraph (g) permits trade restrictions "relating to the conservation of exhaustible natural re-

sources” only if such measures are also “made effective in conjunction with restrictions on domestic production or consumption.”

Since §609 was enacted two years after the U.S. had already imposed similar TED requirements on domestic shrimp vessels (and since the U.S. enforced those requirements with both civil penalties and, if necessary, vessel seizures), the principal issue facing the appellate body here was whether “exhaustible natural resources” included endangered *animal* life, rather than referring only to scarce mineral resources (as contended by the complaining states).

Here too, the appellate body adopted the more liberal view, holding that endangered aquatic species, not merely oil, gas and other minerals, were included within “exhaustible material resources,” despite the obvious duplication this created with Paragraph (b). This was an important holding because Paragraph (g) requires that a challenged measure merely *relate to* exhaustible resources, not that (like Paragraph (b)), it is *necessary to protect* animal life.

Having found that §609 qualified under Paragraph (g), the appellate body next returned to Article XX's chapeau in order to determine whether, as applied, §609 was nevertheless “unjustifiable” or “arbitrary.” While the overall purpose of §609 was, in the appellate body's view, clearly eligible for Article XX protection, it was still necessary for the U.S. to show that §609 did not, in practice, create unjustifiable or arbitrary burdens on trade.

Manner of Application

It was here that the appellate body parted company with the U.S. position. The principle of good faith expressed in the chapeau to Article XX, said the opinion, requires that an otherwise legitimate exception authorized by that article not only be fair on its face but also be applied in a manner that is neither arbitrary nor unjustifiable in view of the purpose of that exception and the corresponding treaty rights of other states.

Section 609's application failed this test, said the appellate body, because it requires all affected foreign governments to adopt essentially the identical TED regulations as the U.S., regardless of whether they have already undertaken (or are prepared to undertake) other measures to protect sea turtles in their coastal waters and regardless of differing conditions in such countries' fishing practices or regulatory capabilities. Indeed, under U.S. practice at the time the dispute was argued, even shrimp harvested with TED-equipped vessels were excluded from the U.S. if the country in question did not have an overall regulatory program comparable to the U.S. scheme.

Related to this failure to recognize even the possibility of other equally appropriate ways of protecting sea turtles was the U.S. failure to engage in negotiations with other GATT members in an effort to reach either bilateral or multilateral agreements to protect shrimp without a unilateral U.S. import ban. Section 609 itself, prior WTO decisions, the 1992 Rio Declaration and Agenda 21, all *discourage* unilateral actions to protect the environment and encourage states instead to seek an international consensus to address such issues.

Although the U.S. had successfully concluded multilateral negotiations with a handful of Western Hemisphere states (resulting in an Inter-American Convention signed by the U.S., Brazil, Costa Rica, Nicaragua and Venezuela), none of the parties had yet ratified that Convention, and the U.S. had made no comparable efforts to conclude a similar agreement with the complaining states.

Moreover, while the U.S. had afforded states in the Caribbean and Western Atlantic fishing region a three-year “phase-in” period to install TEDs, the complaining Asian states were given only four

months to comply with the §609 requirements, a practical impossibility for many of them given the large number of small vessels active in the shrimp trade and the reduced level of TED training made available to such countries by the U.S.

Not only did §609 therefore amount, as applied, to “unjustifiable discrimination,” but it also constituted, in the judgment of the appellate body, a form of “arbitrary discrimination” by the U.S. The §609 certification procedures (for determining which states comply and which fail to comply with the TED program) were neither transparent nor predictable. Thus foreign states seeking §609 certification in order to export shrimp to the U.S. market were at the whim of mid-level bureaucrats, whose decisions were subject to neither discernible standards nor appellate review.

Countries denied certification were not advised of this fact but learned of it when their names were omitted from the published list of certified TED programs.

Fear of Arrogance

Although it reversed those parts of the panel decision that had threatened to eviscerate Article XX, the appellate body ultimately agreed that §609, despite its laudable aim, had been applied in a way that amounted to both arbitrary and unjustifiable discrimination by the U.S.

The U.S. failure to consult with more than a few of its neighboring states in order to develop a multilateral consensus on how best to save migrating turtles, its insistence that only U.S.-approved TED programs were adequate, its disparate phase-in periods for different regions and its arbitrary and closed “certification” process all contributed to a sense that, whatever the merits and bona fides of the U.S. desire to save an endangered species, the precedential effects of permitting a single nation, already dominant in economic, military and political spheres, to dictate environmental standards for the world were too threatening to be accepted without a complaint by the WTO.

Although the cost of outfitting commercial vessels with TEDs is very modest (from \$75 to \$500 per vessel, according to the U.S.), §609 drew opposition not only from directly affected Asian states but also from China, the European Communities, Australia and two Western Hemisphere countries. Most of these parties have also registered sharp protests at U.S. trade policies in other areas -- notably Cuba -- where they believe the U.S. has, for domestic political reasons, imposed unreasonable, even arrogant, trade restrictions on its commercial partners.

Although the *Shrimp/Turtle* case was decided before the most recent U.S. air strikes against Saddam Hussein's government in Iraq, the appellate body's opinion (like the earlier Panel decision) reflects the same international skepticism toward unilateral economic actions by the U.S. that has been evident during the past several weeks with respect to unilateral military action.

To emphasize this concern, the appellate body noted that, despite its professed concern over endangered sea turtles, the U.S. had failed to raise this issue during recent CITES conferences (when multilateral action might have been possible), had not signed the Convention on the Conservation of Migratory Species or even the United Nations Convention on the Law of the Sea, and had not ratified the Convention on Biological Diversity approved at Rio in 1992, all of which were aimed at protecting turtles and similarly endangered marine species.

In short, an apparent U.S. disdain for the developing norms of international environmental law and an equally conspicuous failure to work collaboratively with other states to implement effective environmental standards likely contributed to the WTO's rejection of what, on its face, was both a reasonable and non-discriminatory U.S. statute designed to protect the global environment, rather than U.S. fishing interests.

To overcome these obstacles in the future, the U.S. would be well advised not only to correct the specific negotiating and administrative lapses pointed out by the appellate body, but to address the growing problem of U.S. disrespect for international environmental commitments, and international law, generally.

U.S. environmental NGOs might also consider the importance of encouraging both meaningful U.S. consultation with other governments (and NGOs) prior to promulgation of future environmental standards affecting trade and the development of open administrative procedures that treat other nations as responsible trading partners rather than as supplicants.

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/UPDATES

/SUSTAINABLE DEVELOPMENT

UN GENERAL ASSEMBLY: On 15 December 1998, the Fifty-third Session of the UN General Assembly considered and adopted the report of the Second Committee. The report contained draft resolutions and draft decisions on issues addressed under agenda topics, Sustainable development and international economic cooperation and Environment and Sustainable Development, including: implementation of the outcome of the UN Conference on Human Settlements (Habitat II); implementation of the Programme of Action of the International Conference on Population and Development (ICPD); implementation and follow-up to the outcome of the United Nations Conference on Environment and Development (UNCED); protection of global climate for present and future generations of mankind; implementation of the outcome of the Global Conference on the Sustainable Development of Small Island Developing States (SIDS); the Convention on Biological Diversity (CBD); and implementation of the UN Convention to Combat Desertification (CCD). The following is a brief highlight of measures included in the resolutions and decisions adopted on these items.

Habitat II: The draft resolution contained in Sustainable development and international economic cooperation: implementation of the outcome of the United Nations Conference on Human Settlements (Habitat II)(A/53/608/Add.3), was approved by the Second Committee approved on 24 November. The resolution: decides that the special session for an overall review and appraisal of the implementation of the outcomes of Habitat II will be held in June 2001 for a three day period; invites non-UN member States that are members of the specialized agencies to participate at the special session as observers; and stresses the need for the effective participation of local authorities other Habitat Agenda partners and relevant actors of civil society. The draft decision takes note of the report of the Secretary-General on a comprehensive and in-depth assessment of the United Nations Center for Human Settlements (A/53/512).

International Conference on Population and Development (ICPD): The draft resolution contained in Sustainable development and international economic cooperation: implementation of the Programme of Action of the ICPD (A/53/608/Add.6), addresses preparation for and participation at the General Assembly special session to review implementation of the Programme of Action to be held 30 June - 2 July, 1999. The resolution, adopted by the Second Committee on 24 November, stresses the need for effective participation of civil society, invites relevant UN organizations and bodies to contribute to the special session and invites non-UN member States that are members of specialized agencies to participate as observers.

Environment and Sustainable Development: The report of the Second Committee on Environment and Sustainable Development (A/53/609/Add.6) contained one draft decision and three draft resolutions on: the impact of the El Niño Phenomenon; international institutional arrangements related to environment and development; and the report of the Governing Council of the United Nations En-

vironment Programme (UNEP) (A/53/609/Add.6). The resolution on El Niño, approved by the Second Committee on 10 November, calls for continued implementation of the General Assembly resolution 52/200 on international cooperation to reduce the impact of the El Niño phenomenon and requests recommendations on how the UN will deal with the reduction of natural disasters upon the conclusion of the International Decade for the Reduction of Natural Disasters.

The resolution on international institutional arrangements related to environment and development, approved by the Second Committee on 1 December, emphasizes that the Conferences of the Parties (COPs) of conventions are autonomous, encourages the COPs and Secretariats of the CBD, CCD and FCCC to examine opportunities to strengthen their complementarities and assess ecological linkages between the conventions, and requests the Secretary-General to prepare a report identifying actions to improve coherence in various intergovernmental organizations and processes through better policy coordination at the intergovernmental level.

The resolution on the report of the Governing Council of UNEP emphasizes that UNEP has been and must continue to be the principal UN body in the field of environment, underscores UNEP's role as the leading global environmental authority which sets the global environmental agenda, and encourages UNEP to strengthen its revitalized role as an implementing agency of the Global Environmental Facility. The resolution also encourages the Executive Director of UNEP to continue with ongoing reform of UNEP. The decision takes note of the report of the Secretary-General on products harmful to health and the environment (A/53/156-E/1998/78).

Implementation of and follow-up to the outcome of UNCED: The draft resolution on Implementation of and follow-up to the outcome of UNCED (A/53/609/Add.1) stresses the need to accelerate full implementation of Agenda 21 and the Programme for Further Implementation of Agenda 21, recognizes that the CSD will continue to be the central forum for reviewing progress in implementation of Agenda 21 and urging further efforts, and calls on the CSD to continue to complement and provide interlinkages to the work of other United Nations organs, organizations and bodies active in the field of sustainable development.

Framework Convention on Climate Change: The draft resolution, approved by the Second Committee on 1 December, contained in Environment and Sustainable Development protection of global climate for present and future generations of mankind (A/53/609/Add.2) takes note of the report of the Executive Secretary of the United Nations Framework Convention on Climate Change on the results of COP-3.

Small Island Developing States: The draft resolution on Implementation of the outcome of the Global Conference on the Sustainable Development of Small Island Developing States (A/53/609/Add.3) urges SIDS to continue preparations for the seventh session of the CSD and the special session in September 1999 for the review and appraisal of the implementation of the Programme of Action. It also encourages SIDS and prospective multi-lateral and bilateral donors to participate in the donors conference to be held February 1999, and reiterates the urgency of the international community's support of adaptation efforts by SIDS to cope with the threat of sea-level rise experienced as a consequence of climate change.

Convention on Biological Diversity: The draft resolution contained in Environment and Sustainable Development: Convention on Biological Diversity (A/53/609/Add.4) welcomes decision IV/15 of the COP stressing the need to ensure consistency in implementing

the CBD and WTO agreements (with a view to promoting increased mutual supportiveness and integration of biological diversity concerns and the protection of intellectual property rights), recognizes the importance of the adoption of a protocol on biosafety, calls upon governments to use science-based analysis to study and monitor the evolution of new technologies to prevent possible adverse effects on the conservation and sustainable use of biological diversity.

Convention to Combat Desertification: The draft resolution on implementation of the UN Convention to Combat Desertification (A/53/609/Add.5) calls on all countries that are not yet parties to the convention to ratify or accede as soon as possible and calls on developing countries Parties to accelerate the elaboration of national action programmes. The ENB Briefing note of the General Assembly can be found at: <http://www.iisd.ca/linkages/csd/csd7/>.

SOUTHERN AFRICAN COUNTRIES MEETING ON THE AARHUS CONVENTION: The Government of Botswana hosted a meeting in Gaborone from 9-11 December 1998 entitled, "Building Bridges for the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters." This convention was negotiated under the auspices of the United Nations/Economic Commission for Europe (UN/ECE) and signed by 35 countries and the EU in Aarhus, Denmark on 25 June 1998. The meeting was the seventh in a series of regional consultations of the Southern African Sub-regional INFO-TERRA Network (SASIN) established by UNEP's INFOTERRA - the global environmental information exchange network of UNEP.

The meeting examined the Aarhus Convention and its relevance to the Southern African Development Community (SADC) region. The meeting was attended by policy-makers, legal experts, environmental information specialists from six SADC countries and representatives of Botswana-based NGOs.

UNEP's Director of Environmental Law and Institutions, Programme Activity Centre, Mr. Donald Kaniaru made a presentation on the Aarhus Convention at the meeting. Emphasizing the need for a participatory approach at the national level to the task of delivering environmental information to those who need it, Mr Kaniaru outlined the proposed reform measures for UNEP's INFOTERRA programme in the context of ongoing UNEP reform and the United Nations Secretary-General's Task Force on Environment and Human Settlements, which had recently presented its findings to the UN General Assembly. UNEP's proposed new INFOTERRA structure at the national level will operate as a consortium of key environmental information service providers and major user groups. They will, under appropriate agreements, have the collective responsibility of providing an integrated national environmental information service. For further information please contact: UNEP, P.O. Box 30552, Nairobi, Kenya; tel: +(254 2) 624299; +fax: +(254 2) 624269; Internet: <http://www.unep.org/infoterra>

CONFERENCE ON THE AFRICAN ENVIRONMENT AGENDA: From 30 November - 5 December 1998 in Cape Town, South Africa, 150 delegates attended an environment meeting debated how to set up a mechanism to assist Africa develop and protect its abundant but endangered marine and coastal resources. The conference reviewed gains made over the years and produced a draft African environment agenda, a strategy for protecting the vast coastal and marine areas of the continent. They will propose a sub-Saharan body to sustain the development and management of these resources. Africa's regional initiatives on the environment date as far back as 1980. Various protocols were set up to guide the continent on many issues involving the region's environment. These range from

the Lagos Plan of Action 18 years ago to the recent Pan African conference on sustainable integrated coastal management, held in Maputo, Mozambique, in July.

Delegates cautioned against duplication of efforts already undertaken by various organizations in the field of environment. The Abidjan convention, bringing together 21 states, covers the marine environment, coastal zones and related inland waters of western Africa from Mauritania to Namibia. It was adopted in 1981. The 1985 Nairobi convention, on the other hand, covers the eastern Africa region and its Indian ocean waters. Unlike the Abidjan convention, the Nairobi convention excludes the region's inland waters.

SEVENTH INTERNATIONAL CONFERENCE OF THE GREENING OF INDUSTRY NETWORK: The meeting "Partnership and Leadership: Building Alliances for a Sustainable Future" was held in Rome from 15-18 November 1998. The Greening of Industry Network is an international research and policy partnership for the transition of society to sustainable development, in general and of industry, in particular. Its mission is to provide a platform for people from different regions and backgrounds (academia, business, Governments, NGOs) to engage in research and dialogue on innovative ideas, and practices relevant to said transition.

Participants noted that over the past decade, companies have begun to transform the environment from an operating problem into a business opportunity. In some industries, competitive advantage is now rooted in such capabilities as pollution prevention, eco-efficiency management, product life-cycle design, and environmental technology innovation. In particular, two engines of change are revolutionizing corporate business strategies: (1) the globalization of markets/internationalization of firms, and (2) the increasing strategic importance of environmental management.

The evolving relationship between business and public authorities was an issue that pervaded the discussion. One paper undertook an integrated analysis of its dynamics at the environmental interface. Another presentation examined the increasing uncertainties faced by firms due to more self-regulation in terms of environmentally responsible behaviour and sustainable business operations. Another paper argued that if proactive corporate environmental management fosters competitiveness links to it should be considered in the formulation of public policy, which, in turn, can influence the development of local and regional environmental protection networks.

Education and knowledge dissemination were two other cross-cutting issues in the discussion. Two general questions have to be answered: (1) What kind of conceptualizing and problem solving skills, knowledge and values do graduates need to advance the transition to sustainable development through their future professional work? (2) How can the "consumer" of education cause the educational institutions to develop these skills, knowledge and values among their students?

Also discussed were new opportunities the emerging global information infrastructure has opened up for the dissemination of knowledge, such as the CERES-GKN International Consortium of universities, laboratories, companies, and governmental organizations to assist decision-makers around the world in making environmentally sound, technologically feasible, and economically justifiable choices in the development of products and processes. For more information contact: Dirk Pilari, tel. (212) 963-6757; fax +1 (212) 963-4260, e-mail: pilar@un.org

PARTNERS FOR DEVELOPMENT: The Partners for Development summit, held in Lyon, France from 9-12 November 1998, brought together some 2,700 representatives of the private sector,

NGOs, academic institutions and governments, from 172 countries, in an effort to forge development-related projects. Eighteen partnership agreements were finalized between the UNCTAD Secretariat and private and public organizations. They covered the fields of international transport, investment promotion, electronic commerce, small and medium-sized enterprises and of entrepreneurship, the conservation of biodiversity and sustainable development and agricultural commodities.

Many other events were staged in parallel. The World Association of Investment Promotion Agencies (WAIPA) held its annual meeting; the Canada-based Institute for Leadership Development staged its Sixth World Summit of Young Entrepreneurs; and the Global Trade Point Network - an alliance of 144 electronic Trade Point centres in 117 countries, established by UNCTAD - held the Fifth World Trade Point Meeting. A symposium on North-South development issues took place under the aegis of Lyonnaise de Banque and the European Observatory of Geopolitics, with the participation of Mr. Boutros Boutros-Ghali, the former Secretary-General of the UN who now heads the "Francophonie" organization in Paris. Mr. Boutros-Ghali also chaired a session of the electronic trade segment of the conference.

Acting under the "Reprenons l'Initiative" banner, a group of NGOs staged a series of debates inside and outside the conference centre, on themes such as the need for "fair trade" and for a tax on speculative financial flows. Drawing in hundreds of interested persons from the vicinity, they demonstrated the meaning of integrating civil society in the work of the United Nations.

In all, eleven Partnership for Development agreements - ranging from framework "letters of intent" to detailed memoranda - were signed during the event by the Secretary-General with a wide range of other bodies: regional development banks and intergovernmental organizations, private banks, international business associations, non-governmental organizations and academic institutions. The remaining seven pacts did not require a formal signature.

Partnerships were also concluded by ITC, an arm of UNCTAD and the WTO, with the Export Promotion Centre of Turkey and the Universities of Montreal and Nancy. Altogether, over 50 Ministers were present, from all regions of the world. For more information, contact Andrew Whitley, Chief, External Relations Service, UNCTAD, on telephone: +41 22 907 58 09, fax: +41 22 917 01 42, or e-mail: andrew.whitley@unctad.org.

REGIONAL CONSULTATIVE MEETING ON SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC: This first multi-stakeholder meeting was held at the Asian Development Bank in Manila, Philippines from 10-12 November and co-organized by ADB, DESA and ESCAP, with the co-sponsorship of the Environment Agency of Japan. It was attended by representatives from 15 countries in the region, as well as those from regional inter-governmental organizations, UN agencies, financial institutions and NGOs active in the region. Some of its recommendations included the following:

- The regional and sub-regional institutions need to collaborate in expediting the availability of information on CSD processes for action and further dissemination to other stakeholders in the region;
- The planned Ministerial Conference on Environment and Development in 2000 should be renamed the Asia and Pacific Ministerial Conference on Sustainable Development with its agenda to reflect such focus;
- Ongoing efforts related to environment outlooks and state

of the environment reports in the region should be coordinated;

- An Asia and Pacific Forum on Sustainable Development should be developed, building on existing institutions and mechanisms;
- Coordination and consultation among subregional organizations and their national focal points should be enhanced through joint programming, sharing of information and expertise and regular contact.

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PANEL ON THE HUMAN RIGHTS CHARACTER OF INTELLECTUAL PROPERTY RIGHTS: The World Intellectual Property Organization (WIPO), in collaboration with the Office of the High Commissioner for Human Rights, hosted a Panel Discussion on Intellectual Property and Human Rights on 9 November 1998, in Geneva to commemorate the 50th Anniversary of the Universal Declaration of Human Rights. Over 200 people attended the Panel, including representatives of WIPO Member States, inter-governmental and non-governmental organizations, as well as members of the public.

The event was the first of its kind, bringing together experts and interested parties from both the intellectual property and human rights communities. Participants expressed their satisfaction with the proceedings, which clarified many issues and permitted a fruitful exchange of views. Six experts presented papers and fielded questions from the audience. The Panel was chaired by Adama Dieng, the Secretary General of the International Commission of Jurists, a noted international human rights organization based in Geneva.

General themes discussed during this one-day event included the growing philosophical and political significance of intellectual property issues in the Information Age. In his presentation entitled "The Universality of Intellectual Property: Origins and Development", Dr. Peter Drahos (UK) submitted that such mainstreaming of intellectual property issues would require intellectual property experts to engage, more than ever before, in a continuing dialogue with specialists in other fields. In analyzing the links between intellectual property rights and the right to culture, Christine Steiner (US) demonstrated how private intellectual property rights under US intellectual property law are balanced against the public interest in accessing culture. A presentation was also given by Silvia Salazar (Costa Rica) on "Intellectual Property and the Right to Health." This presentation outlined various aspects of debates relating to the patenting of pharmaceutical products derived from biological resources and the patenting of genetic materials as prompted by the Human Genome Project which intends to sequence and map human genes.

The panel discussion also considered intellectual property and the protection of traditional knowledge and innovation. In his paper on the subject, Dr. John Mugabe (Kenya) considered the growing value of traditional knowledge in relation to biological prospecting, and the extent to which intellectual property laws can provide adequate protection for traditional knowledge and innovations. The day's proceedings concluded with a paper on "Intellectual Property, Nationality and Non-Discrimination" by Dr. Silke von Lewinski (Germany). This presentation discussed the interaction between the human right not to be discriminated against and the intellectual property principle of national treatment. The principle of national treatment requires that States that are party to given intellectual property agreements grant the same protection to nationals of other countries that are also party to those agreements as it does to its own

citizens. For more information contact the WIPO; tel.: (+41 22) 338 95 47 or 338 98 24; fax: (+41 22) 338 88 10; e-mail: publicinf@wipo.int; Internet: <http://www.wipo.org/>

INTERNATIONAL CONFERENCE ON ALTERNATIVES TO GLOBALIZATION: The International Conference on Alternatives to Globalization (ICAG), held from 7-9 November 1998 at the Development Academy of the Philippines in Tagaytay City, Philippines was attended by 100 delegates. The conference was followed by a global "teach-in" called "International Colloquium on Imperialist Globalization and Crisis." on November 10, 1998 This half-day event was held at the University of the Philippines in Diliman, Quezon City, and was attended by more than 400 participants. Both events were organized by IBON Foundation and Bagong Alyansang Makabayan (BAYAN).

Participants in the meeting agreed to a declaration, under which they reaffirmed their objectives to: seek a deeper understanding of the global economic crisis and its causes; explore and develop alternative strategies and paradigms in confronting globalization; and develop linkages for cooperation and exchange. They declared that globalization has worsened the effects of the destructive paradigm of "growth and development." Instead of economic prosperity and social stability that it promised for all nations, globalization has brought about economic turmoil, political and social tension, and widespread devastation to the world's peoples and resources. They noted that the impacts of the global crisis are all so clearly seen today: the gap between the rich and poor in all nations, industrial and non-industrial alike, and between the rich and poor countries is widening rather than narrowing. The also noted that global environmental abuse is being accelerated primarily by globalization. The ill effects include climate change, ozone depletion, air and water pollution, ocean resource depletion and pollution, deforestation, extinction of species and dangerous genetic manipulation.

They called for several actions: oppose the MAI and prevent its negotiation within the WTO and work for the withdrawal of the harmful agreements on agriculture and TRIPs from the WTO; campaign for the non-payment of foreign loans by nations in crisis and oppose the signing of new letters of intent with the IMF and reject all onerous loan conditionalities; oppose the intensifying environmental exploitation and support the OilWatch declaration against new fossil fuel exploration; and oppose the intensifying marginalization and exploitation of women's labor and the use of rape as a tool of militarism. For more information contact the Ibon Foundation; e-mail: ask.data@ibon.org; Internet: <http://www.ibon.org/>.

MEETING OF THE ADMINISTRATIVE COMMITTEE ON COORDINATION (ACC): The Administrative Committee on Coordination (ACC) met on 31 October 1998 in New York. The ACC, composed of the executive heads of UN agencies, funds and programmes and the World Bank and IMF, committed to a united effort to tackle development challenges arising from globalization and the adverse effects of the financial crisis. The ACC meeting was chaired by UN Secretary-General Kofi Annan. The leaders committed themselves to:

- work together in monitoring the impact of the crisis on societies and individuals;
- helping individuals countries carry out the necessary structural and institutional reforms; and
- strengthening or building basic social services, livelihood opportunities an safety nets for the least fortunate.

They emphasized that equity and social justice, beyond their inherent value, are also necessary for political and financial stability.

The UN leaders also reviewed ongoing reform processes underway in the organizations of the system, and how these could reinforce actions by individual organizations. They addressed the issue of peace and prosperity in Africa. They agreed on effective follow-up including harmonizing efforts, and committed themselves to minimizing risks to staff in the deteriorating security environment in which the UN system is required to operate. For more information contact: United Nations Department of Public Information; e-mail: dpi@un.org; Internet: <http://www.un.org/>

EUROPEAN COMMUNITY FINANCIAL SERVICES WORKSHOP: On Friday 30 October, Unit E.4 organized a Workshop entitled "Sustainable Development - Challenge for the Financial Sector." The event attracted the attention of some 120 participants from public and private banks, insurers, NGOs and others. Participants stressed the considerable indirect influence that the financial sector can exert on achieving sustainable development. For example, an insurer may wish to apply lower premiums to those industrial companies that use EMAS for their sites, as careful environmental management reduces the risk of claims. The participants concluded that there is scope for the Commission to act in this field and suggested a variety of actions to be undertaken. A particular problem to be tackled is that care for the environment is until now fairly limited in this sector. Only a few banks and insurers in a few Member States are really active, and activities undertaken largely concentrate on green housekeeping (use of paper, electricity, mileage, etc.). Various specific actions can be considered in the follow-up of the Workshop such as EMAS registration for the Commission (which would include Community funds) or an action to increase the transparency of companies' environmental performance for the financial sector. Another possibility: a partnership agreement to highlight the implications of sustainable development for the financial sector in a particular Member State where this thinking has not yet taken off. A full report of the meeting will be published in mid January. For further information contact: Mr. Hans Stielstra, DG XI.E.4; tel. +32.2.299.11.98; fax +32.2.296.39.80; e-mail: hans.stielstra@dg11.cec.be.

JOINT MEETING OF MULTILATERAL AGENCIES: A joint meeting of six unilateral agencies (ILO, ITC, UNCTAD, UNECE, WIPO and WTO) and four Nordic aid and development agencies (DANIDA, FINNIDA, NORAD and SIDA) was held from 26-28 October 1998. The purpose was to exchange information about their respective public information strategies and needs, and to identify proposals for possible future joint work. Participants agreed that outreach programmes have become increasingly important as the role of NGOs and civil society, and the impact of their perception of the work of UN agencies, continues to grow. Suggestions were made on how to improve the dissemination of information on activities of the UN agencies and regional institutions, particularly in the Nordic region. Participants agreed to form a Geneva-based information exchange group comprised of the above mentioned agencies. The group will meet regularly and devise joint strategies. For more information contact: UNCTAD; e-mail: ers@unctad.org; Internet: <http://www.unicc.org/unctad/>.

CONFERENCE ON RELIGION AND ECOLOGY: The Harvard Project on Religion and Ecology held a conference at the UN in New York on 20 October 1998 to announce the results of the project. A wide-ranging series of conferences, begun in 1996, explored the relationship between 10 of the world's major religious traditions and the natural environment. The project also and investigated the potential role of these religions in helping to solve

environmental problems. It brought together more than a thousand scholars, practitioners and activists. The results called for greater participation of the world's religions in helping to solve the global ecological crisis. At the conference, the project's organizers outlined plans to bring the intellectual, textual, ritual and symbolic resources of ten major religions to those who directly address environmental concerns, particularly scientists, economists, educators and public policy makers. Specifically, organizers announced the creation of an ongoing "Forum on Religion and Ecology" to integrate the goals of the project on a theoretical and practical level.

The forum's main objective will be to foster a religious voice in public policy formulation, educational curricula, economic planning, and scientific and social research related to the environment. Planning for the forum will be based at the Harvard Center for the Study of World Religions, with assistance from the Harvard-Yenching Institute, the Center for Respect of Life and Environment in Washington, D.C., and Bucknell University's Religion Department. The forum planning process will be led by a steering committee and an advisory board consisting of specialists in the ten religious traditions involved in the series -- Buddhism, Christianity, Confucianism, Hinduism, Indigenous Traditions, Islam, Jainism, Judaism, Shinto and Taoism, with other religious traditions added whenever possible. To more effectively implement the project's goals, more than 60 organizations and individuals in religion, economics, education, science and public policy have already announced their willingness to affiliate with the forum. For more information contact: <http://divweb.harvard.edu/cswr/ecology/>

CONSULTATION ON ENVIRONMENTAL MANAGEMENT IN LATIN AMERICA AND THE CARIBBEAN: The Consultation on Environmental Management in Latin America and the Caribbean, held in Washington, D.C., US from 17- 18 September 1998, was organized by the Inter-Agency Technical Committee of the Forum of Ministers of Environment of Latin America and the Caribbean, formed by UNEP, UNDP and the Inter-American Development Bank (IDB), with the Pan American Health Organization (PAHO). The World Bank and ECLAC also participated.

The Consultation was the result of the decisions of the Eleventh Meeting of the Forum of Ministers of the Environment of Latin America and the Caribbean (Forum of Ministers), held in Lima in March 1998. At that meeting, a Regional Environmental Action Plan was adopted for the 1998-2000 period, together with a set of mechanisms to put it into operation and follow up on it, as part of the strategy to strengthen the Forum of Ministers.

The main objective of the Consultation Meeting was to have an exchange of points of view and experiences related to the principal challenges posed by improving environmental management in Latin America and the Caribbean. In an effort to conduct an in-depth study and reach well-founded conclusions, the Consultation, on the basis of presentations entrusted to some of the participating countries, focused on an analysis of three critical topics: institutional challenges, policy instruments and financing. Through the consultation, efforts were made to analyze the management models in Latin America and the Caribbean, to exchange information on successful practices, to identify the needs of the countries, and to define lines of action that the multilateral banking system and the international agencies could support through their diverse programmes. For more information contact: Sra. Isabel Martínez, Oficial Legal, Oficina Regional para América Latina y el Caribe; tel.: (+52-5) 202-4841, 202-4955; fax: (+52-5) 202-0950; e-mail: imartinez@rolac.unep.mx.

/TRADE AND ENVIRONMENT

OECD MULTILATERAL AGREEMENT ON INVESTMENT: The Organization for Economic Co-operation and Development (OECD) on December 3 announced that negotiations toward a Multilateral Agreement on Investment (MAI) are no longer taking place and officially ended three years of frustrating negotiations. The end was precipitated in October when France announced it was withdrawing from negotiations. The MAI had been vigorously opposed by labor, environment and citizens' groups for not incorporating labor and environment standards and for lack of transparency. The OECD had also been strongly criticized for its failure to include developing countries in negotiations; these, led by India, Egypt, Pakistan and Malaysia expressed strong suspicion and opposition toward the MAI and its presumed mandate over developing countries.

The OECD statement offered no direction on future investment talks. Some reports say France and other European countries would like to move MAI talks there in order to expand participation from the 29 OECD countries to the 132 WTO member countries, including developing countries left out from OECD talks. Many developing nations remain wary of WTO MAI-type talks, arguing that WTO members should focus instead on implementing existing WTO agreements before embarking on regulating new issues. The US remains skeptical that a MAI agreement could be concluded at the WTO. The decision on whether to start WTO talks on a MAI-type agreement is linked to the general issue of what issues to include in a new round of international trade talks, if such a round is indeed launched at the third WTO Ministerial Meeting at the end of 1999. For more information see: <http://www.oecd.org/>.

APEC ECONOMIC LEADERS DECLARATION: The Economic Leaders of APEC, meeting in Kuala Lumpur, Malaysia on 18 November 1998, agreed to a Declaration, under which they vowed to renew efforts towards creating a prosperous Asia-Pacific community. They noted the need to deal urgently with the financial crisis that has spread beyond the APEC region. In a section on strengthening the economic infrastructure, the Leaders reaffirmed that strengthening the capacity of our economic infrastructure is an essential component towards the realization of their goals of sustainable and equitable growth and development throughout the APEC community. They commended the commitment given throughout 1998 to further strengthen and develop economic infrastructure and welcomed the Natural Gas Initiative approved by the Energy Ministers at Okinawa. They acknowledged the progress that is ongoing in the implementation of the Vancouver Framework For Enhanced Public-Private Partnerships in Infrastructure Development.

They reiterated their commitment to advance sustainable development across the entire spectrum of their workplan, including cleaner production, protection of the marine environment and sustainable cities. They endorsed the joint actions to be launched in the areas of food, energy and the environment in relation to the economic and population growth of the APEC community. They instructed Ministers to undertake efforts to develop the implementation of these joint actions. They commended the initiative of Ministers in establishing the APEC Framework for Capacity Building Initiatives on Emergency Preparedness, which seeks to foster cooperation in longer-term capacity building in preventive and responsive measures for unexpected natural emergency disasters. For more information contact: the APEC Secretariat; tel: +65-276-1880; fax: +65-276-1775; e-mail: te@mail.apecsec.org.sg

WTO COMMITTEE ON TRADE AND ENVIRONMENT:

The Committee on Trade and Environment (CTE) met from 26-27 October 1998 and addressed trade in services and the environment; relations with NGOs; and items on the work programme related to the themes of the linkages between the multilateral environment and trade agendas, and market access. Under the theme of market access, Members discussed eco-labelling, and continued the sectoral analysis of the environmental benefits of trade liberalization. Statements were made by Members on the agriculture, energy, fisheries and forestry sectors. Three new papers were presented: Argentina's on non-trade concerns in the next agricultural negotiations; Japan's addressing the environmental effects of agricultural trade liberalization; and Brazil's on the trade and environmental benefits of removing trade restrictions to trade in ethanol. Brazil and Canada announced initiatives to further discussions on the sustainable management of all types of forests to contribute to the ongoing work of the Intergovernmental Forum on Forests.

In relation to the linkages between the multilateral environment and trade agendas, Members commented briefly on the recent Appellate Body Report on US Import Prohibition of Certain Shrimp and Shrimp Products and the Secretariat's revised paper on GATT/WTO dispute settlement practice relating to Article XX. The relationship between the TRIPS Agreement and the Convention on Biological Diversity was also addressed. The CTE adopted its 1998 Report to the WTO General Council and set out the CTE's work programme and schedule of meetings for 1999. Observer status in the CTE was extended to the International Plant Genetic Resources Institute. A detailed report of the October meeting of the CTE and papers presented at the meeting can be accessed through the WTO web site at www.wto.org.

/CLIMATE AND ATMOSPHERE

FOURTH CONFERENCE OF THE PARTIES TO THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE:

The Fourth Conference of the Parties to the UN Framework Convention on Climate Change (FCCC) was held from 2-13 November 1998 in Buenos Aires, Argentina, and was attended by over 5,000 participants. During the two-week meeting, delegates deliberated decisions for the COP during the ninth sessions of the Subsidiary Body for Implementation (SBI-9) and the Subsidiary Body for Scientific and Technological Advice (SBSTA-9). Issues related to the Kyoto Protocol were considered in joint SBI/SBSTA sessions. A high-level segment, which heard statements from over 100 ministers and heads of delegation, was convened on Thursday, 12 November. Following hours of high-level "closed door" negotiations and a final plenary session that concluded early Saturday morning, delegates adopted the Buenos Aires Plan of Action.

Under the Plan of Action, the Parties declared their determination to strengthen the implementation of the Convention and prepare for the future entry into force of the Kyoto Protocol. The Plan contains the Parties' resolution to demonstrate substantial progress on: the financial mechanism; the development and transfer of technology; the implementation of FCCC Articles 4.8 and 4.9, as well as Protocol Articles 2.3 and 3.14; activities implemented jointly (AIJ); the mechanisms of the Kyoto Protocol; and the preparations for COP/MOP-1. For the complete Earth Negotiations Bulletin report, as well as photos, interviews and recorded statements, see: <http://www.iisd.ca/climate/ba/>

INTERNATIONAL EMISSIONS TRADING ASSOCIATION: A meeting to discuss the launching of an International Emissions Trading Association (IETA) was held on 12 November in Buenos Aires, Argentina under the auspices of the UNCTAD and the Earth Council. Participants in the meeting included representatives of both developed and developing countries, intergovernmental and non-governmental organizations, and the private sector. Research into the design and implementation of an international greenhouse gas emissions trading system has been conducted by UNCTAD since 1990. Participants agreed that consideration should be given to facilitating the membership of enterprises from developing countries and countries in transition, as well as enabling adequate participation by environmental NGOs, including research institutes. Consistent with its non-profit status, it was agreed that the IETA would not engage in any commercial or operational activities. The provision of technical assistance to developing countries to strengthen their capacity to participate in the international emissions trading market in all its aspects was highlighted. The meeting demonstrated that there is broad-based support for the establishment of an independent, industry-led, non-profit international association dedicated to advancing the development of an open, competitive, international greenhouse gas emissions trading market. For more information contact: Frank Joshua, UNCTAD; tel.: +(41 22) 917 5824; fax: +(41 22) 907 0274; e-mail: frank.joshua@unctad.org.

TENTH MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL: The Tenth Meeting of the Parties to the Montreal Protocol was held from 16-24 November 1998 in Cairo, Egypt. Parties addressed, *inter alia*, the challenge of how to make policies to protect the ozone layer consistent with ongoing efforts to reduce emissions of the greenhouse gases that cause climate change. Several gases that are being used as ozone-safe replacements for CFCs - notably hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) - contribute to global warming. Another link is that global warming may slow the ozone layer's healing process because scientists believe that the warming of the atmosphere near the ground will cause the stratosphere to become even colder. Based on a recommendation by its Working Group last July, the Meeting of the Parties agreed on a process for coordinating the work of the scientific and technology and economic assessment panels on ozone with similar panels and committees linked to the UNFCCC.

Another key outcome was the strengthening of measures to close down CFC production facilities. In an earlier meeting, the Executive Committee of the Multilateral Fund noted the completion of a technical audit of production facilities for ozone-depleting substances in China and India. The Committee will promote new projects to start phasing out such production facilities. Ten donors pledged a special contribution of \$19 million to shut down Russian CFC and halon production factories by the year 2000.

The Meeting of the Parties also reviewed the problem of non-compliance with the Montreal Protocol on the part of eight countries. Members of the former Soviet Union, these countries have been unable to meet their phase-out schedules due to their recent transition to market economies. The Parties will recommend that the Global Environment Facility continue to assist these countries while cautioning them that stricter measures will be imposed if they do not adhere to their new benchmarks for phase-out.

Another challenge facing the Protocol is that a number of new substances (namely Chlorobromomethane, n-propylbromide and Halon-1202) have the potential to be marketed as replacements for stronger ozone-depleting substances controlled under the Protocol

even though they themselves have some ozone-depleting potential. The Meeting will ask its Technology and Economic Assessment Panel (TEAP), Science Assessment Panel, and Legal Drafting Group to explore this issue and report back next year on how to prevent such new substances from being marketed in the future.

Terms of reference are being agreed for a study on the levels of replenishment of the Multilateral Fund for the three-year period 2000-2. The Fund was established in 1990 to pay the agreed incremental costs incurred by developing countries in phasing out ozone-depleting substances. It has thus far approved some US\$850 million in support of projects to phase out 117,000 tonnes of CFC consumption, equal to 60% of developing country consumption.

While atmospheric concentrations of CFCs have started to decline as a result of emissions controls, concentrations of halons have continued to increase due to halons' long atmospheric lifetime and releases from fire extinguishers. The Meeting therefore recommended the adoption of national management strategies for reducing halon emissions. The Meeting also recommended new measures to limit the export of new and used products and equipment that require CFCs or other controlled substances (e.g. refrigerators). The Parties are recommending that each country identify the items it does not want to be imported. A list of these will be maintained by the Secretariat and communicated to all Parties on a regular basis.

Associated meetings of the Working Group and the Executive Committee of the Multilateral Fund preceded the 23-24 November Meeting of the Parties. Some 500 government officials, experts, and members of non-governmental organizations participated, including up to 40 ministers. For more information contact: Tore Brevik; tel: + 254-2-623292, fax: 254-2-623692, e-mail: tore.brevik@unep.org. Official documents and other materials are available on the Internet at <http://www.unep.org/ozone/> or www.unep.ch/ozone/.

/BIODIVERSITY

TWELFTH GLOBAL BIODIVERSITY FORUM: The 12th session of the Global Biodiversity Forum (GBF-12) met from 5-6 December 1998 in Dakar, Senegal to explore synergies between the biodiversity and desertification agendas. Some 20 institutions were involved in the organization of the Forum, and more than 160 participants from 46 countries attended. They represented research, education, resource management, private sector, government, NGOs, and local and traditional communities. The Forum consisted of four workshops on the following themes: Financial Innovations to Combat Desertification; Linking Biodiversity and Desertification: A Strategic Perspective; Traditional Knowledge and Desertification; and Desertification and Climate Change.

The first workshop discussed opportunities for financial innovations with respect to the desertification and biodiversity agendas. It provided an overview of financial mechanisms, reviewed national and regional experiences in financing environmental agendas, explored examples of environmental funds for combating desertification, reviewed local financing activities, and discussed the role of the private sector in addressing desertification.

The Forum recommended that national governments explore innovative financing sources, such as community credit banks, eco-taxes, eco-funds, tax incentives, charitable organizations, green investments and other incentive measures. Governments should develop, implement and enforce legislation and regulations regarding the involvement of the private sector in desertification and biodiversity activities.

The workshop on Linking Biodiversity and Desertification: A Strategic Perspective recognized that efforts to promote synergy have been initiated by the secretariats of the various conventions, but coordination in implementation at the global, regional, national and local levels is currently limited, wasting human and financial resources, especially at the national level.

While recognizing the importance of integrating the conventions in a legal, institutional and political framework, the Forum suggested implementing appropriate mechanisms facilitating synergy between the conventions and recommended that Parties:

- Identify and work to remove perverse policy, legal, institutional and economic obstacles to synergy among the biodiversity-related conventions.
- Create opportunities for learning from case studies and best practices and improve communications between stakeholders.
- Improve responsiveness of funding to the increased demands of grassroots participation and joint implementation of conventions.
- Create mechanisms for building synergy among the conventions through community empowerment.

The workshop on Climate Change and Desertification addressed three main themes: Climate Change Implications for Desertification, Issues and Opportunities for Using the Instruments of the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol in Implementing the objectives of the CCD and CBD; and Identifying Policy Frameworks for Addressing the Climate Change, the CCD and the CBD. The Forum came to the conclusion that implementation of the UNFCCC, CBD and CCD share a number of interests and concerns.

The Forum noted that climate change will likely accelerate desertification and biodiversity loss in at least some regions. At the same time, human activities that lead to desertification, such as soil and land degradation, contribute to global and local climatic changes. It was agreed that those involved in the desertification agenda could make valuable inputs into the discussions on climate change and biodiversity. Two key issues are how to adapt to climate change and the role of land use and forest activities in implementing the UNFCCC and its Kyoto Protocol. The financial mechanisms under the UNFCCC and its Kyoto Protocol, such as the GEF and the Clean Development Mechanism could assist the objectives of the CCD.

Finally, the Forum strongly recommended that the UN facilitate dialogue among the subsidiary bodies of the three Rio conventions on scientific and technical inter-linkages. Building synergy between these conventions at the national and international levels could greatly enhance progress towards sustainable human development.

The workshop on Traditional Knowledge and Desertification stressed the pivotal importance of the knowledge, practices and innovation systems of indigenous and local communities relevant for conserving biological diversity and combating desertification. It reviewed valuable experiences from around the world, with special attention on the synergies between the CCD and the CBD. The Forum specifically recommends that the CCD's COP:

- Establish a technical unit for Traditional Knowledge within the CCD Secretariat.
- Develop collaborative linkages related to traditional knowledge with the CBD's Working Group on Traditional Knowledge, as well as the Clearing-house Mechanism.
- Create incentives to conserve and promote traditional knowledge and establish operational mechanisms such as community alternative livelihood funds.

- Develop and disseminate inventories and systematic research on traditional knowledge and desertification, especially on factors that undermine the conservation and integrity of traditional knowledge caused by globalization.
- Support national participatory networks, promote information exchange, develop appropriate research methodologies and create a database on traditional knowledge to facilitate its integration into cross-sectoral activities and National Action Programmes.
- Invite the World Intellectual Property Organization to work jointly with the CCD in developing appropriate mechanism to protect the intellectual property rights of indigenous and local communities.
- Encourage governments to adopt appropriate legislation to stop the rapid erosion of traditional knowledge relevant to combating desertification. Finally, the Forum recommended that the CCD support the participation of indigenous and local communities in its relevant meetings and discussions.

For more information contact: Brett Orlando, IUCN; e-mail: borlando@iucn.org

FIFTEENTH AFSRE SYMPOSIUM: Over five hundred and sixty delegates from more than seventy countries attended the 15th International Symposium of the international Association for Farming Systems Research-Extension held in December 1998 in Pretoria, South Africa. Participants attended sessions that addressed the following sub-themes: ecologically sustainable development and farming systems; short-term farmer survival versus long term sustainability; empowerment through capacity building; the institutional environment and farming systems; and methodological issues and challenges. In addition to the invited and contributed papers, these sub-themes were addressed through panel discussions, a "training and tools bazaar," poster sessions and participants' input during the course of the Symposium. Some thoughts which gained increasing acceptance during the Symposium included:

- Changing institutional, economic and market conditions will have a significant effect on the way the Farming Systems Approach will be implemented in the coming millennium, due to globalization, liberalization, decentralization, and associated structural adjustment processes.
- Natural capital (particularly the ecosystem services provided by trees) is a central aspect of agro-forestry and ecological agriculture that requires a significant research effort. This should aim to quantify the impact of trees on problems such as soil replenishment and carbon sequestration.
- Social capital (the capacity of people to work together to develop systems which manage natural resources) is vital if people are to invest in innovations that enhance natural capital generated through research and farmer innovation.
- Potential synergies between all partners in the development process (including researchers, NGOs, farmers and public and private agencies) should be developed, and the important and complementary roles played by men and women in agricultural production should become a challenge for creative and gender-sensitive policies and programmes.
- In the next twenty years the world will be facing a critical period in meeting the increasing food needs of a still growing global population, but does have new tools to meet these needs, including biotechnology, soil restoration, ecology and participatory methods.

There is an emerging consensus that the world is moving into the next stage in the globalization process, and the farming systems ap-

proach can contribute much to building this consensus. Proactive and conscious participation of all stakeholders in this process is vital. Rural development, poverty elimination, and equity considerations should be included on the agenda of globalization.

Finally there was a growing consensus among the participants that increased funding of research and extension, especially farming systems research-extension (FSR-E), was essential to support small farmer development. They believed changing institutional, economic and market conditions offer important opportunities for creative partnerships in the funding and implementation of research and extension for small farmers, and said all stakeholders should support and develop such opportunities. Farming systems approaches are a cost-effective means for accomplishing small farmer development. Practical experience in participatory action research proves that farmers are able to take collective action. Given an enabling environment, farmers will develop practices and marketable products which are economically and environmentally sound, provided that they receive support which takes their whole farming system into account. Universities and other training centres, as well as research councils and institutes, need to adopt a holistic approach to farming systems, and launch programmes which will encourage and support the professional development of systems approaches. For more information contact: Richard Fowler, Grain Crops Institute: Agricultural Research Council, South Africa; tel: + 27 (0) 331 3559410; fax: + 27 (0) 331 3559518; e-mail: rfowler@cedara1.agric.za

MEETING TO LAUNCH BIODIVERSITY CORRIDOR

PROJECT: On 29 October in Paris, representatives from all of the Central American countries and dozens of international donors and NGOs agreed to launch the Mesoamerican Biological Corridor (MBC). While other multi-country efforts have aimed at preserving waterways, riverbeds and seas, this is one of the first seeking to preserve large tracts of land spanning numerous international borders. Implementation of the Mesoamerican Biological Corridor will:

Preserve endangered animal species: While the area encompasses less than one percent of the total land surface of the world, it contains approximately 7% of the planet's biodiversity, including a myriad of unique animal species. Without the MBC, multiple barriers prevent the movement of these species along the biological highway between North and South America. Isolation of animals could lead to the extinction of species native to the region.

Increase the capacity for carbon sequestration: By providing an agenda for investment in humid tropic and pine management and enhancing the regional capacity for fire control and prevention, the MBC will mitigate the negative effects of global warming by contributing to the reduction of CO₂ emissions.

Reduce vulnerability to climate change: By promoting initiatives that mitigate flood and prioritizing fragile zones such as strategic watershed areas, sources of drinking water, slopes of gradients and vulnerable erosion, the risks of climate change can be reduced.

Protect ancestral homes: The land included in the MBC is predominantly occupied by the region's indigenous populations. Without a concerted effort to preserve this area, hundreds of thousands of their ancestral lands will likely be lost.

Alleviate poverty: The MBC Program not only aims to preserve biodiversity, but also address the socio-economic development needs of Central America. It recognizes that conservation can not be addressed in isolation from urgent development imperatives.

For more information contact: Raymond Toye, World Bank; tel.: +(33) 1 40 69 30 28; fax: +(33) 1 40 69 31 71; Internet: <http://www.worldbank.org/>

REVIEW PANEL ON CGIAR: On 1 October 1998 in New York, an independent panel of international experts met to present its report on the work of the Consultative Group on International Agricultural Research (CGIAR). The panel found that CGIAR is key to ensuring that the rapid advances in modern molecular genetics, computing, and informatics are responsive to the public good, and particularly the needs of the poor. The panel determined that CGIAR fulfills the leadership role in unlocking these new and exciting scientific opportunities for those most at risk. All aspects of the \$350 million CGIAR system, a network of 16 international agricultural research centers around the world, most in developing countries, were examined. Maurice Strong, who is chair of the Earth Council, was Secretary-General of the 1992 United Nations Conference on Environment and Development, and has chaired the distinguished panel for the past 18 months, provided an overview of the findings.

The CGIAR was founded in 1971 in the wake of concerns that rising populations in developing countries were outstripping the world's capacity to provide food. This third, independent review of the CGIAR System was launched in May 1997 and the Panel's principal recommendations include the following:

- The CGIAR should lend strong support to Africa's development needs by implementing a millennium strategy for African agriculture to reduce poverty, hunger, and environmental degradation.
- The CGIAR should launch a global initiative for integrated gene management that will conserve genetic resources (biodiversity), provide for the sustainable use of genetic resources, and ensure adherence with the equity and bio-safety provisions of the Convention on Biological Diversity. The CGIAR collections of major crop species - numbering 600,000 accessions - will be at the heart of this initiative.
- The CGIAR should establish a coordinating and servicing unit for biosafety protocols so that the latest developments in biotechnology can be safely deployed to benefit the poor and the environment. The Panel recommended that the CGIAR implement a program of public information to ensure transparency in research objectives and mechanisms.
- The CGIAR should establish a global network for integrated natural resources management so as to link productivity research with environmentally-sound management of the earth's natural resources.
- The CGIAR should work toward developing "rules of engagement" that involve both public and private sectors and are based on the premise that access to the means of food production is as much a human right as access to food.

The panel confirmed that investing in the CGIAR has produced a high rate of return for developing countries. Independent studies have established that rates of return on investment in agricultural research are consistently high - for example, 191 percent on maize research in South America, 65 percent on rice in India and Indonesia, 60 percent on cowpea in Senegal, and 50 percent on wheat in all developing countries. Using data from 42 developing countries, a CGIAR study found that, on average, a \$1 increase in agricultural production generated \$2.32 of growth in the overall economy.

CGIAR cosponsors are the World Bank, UN Development Programme, UN Environment Programme, and Food and Agricultural Organization of the UN. For more information contact: the World Bank, Mahendra Shah; +1 (202) 473-0551; fax: Shirley Geer; tel: + 1 (202) 473-8930; Internet: <http://www.worldbank.org/>

/DESERTIFICATION

SECOND CONFERENCE OF THE PARTIES TO THE CONVENTION TO COMBAT DESERTIFICATION: Delegates to the Second Conference of the Parties (COP-2) to the UN Convention to Combat Desertification (CCD) met in Dakar, Senegal, from 30 November to 11 December 1998. The Committee on Science and Technology (CST) met in parallel to the COP from 1-4 December. Delegates approved arrangements for the institutional linkage between the Convention and the UN Secretariat and the headquarters agreement with the Government of Germany, where the Secretariat is scheduled to move in early 1999. The COP approved adjustments to its budget and adopted the outstanding rules of procedure concerning bureau members, but retained bracketed language regarding majority voting absent consensus. Eastern and Central European countries were invited to submit to COP-3 a draft regional implementation annex. The CST established an ad hoc panel to follow-up its discussion on links between traditional and modern knowledge.

Delegates considered, but deferred to COP-3, decisions on the Secretariat's medium-term strategy, adoption of the Memorandum of Understanding between the COP and IFAD regarding the Global Mechanism, and the G-77/China proposal to establish a Committee on the Review of the Implementation of the Convention. Delegates expressed pleasure with the CST's discussion on traditional knowledge, as well as with an informal discussion on experience implementing NAPs and NGO dialogues on these two issues. Insights into the COP's and CST's ability to translate deliberations into action will have to wait, however; late-starts on both the UNEP-led survey and evaluation of existing networks and the operation of the Global Mechanism, called for by COP-1, precluded substantive discussions on these first fruits of the CST's and COP's deliberations. For the full Earth Negotiations Bulletin report, as well as photos, interviews and recordings, see: <http://www.iisd.ca/linkages/vol04/enb04127e.html>

/FORESTS

IFF BUREAU MEETING AND INFORMAL BRIEFING MEETING ON PREPARATIONS FOR IFF-3: An IFF Bureau meeting was held at the UN in New York on 25 January, followed by a briefing of country delegates by the two IFF Co-Chairs, Ambassador Bagher Asadi and Ambassador Ilkka Ristimäki on 26 January 1999. The main subject of both events was preparations for the third session of the IFF, to be held in Geneva from 3-14 May 1999. It was suggested that the next informal briefing meeting might take place in conjunction with the seventh session of the Commission on Sustainable Development in April 1999. Briefing highlights include:

- As usual, two working groups will be meeting simultaneously, following the division of labour established at IFF II. IFF category III will continue to be discussed in plenary;
- It is suggested that informal contact groups on Trade and Environment, and on Transfer of Technology should meet during evenings of the first week in order to seek to make progress on the heavily bracketed text resulting from IFF II;
- During week one, all remaining programme elements (I.b; II.a; II.d; and category III) will be subject to substantive discussion, leaving week two for negotiation of preliminary conclusions and proposals for action on all IFF programme elements. The report on all IFF programme elements will remain open until final negotiation during IFF IV;

- Side events will be scheduled during the lunch break and early evening as usual, giving priority to briefings on government lead initiatives during the first week, and seeking to place the event as close as possible to the timing of the IFF deliberations on the related IFF programme element;
- It was emphasized that the timetable for IFF III is very tight and regional groups were encouraged to hold consultations, if at all possible, before meeting in Geneva;
- The IFF Secretariat will endeavour to post advance unedited text in English of documentation for IFF III on the Internet from mid-February;
- Advance notice from governments and accredited NGOs of the names of members of their delegations to IFF III would be highly appreciated.

For the calendar of meeting in 1999 relevant to the intergovernmental dialogue on forests, see the "Upcoming Meetings" section of this journal. For further information contact: the IFF Secretariat; tel: +1 (212) 963-6208; fax: +1 (212) 963-3463; e-mail hurtubia@un.org; Internet: <http://www.un.org/esa/sustdev/iff.htm>

GLOBAL WORKSHOP ON ADDRESSING THE UNDERLYING CAUSES OF DEFORESTATION AND FOREST DEGRADATION: The Global Workshop on Addressing the Underlying Causes of Deforestation and Forest Degradation took place from 18-22 January 1999 in San Jose, Costa Rica. The workshop was hosted by the Costa Rican government and organized by an Organizing Committee that included UNEP, governments and NGOs. The workshop was attended by 130 participants from 40 countries, representing governments, international, non-governmental and indigenous peoples' organizations, local communities, academia, trade unions and the private sector.

The culmination of a 16-month process of regional consultations and case studies, the Global Workshop aimed to support and build on the implementation of the Intergovernmental Panel on Forests' (IPF) proposals for action on the underlying causes of deforestation and forest degradation and the ongoing work of the Intergovernmental Forum on Forests (IFF). More specific objectives were to: contribute to further analysis of the major underlying causes at regional, national and local levels on the basis of case studies and various participatory consultation processes to feed into the Global Workshop; raise awareness and facilitate dialogue about underlying causes among a broad range of governmental and non-governmental actors within and outside the forest sector; and stimulate partnerships among stakeholders around solution-oriented approaches.

Over the course of the five-day workshop, delegates heard presentations on the indigenous peoples' organizations (IPO) workshop and the seven regional workshops held over the last six months to inform the Global Workshop. Participants met in plenary sessions and four parallel working groups, which addressed four workshop themes: trade and consumption; stakeholder participation and land tenure; investment policies, aid and financial flows; and forest valuation. The working groups sought to determine objectives for addressing the underlying causes of deforestation, define actions to meet these objectives and identify actors to implement these actions. Delegates based their deliberations on a background document, which contained summaries of the IPO and regional workshops' findings, a synthesis report of the summaries, and a document outlining the four workshop themes and issues to be addressed.

The outcome of the meeting was the Report of the Global Workshop, consisting of a compilation of the objectives, actions and actors identified by the four working groups. The Report was

submitted to Intergovernmental Task Force on Forests (ITFF) and UNEP. UNEP, as ITFF task manager for underlying causes, will attach the Workshop Report to its own report that it is preparing for the UN Secretary-General on underlying causes. After minor editing by the workshop Steering Committee, the Workshop Report will be submitted to IFF-3 in May 1999 by the Costa Rican government and introduced to other fora, including the World Bank Forest Policy Review. For the complete Sustainable Developments report see: <http://www.iisd.ca/sd/sanjose.html>

SEMINAR ON DECENTRALIZATION AND DEVOLUTION OF FOREST MANAGEMENT IN ASIA AND THE PACIFIC: A seminar on decentralization and devolution of forest management in Asia and the Pacific was held from 30 November - 4 December 1999 in Davao, the Philippines and was attended by nearly two hundred delegates. The seminar was organized by the Asia-Pacific Regional Office of the FAO, the Bangkok-based Regional Community Forestry Training Centre, and the Philippine DENR. Many speakers and participants noted that "sustainable forest management," with its emphasis on respect of the ecosystem along with economic benefit, implies broad public participation in both decision making and implementation – especially in the case of the Asia-Pacific region, where between 430 and 450 million people are "forest-dependent." However, moving from management *for* the people to management *with* the people, making the people part of the solution rather than the problem as in yesterday's thinking, remains more slogan than deed in most places.

Some participants presented case studies showing that current decentralization attempts are often inconclusive, open to interpretation, even contradictory. They stated that devolutionary attempts as have taken place region-wide remain relatively marginal, with a few exceptions. Nepal is one, where nearly half a million hectares of forest have been handed over so far to 7,000 user groups, and a thousand other such groups are waiting for formal registration. Some stress that the best known forest devolution experiment in the region is India's joint forest management agreements, allowing some ten thousand community groups to protect and use more than 1.5 million hectares of forest land. Such an approach assumes fairly stable, homogenous communities, the absence of competing claims on the ground, smooth democratic processes within the new groupings or, failing that, dedicated, competent and honest leaders.

Some non-government organizations noted difficulty with finding the "right" leaders for their forestry projects. Many participants agreed that whatever groupings are formed at the grassroots (co-operatives, user groups) for the purpose of involving people in democratic management of forests, need to be supported by way of training, financial support and help in marketing. Such support requires vastly increased cooperation among the various "stakeholders" – foresters, local officials, NGO workers, and forest dwellers – and implies that forestry officials shift from resource management to the extension of technical services. For more information contact: Patrick B. Durst, FAO; e-mail: patrick.durst@fao.org; Internet: <http://www.fao.org/>

/OCEANS AND COASTS

GULF OF GUINEA PROTOCOL CONFERENCE: From 18-21 January 1999 in Accra, Ghana, a conference of marine experts meet to consider, *inter alia*, establishing a protocol on off-shore pollution to ensure that West and Central African countries bordering on the Gulf of Guinea do not discharge untreated domestic and in-

dustrial wastes into coastal waters. The experts, from Benin, Cameroon, Cote d'Ivoire, Ghana, Nigeria, and Togo, discussed setting common guidelines and standards for industrial effluent discharge into coastal waters to minimize pollution and preserve bio-diversity. They would identify key problems related to industrial pollution in the region and propose action for their mitigation. The conference was jointly organized by UNIDO and the Gulf of Guinea Large Marines Eco-system Project. Ten other countries, including Equatorial Guinea, Gabon and Sao Tome and Principe are to be incorporated.

The country's environment, science and technology minister, Cle-tus Avoka, noted that though the gulf can renew its waters only once in about 80 years, several tons of untreated domestic and industrial waste are discharged into it daily. Avoka noted that the protocol would complement efforts being made under the project initiated four years ago with the support of Global Environmental Facility and other organisations to address the pollution of the gulf. For more information see: <http://www.unido.org/>.

THIRTY-FIRST SESSION OF THE IOC EXECUTIVE COUNCIL: The Thirty-first Session of the IOC Executive Council was held in Paris from 17-27 November 1998. The Council discussed, *inter alia*, the implementation of follow-up actions related to UNCED, including the integrated global observing strategy (GTOS/GCOS/GOOS), international ocean assessments, and the joint commission on oceanography and marine meteorology. The Council also reviewed the implementation of the Year of the Ocean initiatives as they were identified by the IOC Assembly at its Nineteenth Session (Paris, France, 2-18 July 1997) and approved by the UNESCO General Conference at its Twenty-ninth Session (Paris, France, 21 October-12 November 1997).

The purpose of the IYO was to sensitize the public and governments to the importance of the ocean and to leave a legacy of actions for the future. Many governments undertook programs, adopted policies and enacted legislation on ocean issues. Delegates considered the achievements attained towards the goals of the IYO by IOC Member States, UNESCO/IOC Secretariat, international organizations and national institutes and individuals. More than two hundred conferences, workshops and training courses have been implemented as dedicated to the IYO; research and training courses were organized by dozens of countries. To date, about sixty countries have signed the Ocean Charter, a non-binding statement of the need to preserve the ocean and sustain its resources.

The Executive Council decided in order to preserve the memory of national initiatives and making them widely known, the national reports on the implementation of the IYO should be submitted to the IOC Secretariat for inclusion into the IYO Homepage and a CD-ROM be produced both as an archive and a platform for future initiatives. The Council adopted a resolution that called for the IOC to report on the IYO activities to the Annual Report of the UN General Assembly, to the Commission on Sustainable Development and to the UNESCO General Conference. For more information contact: IOC; e-mail: p.pissierssens@unesco.org; Internet: <http://ioc.unesco.org/iocweb/govbodies/ec31/ec31home.htm>

CONSULTATION ON FISHERIES MANAGEMENT: The "Consultation on the Management Of Fishing Capacity, Shark Fisheries and Incidental Catch Of Seabirds in Longline Fisheries" was held in Rome, Italy from 26-30 October 1998. The drafts of three non-binding global documents aiming at a more sustainable management of vulnerable fisheries resources were approved by representatives from 81 countries and the European Community. The Consultation approved: a draft International Plan of Action for Re-

ducing Incidental Catch of Seabirds in Longline Fisheries; a draft International Plan of Action for the Conservation and Management of Sharks; and, a draft International [Guidelines] [Plan of Action] for the Management of Fishing Capacity. The Consultation discussed at length the need to take urgent action to curb the growing problems of flags of convenience and pirate fishing. It recommended that priority be given by FAO Members to consider accepting the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance agreement).

The draft documents "International Guidelines/Plan of Action for the Management of Fishing Capacity," the "International Plan of Action for the Conservation and Management of Sharks" and the "International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries" will be submitted to the FAO Committee on Fisheries in February 1999 for final adoption. For more information contact: Erwin Northoff, FAO Media Officer, tel: +0039-06-5705 3105; fax: +0039-06-5705 4975; e-mail: Erwin.Northoff@FAO.Org; Internet: <http://www.fao.org/WAICENT/FAOINFO/FISHERY/faocons/faocons.htm>.

/WETLANDS

FIRST OCEANIA REGIONAL MEETING ON RAMSAR:

The first Oceania Regional meeting on Ramsar took place in Hamilton, New Zealand from 1-4 December 1998. Attended by representatives of 9 countries, 3 dependent territories and 17 international, regional, national and local organizations, the meeting reviewed the priorities for wetland conservation and wise use under four themes that will be on the table at COP-7 in May 1999. The special circumstances and needs of the Small Island Developing States (SIDS) of the region was a recurring theme and participants made a number of recommendations directed at making the Ramsar Convention better suited to these priorities. It is expected that these recommendations will be finalized in early 1999.

Participants agreed on a number of findings, such as: the region strongly supports Ramsar's efforts to promote more integrated implementation of international environment conventions, especially through the Joint Work Plan with the CBD; bottom-up approaches to wetland management are the norm in the region, for various reasons, and the Convention needs to modify some of its papers going to COP-7 to reflect this regional perspective more clearly; several SIDS are actively pursuing Ramsar membership; Ramsar needs to ensure that its plethora of guidelines and tools are presented within a total framework or context for implementation; Ramsar, SPREP, WWF, Wetlands International, BirdLife International and others need to develop an arrangement to allow for cooperation and partnership approaches to implementing projects relating to wetlands; Australia, New Zealand and Papua New Guinea, as presently the three Ramsar Contracting Parties in the region, were urged to take forward the recommendations from the meetings to COP7, as best they could within their respective national delegations. For more information contact: the Ramsar Convention Bureau; Rue Mauverney 28; CH-1196 Gland, Switzerland; tel. + (41 22) 999 0170; fax + (41 22) 999 0169; e-mail: ramsar@ramsar.org.

/CHEMICAL MANAGEMENT

THIRD MEETING OF THE INTERSESSIONAL GROUP OF THE INTERGOVERNMENTAL FORUM ON CHEMI-

CAL SAFETY: The third meeting of the Intersessional Group (ISG-3) of the Intergovernmental Forum on Chemical Safety (IFCS) was held from 1-4 December 1998 in Yokohama, Japan. ISG-3 brought together approximately 135 participants representing 46 countries, intergovernmental organizations (IGOs), United Nations agencies and both industry and public interest non-governmental organizations (NGOs). Throughout ISG-3, delegates met in several Plenary and working group sessions to address three thematic areas: risk assessment; obsolete chemicals and pesticides; and capacity building. They also addressed a range of other topics, including: emerging issues such as endocrine disrupters, persistent organic pollutants (POPs) and chemicals of international concern other than POPs; harmonization of classification and labelling; NGO participation in IFCS; and matters to be carried forward to Forum III. Regional groups and NGOs convened meetings in preparation for ISG-3 on 30 November and also met periodically during ISG-3. ISG-3 resulted in approximately twenty-five agreed action items and recommendations on risk assessment, obsolete chemicals and pesticides, capacity building, harmonization of classification and labelling, support for NGO participation in Forum activities, preparations for the third meeting of the IFCS (Forum III), longer term issues, funding and the year 2000 computer problem (Y2K). For the complete Sustainable Developments report on the meeting see: <http://www.iisd.ca/sd/isg3/sdvol20no1e.html>

FIRST SESSION OF THE CRITERIA EXPERT GROUP FOR PERSISTENT ORGANIC POLLUTANTS:

The first session of the Criteria Expert Group (CEG-1) for persistent organic pollutants (POPs) was held from 26-30 October 1998 in Bangkok, Thailand. Over 100 delegates from approximately 50 countries met in Plenary to consider the programme of work of the CEG, including the development of science-based criteria for identifying additional POPs as candidates for future international action. Concurrently with discussions on criteria, delegates considered the development of a procedure for identifying additional POPs, including the information required at different stages of the procedure and what body would nominate, screen and evaluate a substance as a potential future POPs candidate. Several contact groups were also convened to discuss specific issues and report back to Plenary. The outcome of CEG-1 will be reported to the second session of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants (INC-2) in January 1999, and the CEG will continue its work at its next session in the first half of 1999.

The CEG is an open-ended technical working group with a mandate to present to the INC proposals for science-based criteria and a procedure for identifying additional POPs as candidates for future international action. The process should incorporate criteria pertaining to persistence, bioaccumulation, toxicity and exposure in different regions and should take into account the potential for regional and global transport including dispersion mechanisms for the atmosphere and the hydrosphere, migratory species and the need to reflect possible influences of marine transport and tropical climates. This work is to be completed and submitted to the INC at or before its fourth session.

Having expected a relatively small meeting of around 40-60 experts, the Thai hosts of CEG-1 were not the only ones surprised when over 100 delegates arrived in Bangkok, forcing quick adjustments to the host government's reception on the first evening. Indeed, the high level of interest in the work of the CEG was clear evidence of the importance attached to its mandate of developing

science-based criteria and a procedure for identifying additional POPs as candidates for the future international convention. The unexpected size of the group may have been a factor in the slow start of the proceedings, but by the end of five days the CEG had made substantial headway on both the question of criteria and the establishment of a procedure. For the full Earth Negotiations Bulletin report, see: <http://www.iisd.ca/linkages/vol15/enb1512e.html>

/POPULATION

TECHNICAL MEETING ON POPULATION AGEING:

The "Technical Meeting on Population Ageing" was held in Brussels from 6-9 October 1998. Over 40 experts took part in the meeting, which was part of "ICPD+5," the review of the achievements of the 1994 International Conference on Population and Development (ICPD). Organized by the United Nations Population Fund (UNFPA) and the Population and Family Study Centre (CBGS), a Flemish Scientific Institute in Brussels, it reviewed the experiences of developed countries in population ageing to identify practices that can be adopted by developing nations. The meeting featured the presentation of some 20 technical papers, followed by working group meetings and a panel discussion on country policies, poverty and gender aspects of ageing.

Participants recommended that international donors should consider renegotiating the external debts of poor countries to release funds for social services for older persons. The recommendation came from the working group on economic issues. Other recommendations were adopted on meeting older persons' needs with regard to health care and social services, demography, research and training. They also proposed that governments and international organizations integrate into development strategies the economic and social consequences of ageing, and consider relations between children, younger and older adults. Governments and international organizations should establish gender-sensitive population policies where fertility is below replacement level and ageing is advancing, the meeting proposed. These should aim to provide wider access to education, reproductive health services, job creation and adequate housing, and to remove barriers that prevent older persons from continuing to work.

The meeting recommended various mechanisms to enable ageing persons to leave the workforce gradually, including job redesign, flexible pension arrangements, temporary or home-office work and mentoring. It also called for: strengthened state provision of social and health services, particularly for the elderly, women and children; access to small-scale credit schemes to enable older people to participate in income-generating programmes; and greater research into economic transfers between younger and older people and the contributions of the latter to the labour market.

As part of the ICPD+5 process, UNFPA has sponsored a series of technical meetings and round-table discussions, leading up to an international forum on ICPD implementation, to be held in February 1999 in The Hague, Netherlands. The report on the meeting on ageing will be consolidated into a document for review by the Hague Forum and as background for the Secretary-General's report to a special session of the United Nations General Assembly on post-ICPD progress, to be held in June-July 1999. For more information contact: UNFPA; e-mail: ryanw@unfpa.org; Internet: <http://www.unfpa.org/ICPD/ageing/age-agenda.htm>. UNFPA's web site also includes *The State of the World Population 1998* report and more information on the ICPD+5 process.

/HABITAT

PANEL DISCUSSION IN UNGA SECOND COMMITTEE

ON HABITAT: On 29 October 1998, the Second Committee of the UN General Assembly hosted a panel discussion on the Status of the Implementation of the Habitat Agenda. Second Committee Vice-Chair Burak Özügergin (Turkey) moderated the panel comprised of: Dr. Klaus Töpfer, Executive Director of UNEP; Millard Fuller, President, Habitat for Humanity International, Professor Robert Geddes, Former President, American Institute for Architects and Dean of the School of Architecture at Princeton University, Giovanni Vernetti, Deputy-Mayor and Commissioner for the Environment and Sustainable Development in Turin, Italy; and Dr. Irene Weise van Ofen, International Federation for Housing and Planning.

In the question and answer period, a delegate from UGANDA asked to what extent urban planners use "rural urban planning" - planning to create jobs away from the urban center. A delegate from Austria asked if cooperation between local communities and the UN through Habitat has been successful. Participant also inquired about: clean water supply for urban area; self help programs for local communities; how to surmount obstacles of funding or entrenched interests; and how to combat anti-urban stereotypes.

In response, Töpfer said he is currently working to stabilize the Habitat Center in order to regain donor confidence. Regarding "rural urban planning," he said stabilizing urban areas through rural area stabilization is no longer a viable solution, and said problems must be solved within the city. He highlighted the economic, social and environmental advantages cities provide. On the topic of water supply, he detailed a program on water for cities in Africa funded by the Turner Foundation. On local community participation, Töpfer said that local community participation at Habitat II was exhilarating and that he is looking at models for local-international cooperation, like that of the ILO, where local groups participate actively in the overarching program. Geddes noted local and state level movements in the United States that bring together Habitat and Environment and said he did not see likelihood of such movements developing at the national level. In his closing remarks, Dr. Töpfer underscored the importance of cooperating with all organizations linked to Habitat, and noted the Habitat Center's catalytic role to play in addressing all types of urban issues. For the ENB Briefing on this panel, see: <http://www.iisd.ca/linkages/csd/csd7/>.

/INTERGOVERNMENTAL ORGANIZATIONS

UNESCO EXECUTIVE BOARD: The UNESCO Executive Board met from 19 October - 6 November 1998 in Paris and decided to create an International Institute for Capacity-Building. The institute, to be based in Addis Ababa, Ethiopia, will enable UNESCO to step up its assistance in bolstering human resources in developing countries in general, and in Africa in particular. The board's decisions concerning preparation of UNESCO's programme in the years 2000-2001 stressed that education must remain the central priority of UNESCO, with emphasis on reinforcing national capacities to reform education systems at all levels. In reaffirming UNESCO's priority groups of youth, women, African and the least-developed countries, the board recommended that the organization focus on meeting needs of the most disadvantaged segment of the population in each of these groups. Also highlighted was the need for all of UNESCO's actions to contribute to promoting a culture of peace. To this end, the board recommended strengthened inter-sectoral coop-

eration in design and implementation of the transdisciplinary project "Towards a Culture of Peace." For more information contact: UNESCO; tel.: +(33 1) 45 68 20 05; fax: +(33 1) 45 68 57 02.

GEF COUNCIL MEETING: The GEF Council Meeting was held from 14-16 October 1998 in Washington, DC. Statements were made to the Council by the Executive Secretary of the UNFCCC and the Officer in Charge of the CBD, who also responded to questions from Members. The Chair of the Scientific and Technical Advisory Panel (STAP), Dr. Madhav Gadgil, reported on the first meeting of the newly reconstituted STAP and drew the Council's attention to the priority issues that STAP proposes to address.

The Council approved a number of decisions, including: implementing agencies' strategies for integrating global environmental activities; country ownership of GEF projects; streamlining the project cycle; expanded opportunities for executing agencies; relations with conventions; the first GEF assembly; and the draft annual report. When discussing Implementing Agencies' strategies for integrating global environmental activities, the Council noted its general dissatisfaction with the reports prepared by the Implementing Agencies and requested the CEO to communicate the highlights of its discussions on this agenda item to senior management of each of the agencies. The Council noted the need for a clearer definition of the concept of mainstreaming and called upon the Implementing Agencies to consult with one another and with the Secretariat on a common approach to preparing their strategies and action plans. For more information contact: Marie Morgan, GEF ; tel.: +1 (202) 473-1128; fax: +1 (202) 522-3240; Internet: <http://www.gef-web.com>.

UNCTAD TRADE AND DEVELOPMENT BOARD: The 45th Annual Session of the UNCTAD Trade and Development Board was held from 12-23 October 1998 in Geneva. The Board adopted agreed texts on the causes, management and prevention of financial crisis; trade and investment opportunities and constraints for the least developed countries (LDCs) and the development prospects for Africa. The Board considered that "an effective response needs to combine measures at both national and international levels" and noted that even countries "with sound economic fundamentals and institutions have also been affected by global financial instability." The Board adopted a set of agreed conclusions on trade and investment on LDCs. Regarding trade, the Board recognized that the particular circumstances of LDCs continues to warrant "special and differential" treatment, as provided for under the Uruguay Round Agreements. But the long-term challenge for LDCs is to improve their competitiveness in international markets. The Board also stressed the importance of supporting LDCs in their efforts to reverse Agreed conclusions were also adopted on prospects for Africa in areas of agriculture, trade and industrialization. The Board recognized that African countries have made determined efforts to improve macro-economic fundamentals. For more information contact: UNCTAD; tel.: + (41 22) 907-5816; fax: + (41 22) 907 0043; e-mail: press@unctad.org.

/linkages/journal/



/UPCOMING

/SUSTAINABLE DEVELOPMENT

1999 MEETINGS OF CSD AD HOC INTERSESSIONAL WORKING GROUPS: The Ad hoc Working Group (AHWG) that will address matters related to Consumption and Production Patterns, including recommendations for sustainable consumption for inclusion in the UN Guidelines for Consumer Protection (ECOSOC resolution 1997/53) and Tourism, will be co-chaired by Mr. T. Farago (Hungary) and Mr. N. Hanif (Pakistan). This AHWG will meet in New York on 22-26 February 1999. The Ad hoc Working Group addressing matters related to Oceans and Seas, and Comprehensive review of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States will be Co-Chaired by Ambassador John Ashe and a representative TBA. This AHWG will meet in New York from 1-5 March 1999. For information contact: Zehra Aydin-Sipos, Division for Sustainable Development; tel: +1 (212) 963-8811; fax: +1 (212) 963-1267; e-mail: aydin@un.org; Internet: <http://www.un.org/esa/sustdev/>

DEMOCRACY, MARKETS AND DEVELOPMENT: "Democracy, Markets and Development" will be held in Seoul, Korea from 26-27 February 1999 and is jointly sponsored by the World Bank and the Government of the Republic of Korea. For more information contact: Peter Stephens; tel: +1 (202) 458-2281; fax: + (202) 522-3405; Internet: <http://www.worldbank.org/html/extdr/extme/ma012099.htm>

CONFERENCE ON CORPORATE REPORTING: This conference, "Towards a Common Framework for Corporate Sustainability Reporting," will be held from 4-5 March 1999 at Imperial College, London, UK. The meeting will be held by UNEP, Association of Chartered Certified Accountants, WBCSD, Coalition for Environmentally Responsible Economies, Stockholm Environment Institute, and the Imperial College of Science, Technology and Medicine. For more information contact: Sally Verkaik, Imperial College; tel: +44 (0)171 594 6882; fax: +44 (0)171 594 6883; e-mail: cpd@ic.ac.uk; Internet: <http://www.ad.ic.ac.uk/cpd/unep.htm>

ECO-EFFICIENCY WORKSHOP: This meeting will be held in Sydney, Australia from 15-18 March 1999 and organized by the Environment Directorate of the OECD and Environment Australia. For more information contact: Kerry Smith; e-mail: kerry.smith@ea.gov.au

ENVIRONMENTAL MANAGEMENT, HEALTH AND SUSTAINABLE DEVELOPMENT: The conference will be held from 22-25 March 1999 in Alexandria, Egypt to present the latest research activities on environmental management, along with the impact of environmental problems on health and sustainable development. For more information contact: Prof. Hoda Baghdadi, Institute of Graduate Studies and Research, 163 Horreya Avenue, Chatby, Alexandria, Egypt; fax: +203 421 5792.

FIFTH ANNUAL INTERNATIONAL SUSTAINABLE DEVELOPMENT RESEARCH CONFERENCE: The Fifth Annual International Sustainable Development Research Conference, to be

held from 25-26 March 1999 in Leeds, UK, provides a forum for discussion and debate on how to move toward a more sustainable future. For more information contact: Conference Manager, ERP Environment, P.O. Box 75, Shipley, West Yorkshire BD17 6EZ, UK; tel: +44 1274 530 408; fax: +44 1274 530 409.

EXPERT MEETING ON INDICATORS: The Fifth Expert Group Meeting on Indicators of Sustainable Development will be held from 24-25 March 1999 in New York, US and will be hosted by the UNDESA. For more information contact: Ms. Birgitte Bryld, Focal Point for Indicators of Sustainable Development; tel.: +1 (212) 963-8400; fax: +1 (212) 963-1267; e-mail: bryld@un.org

UPE 3: The Third International Symposium entitled "Environment quality and development needs: Planning opportunity or threat?" will be held from 5-9 April 1999 in Pretoria, South Africa. For more information contact: The UPE 3-PTA Symposium Organizer; tel: +27 12 337-4167; fax: +27 12 337-4158; e-mail hneethl@gpmc.org.za; Internet: <http://upe3.up.ac.za/>

SEVENTH SESSION OF THE COMMISSION ON SUSTAINABLE DEVELOPMENT (CSD-7): CSD-7 will be held from 19-30 April 1999 in New York. For more information contact: Zehra Aydin-Sipos, Major Groups Focal Point, Division for Sustainable Development; tel: +1 (212) 963-8811; fax: +1 (212) 963-1267; e-mail: aydin@un.org; Internet: <http://www.un.org/esa/sustdev/>

SECOND ASIA-PACIFIC CLEANER PRODUCTION ROUNDTABLE AND TRADE EXPO: This meeting will be held in Brisbane, Australia from 21-24 April 1999. For more information contact: the Queensland Cleaner Production Task Force Association (QCPTA), Australia; e-mail: enquiry@globalgroup.com.au

NATIONAL TOWN MEETING FOR A SUSTAINABLE AMERICA: The National Town Meeting for a Sustainable America will gather from 2-5 May 1999 in Detroit, Michigan. For more information contact: President's Council on Sustainable Development, 730 Jackson Place, NW; Washington, DC 20503; tel: +1 (202) 408-5296; Internet: <http://www.sustainableamerica.org/>

AFRICAN WATER RESOURCES POLICY CONFERENCE: The Africa Water Resources Policy Conference will be held from 24-27 May 1999 in Nairobi, Kenya. For more information contact: Francois-Marie Patorni; tel: +1 (202) 473-6265; Internet: <http://www.worldbank.org/html/extdr/extcs/agenda.htm>

10TH INTERNATIONAL HUMAN ECOLOGY CONFERENCE: This conference, "Living With The Land - Interdisciplinary Research For Adaptive Decision-Making," will be held from 27-30 May 1999 at McGill University, Montreal, Canada. For more information contact: Society for Human Ecology, fax: +1 (514) 398 7437, e-mail: she@felix.geog.mcgill.ca, Internet: http://members.aol.com/tdietzvt/SHE_X.html

ECOSUD 99: The Second International Conference on Ecosystems and Sustainable Development will be held from 31 May - 2 June 1999 in Lemnos, Greece. For more information contact: the Conference Secretariat, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO40 7AA, UK; tel.: +44 (0) 1703 293223; fax: +44 (0) 1703 29285; e-mail: wit@wessex.ac.uk; Internet: <http://www.wessex.ac.uk>

FOURTH INTERNATIONAL CONFERENCE ON WASTE WATER: The conference "Managing the Wastewater Resource, Ecological Engineering for Wastewater Treatment" will be held in Norway from 7-11 June 1999. For more information contact: e-mail: Ecoeng99@jordforsk.nlh.no; Internet: <http://www.worg.nlh.no/ecoeng99/>

HUMAN DIMENSIONS OF GLOBAL ENVIRONMENTAL CHANGE RESEARCH COMMUNITY: This meeting will be held from 24-26 June 1999 in Shonan Village, Kanagawa, Japan. Following two successful international meetings held at Duke University in 1995 and at IIASA in 1997, the 1999 Open Meeting aims to promote exchanges of information on current research and teaching and to encourage networking and community building in this emerging field. For more information contact IGES; fax: +81 468 55 3709; e-mail: hdgec@iges.or.jp; Internet: <http://www.iges.or.jp/>

NINTH IOSTE SYMPOSIUM: "Science and Technology Education for Sustainable Development in Changing and Diverse Societies and Environments" will be held in Durban, South Africa from June 26 - July 2, 1999. For more information contact: Alan Pillay, IOSTE-9; tel: + (27-31) 204-4586; fax: + (27-31) 204-4866; e-mail: spillay@pixie.udw.ac.za; Internet: <http://its.udw.ac.za/~.EDU.DEPARTMENT.UDW/ioste/index~1.htm>

WORLD CONFERENCE ON SCIENCE: "Science for the Twenty-First Century: A New Commitment" will be held in Budapest from 26 June - 1 July 1999. For more information contact: Secretariat, World Conference on Science, UNESCO, 7, place de Fontenoy, 75352 PARIS, France; fax: +(33) 1 45 68 58 23; e-mail: confsci@unesco.org; Internet: <http://www.unesco.org/general/eng/programmes/science/wcs/eng/confen.htm>

AFRICAN INTERNATIONAL ENVIRONMENTAL PROTECTION SYMPOSIUM: This Symposium will be held in Pietermaritzburg, South Africa from 5-8 July 1999. For more information contact the Conference Secretariat; fax: +27 331 420246; e-mail: soil&pol@sprs.co.za; Internet: <http://www.sprs.co.za/>

VI INTERNATIONAL RANGELAND CONGRESS: The Congress will be held in Townsville, Australia from 17-23 July 1999. For information contact: the Secretariat; tel: + 61-7-4771-5755; fax: + 61-7-4771-5455; e-mail: secretariat-irc@unsw.edu.au; Internet: <http://irc.web.unsw.edu.au/>

WORKSHOP ON MARKET-BASED INSTRUMENTS: The "Workshop on Market-Based Instruments for Environmental Protection" will be held in Cambridge, Massachusetts, US from 18-20 July 1999. It will be hosted by Harvard University, and co-sponsored by the Association of Environmental and Resource Economists (AERE), the John F. Kennedy School of Government, and the Harvard University Committee on Environment. For more information contact: Robert N. Stavins, tel: +1 (617) 495-1820; fax: +1 (617) 496-3783, e-mail: robert_stavins@harvard.edu; Internet: <http://www.ecu.edu/econ/aere>

FOURTH INTERNATIONAL CONGRESS ON ENERGY, ENVIRONMENT AND TECHNOLOGICAL INNOVATION: This meeting will be held in Rome, Italy from 20-24 September 1999. For more information contact: EETI99, Università degli Studi de Roma "La Sapienza," Facolta di Ingegneria, Via Eudossiana, 18-00184 Rome, Italy; tel.: +39-6-44585764/44585524; fax: + 39-6-4883235; e-mail: eeti99@minerva.ing.uniroma1.it; Internet: <http://minerva.ing.uniroma1.it>

INTERNATIONAL CONFERENCE ON CONSUMPTION: "Down to Earth - An international Conference on Consumption and the Consumer" will be held in Hampshire, United Kingdom from 22-24 September 1999. It will be hosted by the Project Integra, and Hampshire, and supported by the UNED-UK, Onyx Aurora - Integrated Waste Management, and Hampshire County Council. For more information contact: Conference Administration, Index Communications Meeting Services; tel: +44 (0) 1794 511331/2, e-mail: icms@dial.pipex.com

CONFERENCE ON SUSTAINABLE LAND USE MANAGEMENT: The European Ecological Federation and the Ecology Center of the University Kiel, Germany, are organizing the Conference "Sustainable Land Use Management-The Challenge of Ecosystem Protection" from 28 September - 1 October 1999 in Salzau, Germany. For more information contact: Uta Schauerte, Ecology Center, Schauenburgerstraße 112, D-24118 Kiel; tel.: +49-431-880-4022; fax: +49-431-880-4083; e-mail: Utas@pz-oe-kosys.uni-kiel.de; Internet: <http://www.ecology.uni-kiel.de/slm99>.

INTERNATIONAL LANDCARE CONFERENCE: The International Landcare Conference will be held in March 2000 in Melbourne, Australia. For more information contact: Joanne Safstrom; tel: +61-3-9412-4382; fax: +61-3-9412-4442; e-mail: j.safstrom@dce.vic.gov.au

URBAN 21: This Global Conference, to be held in July 2000, is one of the key elements of the Global Initiative on Sustainable Development, sponsored by Brazil, Germany, Singapore and South Africa. For more information contact: Federal Office for Building and Regional Planning, Am Michaelshof 8, D - 53177 Bonn, Germany; fax: +49-228-82 63 15; e-mail: info@urban21.de; Internet: <http://www.urban21.de>

/TRADE AND ENVIRONMENT

CONFERENCE ON THE SOCIAL, GENDER AND ENVIRONMENT ASSESSMENTS OF THE WTO NEGOTIATIONS: This meeting will be held from 5-7 February 1999 in Brussels, Belgium. The International Coalition of Development Action (ICDA), WWF-International, Oxfam UK and Greenpeace are jointly hosting this meeting. For information contact ICDA at 115 Rue Stévin, B-1040 Bruxelles BELGIUM, fax: + (32-2) 230-0348, e-mail: icda@skynet.be web: <http://www.icda.be>

APEC BUSINESS ADVISORY COUNCIL: The APEC Business Advisory Council (ABAC), the private sector arm of the Asia-Pacific Economic Cooperation forum, holds its first meeting of 1999 in Bandar Seri Begawan, Brunei Darussalam, from 5-7 February 1999. For more information contact: the APEC Secretariat ; tel: +65-276-1880; fax: +65-276-1775; e-mail: te@mail.apsecsec.org.sg or abacsec@equitable.equicom.com.

APEC SENIOR OFFICIALS MEETING: The First APEC Senior Officials Meeting (SOM) will be held in Wellington from 1-10 February 1999. The New Zealand Institute of Management (NZIM) will be holding an associated meeting, the 'Asia Pacific Recovery Conference' on 5 February 1999 at the Michael Fowler Centre and Plaza International Hotel. For information about this meeting please contact: David Chapman, NZIM, ph: + (04) 473 7737; fax: + (04) 471 1926; e-mail: national_office@nzim.co.nz.

WTO COMMITTEE ON TRADE AND ENVIRONMENT: The CTE will meet from 18-19 February, 29-30 June, 12-13 October 1999 in Geneva. A Special Session of the General Council for the Third Ministerial Conference will be held from 25-26 February. The Third Ministerial Conference will be held from 30 November - 3 December. For more information, see <http://www.wto.org/wto/environ/enviromn.htm>

OECD COUNCIL MEETING: The Meeting of the OECD Council at the Ministerial Level will be held from 26-27 May 1999 in Geneva. For more information contact: Nicole Le Vourch, tel: +33 1 45 24 80 88; e-mail: Nicole.LeVourch@oecd.org; Internet: http://www.oecd.org/news_and_events/upcoming.htm.

/CLIMATE AND ATMOSPHERE

CONFERENCE ON DOMESTIC EMISSIONS TRADING: A conference on domestic emission trading will be held from 11 February 1999 in Håndverkeren, Rosenkrantzgate 7, Oslo, Norway. For more information contact: CICERO, P.O. Box 1129 Blindern, N-0317 Oslo, Norway; tel.: (+47) 22 85 87 50; fax: (+47) 22 85 87 51; e-mail: asbjorn.aaheim@cicero.uio.no; Internet: <http://www.cicero.uio.no/Div/trading-conference.html>

WORLD RENEWABLE ENERGY CONFERENCE: The World Renewable Energy Conference will be held from 10-13 February 1999 at Murdoch University in Perth, Australia. For more information contact: Mathew Kuruvill; tel.: +61 8972 01232; fax: +61 8972 04997.

LT-ACT '99: Long-Term Changes and Trends in the Atmosphere (LT-ACT'99) will be held from 16-19 February 1999 in Pune, India. Experimentalists and modelers will look at long-term variations and trends that may signal global change. For more information, contact Dr. Gufran Beig, Homi Bhabha Rd., Pashan, Pune 411 008, India; tel.: + 91 212 330846; fax: + 91 212 347825; Internet: <http://www.iucaa.ernet.in/iitm.html>

ILUMEX: Comision Federal de Electricidad, the main electric public utility of Mexico, has run ILUMEX (High Efficiency Lighting Pilot Project) and is organizing an international seminar that will be held February 24-26, 1999 in Puerto Vallarta, Jalisco, Mexico to disseminate the results of the project with emphasis on commercial aspects, laboratory tests, and impacts on the electric system and the environment. For more information contact: Mr. Francisco Rodriguez; fax: + (3) 124 43 98; e-mail: filumex@mail.udg.mx

EUROPEAN UNION WIND ENERGY CONFERENCE AND EXHIBITION: The 1999 European Union Wind Energy Conference and Exhibition will be held from 1-5 March 1999 in Nizza, Acropolis Convention Centre. For more information contact: Dr Erik L. Petersen, PO Box 49, DK-4000 Roskilde, Denmark; tel.: +0045/46/775-000; fax: +0045/46/775-619).

INTERNATIONAL EMISSIONS TRADING WORKSHOP: Canada's National Round Table on the Environment and the Economy (NRTEE) is holding an international workshop entitled "Domestic Greenhouse Gas Emissions Trading Programs: A Comparison of Progress Around the World" on 1-3 March 1999, in Toronto, Canada. For more information contact: Elizabeth Atkinson, the National Round Table on the Environment and the Economy, 344 Slater Street, Suite 200, Ottawa, Ontario, Canada K1R 7Y3; fax: +1 (613) 992-7385; e-mail: atkinson@nrtee-trnee.ca; Internet: <http://www.nrtee-trnee.ca>

ELECTRIFYING AFRICA '99: Electrifying Africa '99 will be held from 3-4 March 1999 in Sun City Resort, South Africa. The theme for this event is "Powering the African Electric Power Industry in the Next Millennium." The conference will bring together the key electric power executives and managers from Southern Africa. Co-sponsors are Eskom and the Center for International Programs, Morehouse College. For more information, contact the registration department; tel.+1 (888) 299-8016.

OECD FORUM ON CLIMATE CHANGE: The OECD Forum on Climate Change will be held from 9-10 March 1999. The meeting will be organized by the Environment Directorate. For more information contact: Nicole Le Vourch, tel: +33 1 45 24 80 88; e-mail: Nicole.LeVourch@oecd.org; Internet: http://www.oecd.org/news_and_events/upcoming.htm.

MONTREAL PROTOCOL: The Sixteenth meeting of the Sub-Committee on Project Review will be held from 22-23 March 1999. The Seventh meeting of the Sub-Committee on Monitoring, Evaluation and Finance will be held 22-23 March 1999. The Twenty-seventh Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol will be held from 24-26 March 1999. All meetings will be held in Montreal, Canada. For more information contact: Mr. Omar E. El-Arini, Multilateral Fund Secretariat, tel: +1 (514) 282-1122; fax: +1 (514) 282-0068; e-mail: oelarini@unmfs.org

AMERICANA '99: This meeting will be held from 24-26 March 1999 in Montreal, Canada. This conference focuses on the latest environmental technologies being utilized in the Americas. A sample of conference themes include environmental management, air quality management, climactic changes, international markets, business and finance. For more information, see the Americana website: <http://www.epa.gov/globalwarming/news/www.americana.org/>

SECOND INTERNATIONAL CONFERENCE ON EMERGING MARKETS FOR EMISSIONS TRADING: The conference will be held from 26-27 April 1999 in London, England. The meeting is supported by UNCTAD, the UK Government, and the Institutue of Petroleum in London. For more information, contact Rachel Summers, Global Village Conferences, 70, Wheelhouse, Burrells Wharf, Westferry Road, London, E14 3TA; tel: +44 171 538 1700; fax: +44 171 538 4244; e-mail: info@emissions.co.uk

IEA INTERNATIONAL WORKSHOP ON TECHNOLOGIES TO REDUCE GREENHOUSE GAS EMISSIONS: This workshop, co-sponsored by the International Energy Agency and the US Department of Energy, will be held from 4-6 May 1999 in Washington, DC. For more information, contact: John Newman, International Energy Agency; tel: +33 1 40 57 67 15, fax: +33 1 40 57 67 49, e-mail: john.newman@iea.org or Jeffery Dowd, US Department of Energy; tel: +1 (202) 586-7258; fax: +1 202 586-4447; e-mail: jeff.dowd@hq.doe.gov.

WORLD COMBUSTION AND GLOBAL CLIMATE CHANGE CONFERENCE: CANADA'S CHALLENGES AND SOLUTIONS: The "World Combustion and Global Climate Change Conference: Canada's Challenges and Solutions" will be held from 26-28 May 1999 in Calgary, Canada. This event focuses on presenting new and innovative technology concepts that could help reduce GHG emissions. For more information, contact the Canadian Environmental Industry Association; tel.: +1 (613) 236 6222.

FCCC SUBSIDIARY BODIES: The FCCC Subsidiary Bodies will meet from 31 May – 11 June 1999 in Bonn, Germany. COP-5 will be held from 25 October – 5 November 1999 in Bonn. For more information contact the FCCC Secretariat; tel: + 49-228-815-1000; fax: + 49-228-815-1999; e-mail: secretariat@unfccc.de; Internet: <http://www.unfccc.de/>

ECOSUD 99: The Second International Conference on Ecosystems and Sustainable Development will be held from May 31 - 2 June 1999 in Lemnos, Greece. For more information contact: WIT, Ashurst, Southampton, SO40 7AA, UK; tel: +44 (0) 1703 293223; fax: +44 (0) 1703 29285; e-mail: wit@wessex.ac.uk; Internet: <http://www.wessex.ac.uk/>.

WORLD RENEWABLE ENERGY CONGRESS '99: World Renewable Energy Congress '99 will be held from 8-11 June 1999 at the Palace of the Golden Horses, Kuala Lumpur, Malaysia. For more information contact: the Secretariat; tel.: + 6 03 7172612/13, fax: + 6 03 7172616.

AIR POLLUTION CONFERENCE: The International Conference on Modelling, Monitoring and Management of Air Pollution will be held from 27-29 July 1999 in San Francisco, USA. For more information contact: the Conference Secretariat, AIR POLLUTION 99, Wessex Institute of Technology; tel: +44 (0) 1703 293223; fax: +44 (0) 1703 29285; e-mail: wit@wessex.ac.uk; Internet: <http://www.wessex.ac.uk/>.

FOURTH INTERNATIONAL CONGRESS ON ENERGY, ENVIRONMENT & TECHNOLOGICAL INNOVATION: The 4th International Congress on Energy, Environment & Technological Innovation will be held from 20-24 October 1999 in Rome, Italy. For more information contact: EETI99, Facolta di Ingegneria, Via Eudossiana 18, 00184 Rome, Italy; fax: 39-6-4883235 or visit <http://www.ing.ucv.ve/ceait/eeti.htm>.

AIR POLLUTION CONFERENCE: The International Conference on Modelling, Monitoring and Management of Air Pollution will be held from 27-29 July 1999 in San Francisco, US. For more information contact: the Conference Secretariat, AIR POLLUTION 99, Wessex Institute of Technology; tel.: +44 (0) 1703 293223; fax: +44 (0) 1703 29285; e-mail: wit@wessex.ac.uk; Internet: <http://www.wessex.ac.uk>

WORLD CLEAN ENERGY CONFERENCE (WCEC 2000): WCEC 2000 will be held at the Geneva International Conference Center from 24-28 January 2000. For more information contact: WCEC Conference Secretariat, POB 928, CH-8055 Zurich; tel: +411-463-9252, fax +411-463-0252, e-mail: icccag@zik.ch.

/BIODIVERSITY

INTERNATIONAL CONFERENCE ON INTELLECTUAL PROPERTY PROTECTION AND THE CONVENTION ON BIOLOGICAL DIVERSITY: Organized by the African Centre for Technology Studies (ACTS) and UNEP and sponsored by Swedish International Development Agency (SIDA), this meeting will be held in Nairobi, Kenya. in February 1999. For more information contact: Mr. Robert Lettington or Ms. Mita Manek, the African Centre for Technology Studies, P.O. Box 45917, Nairobi, Kenya; tel: + (254-2) 521450-5; fax: + (254-2) 52100; in the US, tel.: +1 (650) 833-6645; fax: + 1 (650) 833-6646; e-mail: acts@form-net.com.

SIXTH SESSION OF THE OPEN-ENDED AD HOC WORKING GROUP ON A BIOSAFETY PROTOCOL: This meeting is scheduled from 15-19 February 1999 in Cartagena, Colombia. An extraordinary COP will meet from 22-23 February 1999. For information contact: CBD Secretariat; tel: +1 (514) 288-2220; fax: +1 (514) 288-6588; e-mail: chm@biodiv.org; Internet: <http://www.biodiv.org>.

CONFERENCE ON BIOLOGICAL RESOURCE MANAGEMENT: Conference on Biological Resource Management, organized by the Directorate for Food, Agriculture and Fisheries (AGR), will be held from 29-31 March 1999 in Paris. For more information contact: Nicole Le Vourch, tel: +33 1 45 24 80 88; e-mail: Nicole.LeVourch@oecd.org; Internet: http://www.oecd.org/news_and_events/upcoming.htm.

EIGHTH REGULAR SESSION OF THE COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE: The eighth regular session of the Commission on Genetic Resources for Food and Agriculture, which includes on its agenda the continuation of the negotiations for the revision of the International Undertaking, will be held in Rome, from 19 - 23 April 1999.

For more information contact: David Cooper, Plant Genetic Resources Officer, e-mail: david.cooper@fao.org Internet: <http://web.icppgr.fao.org/>

FOURTH MEETING OF SBSTTA FOR CBD: This meeting is scheduled from 21-25 June 1999 in Montreal. An Intersessional Meeting on the Operations of the Convention will be held from 28-30 June 1999. The Fifth Meeting of the SBSTTA will be held in Montreal from 31 January - 4 February 2000. For information contact: CBD Secretariat; World Trade Center, 393 St. Jacques Street, Suite 300, Montreal, Quebec, Canada H2Y 1N9; tel: +1 (514) 288-2220; fax: +1 (514) 288-6588; e-mail: chm@biodiv.org; Internet: <http://www.biodiv.org>.

EXPERT PANEL ON ACCESS AND BENEFIT-SHARING: An Expert Panel on Access and Benefit-Sharing will be held from 4-8 October 1999 at a location to be determined. For information contact: CBD Secretariat; World Trade Center, 393 St. Jacques Street, Suite 300, Montreal, Quebec, Canada H2Y 1N9; tel: +1 (514) 288-2220; fax: +1 (514) 288-6588; e-mail: chm@biodiv.org; Internet: <http://www.biodiv.org>.

/FORESTS

INTERNATIONAL EXPERT MEETING ON THE ROLE OF PLANTED FORESTS: This meeting will be held from 22-26 February 1999 in Santiago, Chile. The meeting will be sponsored by the Governments of Chile, Denmark and Portugal. For more information contact: Carlos Weber, Chilean Forest Service, Eliodoro Yañez 1810, Santiago, Chile; tel: +56-2-2043251; fax: +56-2-2250428; Internet: <http://www.dg-florestas.pt/plant-meeting>.

SEMINAR ON PRACTICAL TRADE-RELATED ASPECTS OF FORESTS: This meeting will be held from 23-25 February 1999 in Geneva, Switzerland. The meeting will be sponsored by the Government of Brazil in cooperation with UNCTAD, ITTO and the IFF Secretariat. For more information contact: David Elliott, UNCTAD; e-mail david.elliott@unctad.org; or Maria Nazareth Farani Azevedo, Brazilian Mission to the United Nations, Geneva.

14TH SESSION OF FAO'S COMMITTEE ON FORESTRY (COFO): The 14th Session of FAO's Committee on Forestry (COFO) will be held from 1-5 March 1999 in Rome, Italy. Second Meeting of Forest Ministers convened by FAO will be held from 8-9 March 1999 in Rome. For more information see: <http://www.fao.org/WAICENT/faoinfo/forestry/forestry.htm>

EXPERT MEETINGS AND REGIONAL CONSULTATIONS ON INTERNATIONAL ARRANGEMENTS: This initiative is co-sponsored by Costa Rica and Canada, as well as Switzerland. The first meeting in Costa Rica will be held from 9-12 March 1999 to: recall the mandate agreed concerning Category III of the IPF's program of work; consider lessons learned from implementation of existing legal instruments; discuss general concepts of legal instruments and possible elements of legal instruments on forests; and examine mechanisms to build global consensus and generate suggestions for further actions for the period between March 1999 and February 2000. For more information contact: Guido Chaves, Ministry of the Environment, San Jose, Costa Rica; tel: + (506) 283 - 8004; fax: + (506) 283-7343 or 283-7118; e-mail: guidocha@ns.minae.go.cr. or Michael Fullerton, Canadian Forest Service, Department of Natural Resources; tel: +1 (613) 947-9082; fax: +1 (613) 947-9033; e-mail: mfullert@nrcan.gc.ca. Internet: <http://www.nrcan.gc.ca/cfs/crc>

INTERNATIONAL EXPERT MEETING ON PROTECTED FOREST AREAS: This meeting will be held from 15-19 March 1999 in Puerto Rico. This meeting will be co-sponsored by Brazil and the US. For more information contact: Joy Berg, US Forest Service, tel: +1 (202) 273-4727; e-mail: j.berg@if.arctic.com; or Bráulio Dias, Brazil Ministry of Environment; tel: + 55-61-317-1260; bfsdias@mma.gov.br.

INTERNATIONAL WORKSHOP ON MODEL FORESTS: The Second International Workshop on Model Forests for Field Level Application of Sustainable Forest Management will be held from 23-27 March 1999 in Mie, Japan. For more information contact: the IFF Secretariat; tel: +1 (212) 963-6208; fax: +1 (212) 963-3463; e-mail hurtubia@un.org; Internet: <http://www.un.org/esa/sustdev/iff.htm>.

INTERNATIONAL EXPERT MEETING ON THE ROLE OF PLANTED FORESTS: The International Expert Meeting on the Role of Planted Forests, sponsored by the Governments of Chile, Denmark, New Zealand and Portugal, will be held from 6-9 April 1999 (new proposed dates) in Santiago, Chile. For more information contact: Carlos Weber, Chilean Forest Service, Eliodoro Yañez 1810, Santiago, Chile; tel: +56-2-2043251; fax: +56-2-2250428; e-mail: cweber@conaf.cl; Internet: <http://www.dg-florestas.pt/plant-meeting>.

THIRD SESSION OF THE INTERGOVERNMENTAL FORUM ON FORESTS: The meeting will be held in Geneva from 3-14 May 1999. For more information, contact: IFF Secretariat; tel: +1-212-963-6208; fax: +1-212-963- 3463; e-mail: hurtubia@un.org; Internet: <http://www.un.org/esa/sustdev/iff.htm>

INTERNATIONAL TROPICAL TIMBER COUNCIL: The 26th Session of the International Tropical Timber Council (ITTC) will be held from 28 May-3 June 1999, Chiang-Mai, Thailand. For more information contact: Takeichi Ishikawa, Assistant Director, Management Services, ITTO Secretariat; tel +81 (0) 45 223 1110; fax +81 (0) 45 223 1111; e-mail: itto@mail.itto-unet.ocn.ne.jp; Internet: <http://www.itto.or.jp/>

IMPACT LOGGING ON BIODIVERSITY: "Impact Logging on Biodiversity" will be held in Hanoi, Vietnam from 18-22 October 1999. For more information contact: Titiek Setyawati, Center for International Forestry Research (CIFOR), P.O. Box 6596 JKPWB, Jakarta 10065, Indonesia; e-mail: t.setyawati@cgnnet.com; tel: + 62 251 622622; fax: +62 251 622100; Internet: <http://iufro.boku.ac.at/iufro/iufro/d8/wu80700/ev80700.html>

XXI IUFRO WORLD CONGRESS: The IUFRO World Congress will be held in Kuala Lumpur, Malaysia from 7-12 August 2000. For information see: <http://iufro.boku.ac.at/iufro/congress/>

/DESERTIFICATION

RIOD GLOBAL MEETING: This meeting is tentatively scheduled in March 1999 in Dakar, Senegal. For further information, contact ENDA at: fax: +221-8217595; e-mail: masselo@enda.sn

CULTIVATING OUR FUTURES: THE MULTIFUNCTIONAL CHARACTER OF AGRICULTURE AND LAND: The FAO/Netherlands meeting will be held in Rome in September 1999. For more information contact: Lucas Janssen, FAO/SDRN; tel.: +39-6-57053369; fax: +39-6-57055246; e-mail: agr99-conference@fao.org; Internet: <http://www.fao.org/sd/agr99>.

THIRD SESSION OF THE CONFERENCE OF THE PARTIES TO THE UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION: COP-3 is scheduled to be held in Recife, Brazil, from 15–26 November 1999. Preparatory meetings for COP-3 include: Bureau meetings, the intersessional meeting of the Bureau of the Committee on Science and Technology, and the meeting of the ad hoc panel on traditional knowledge. For dates, venue or any other information, contact the CCD Secretariat at: Geneva Executive Center, 11/13 Chemin des Anemones, 1219 Chateleine, Geneva, Switzerland; tel: +41-22- 979-9111; fax: +41-22-979- 9030/31; e-mail: secretariat@unccd.ch; Internet: <http://www.unccd.ch>. Effective in early 1999, the Secretariat can be reached at: PO Box 260129, Haus Carstanjen, D-53153 Bonn, Germany; tel: +49- 228-8152800; fax: +49-228-8152899; e-mail: secretariat@unccd.de; Internet: <http://www.unccd.de>

/OCEANS AND COASTS

COMMITTEE ON FISHERIES: The Twenty-third Session of the FAO Committee on Fisheries will be held from 15-19 February 1999 at FAO Headquarters in Rome. For more information, see: <http://www.fao.org/waicent/faoinfo/fishery/meetings/cofi/cofi23/cofi23.htm>

MINISTERIAL MEETING ON THE CODE OF CONDUCT: The Ministerial Meeting on the Implementation of the Code of Conduct for Responsible Fisheries in Rome, Italy from 10-11 March 1999. For more information see: <http://www.fao.org/waicent/faoinfo/fishery/meetings/meetingf.htm#99MINIST>

STATES PARTIES TO CONVENTION ON LAW OF SEA: The States Parties are scheduled to meet from 19-28 May 1999 to deal with a number of issues, including the election of seven of the 21 judges of the Tribunal and to consider its next budget. For more information contact: the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs; e-mail: doalos@un.org; Internet: <http://www.un.org/Depts/los/>

PROPERTY RIGHTS AND FISHERIES: The "Use of the Property Rights in Fisheries Management Conference" will be held in Perth, Western Australia from 15-17 November 1999. For information see: <http://www.fishrights99.conf.au>

/WETLANDS

CONFERENCE ON RUSSIAN WETLANDS: "A Strategy for wetland conservation in the Russian Federation" will be held from 24-26 February 1999 in Moscow, Russia. For more information contact: Wetlands International-Russia Programme Office, P.O. Box 55 Moscow 125319 Russia; tel./fax: +7 095 1904655; e-mail: ikamennova@wwfnet.org

GLOBAL BIODIVERSITY FORUM: A session of the Global Biodiversity Forum will be convened in San José, Costa Rica, on 7-9 May 1999, immediately prior to COP-7 of the Convention on Wetland. Themes currently proposed by the NGO organizers for GBF Ramsar presently include: defining a "vision" for the Ramsar List; responding to the threat of invasive species to wetland ecosystems; the private sector and wetlands; restoration of wetlands, protect or repair? global action to conserve peatlands and mires. For more information contact: contact the Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland; tel: + (41 22) 999 0170, fax: +(41 22) 999 0169, e-mail: ramsar@hq.iucn.org

RAMSAR COP-7: The 7th Ramsar COP is scheduled for San José, Costa Rica from 10-18 May 1999, and will mark the first time that a Ramsar COP has been convened in a developing country. The general theme will be "People and Wetlands - The Vital Link." For more information contact the Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland; tel.: +41 22 999 0170; fax: +41 22 999 0169; e-mail: ramsar@hq.iucn.org; Internet: <http://w3.iprolink.ch/iucnlib/themes/ramsar/>.

/WILDLIFE

CITES: The 41st Meeting of the CITES Standing Committee will be held from 22-25 February 1999 in Geneva. The 42nd Meeting will be held in September. For more information contact the CITES Secretariat; tel: + (41 22) 917 8139; fax: + (41 22) 797 3417; e-mail: cites@unep.ch; Internet: <http://www.mwcmc.org.uk/CITES>

FOURTH ANNUAL INTERNATIONAL WILDLIFE CONFERENCE: The annual International Wildlife Law Conference, which will be held 20 March 1999, brings together members of the academic, governmental, non-governmental and student communities to address critical issues related to the role of international legal regimes to protect endangered species of flora and fauna. For more information, contact the Journal; e-mail: JWLWP@earthling.net; Internet: <http://www.eelink.net/~asilwildlife/>

/CHEMICAL MANAGEMENT

INTERNATIONAL CONFERENCE ON LEAD POISONING PREVENTION AND TREATMENT: The World Bank, The George Foundation, the Centers for Disease Control and Prevention (U.S.A.), and the U.S. Environmental Protection Agency are co-sponsoring an International Conference on Lead Poisoning Prevention and Treatment to take place 8-10 February 1999, in Bangalore, India. For more information contact: Jude Devdas, the George Foundation, Bangalore; tel: +080-5440164; fax: +080-5440210; or Ms. Tareshwari; tel: +080-2217384, fax: +080-2217481; Internet: <http://www.worldbank.org/html/extdr/extme/ps011599.htm>

SIXTH PIC INC MEETING: The Sixth Session of the PIC INC meeting will be held in Rome from 12-16 July 1999 at the FAO Headquarters to begin work during the interim period between the signing of the PIC Convention and its entry into force. For more information contact: UNEP Chemicals (IRPTC), tel: +41 (22) 979-9111; fax: +41 (22) 797- 3460; e-mail: jwillis@unep.ch; Internet: <http://irptc.unep.ch/pic/>.

WMO/EMEP WORKSHOP ON MODELING OF ATMOSPHERIC TRANSPORT AND DEPOSITION OF POPS AND MERCURY: This workshop will take place in November 1999 at the WMO Headquarters in Geneva. For more information contact: Mrs. Marina Varygina, Meteorological Synthesizing Centre East, Kedrova Street 8, 117292 Moscow, Russian Federation; tel: +7 (95) 124 4758; fax: +7 (95) 310 7093; e-mail: msce@glasnet.ru.

13TH SESSION OF THE FAO GROUP ON REGISTRATION REQUIREMENTS: This meeting will be held from 7-11 June 1999 in Rome and will produce recommendations on procedures for the preparation and revision of guidelines and increased transparency and recommendations for the revision of the International Code of Conduct on the Distribution and Use of Pesticides. For information contact: Gerold Wyrwal, FAO; tel: + (39-6)5705 2753; fax: +(39-6)5705 6347; e-mail: Gerold.Wyrwal@fao.org.

THIRD MEETING OF THE INTERNATIONAL FORUM ON CHEMICAL SAFETY: The Third Meeting of The International Forum on Chemical Safety (Forum III) is tentatively scheduled for September or October 2000, and will be held in Brazil with the city yet to be determined. For more information contact: Executive Secretary, Intergovernmental Forum on Chemical Safety c/o World Health Organization 20 Avenue Appia CH-1211 Geneva 27 Switzerland; tel: +41 (22) 791 3650/4333; fax: +41 (22) 791 4875; e-mail: ifcs@who.ch; Internet: <http://www.who.int/ifcsh>.

/POPULATION

FORA ON POPULATION AND DEVELOPMENT: This meeting will be held from 6-7 February 1999 in the Hague, the Netherlands. The Hague Forum will be held from 8-12 February 1999 in the Hague. For more information see: the UNFPA's Hague Forum site: www.unfpa.org/ICPD/hague.htm; See also, the NGO Forum web site: <http://www.ngoforum.org/>

COMMISSION ON POPULATION AND DEVELOPMENT: The 32nd session of the Commission on Population and Development will be held in New York from 22-30 March 1999. For more information see: <http://www.undp.org/popin/icpd5.htm>

SPECIAL SESSION OF THE GENERAL ASSEMBLY ON THE INTERNATIONAL CONFERENCE ON POPULATION AND DEVELOPMENT: The Special Session of the General Assembly on the International Conference On Population And Development will be held from 30 June - 2 July 1999. For more information see: <http://www.undp.org/popin/icpd5.htm>

/WOMEN

CEDAW: The 20th Session of the Committee on the Elimination of Discrimination Against Women (CEDAW) will be held from 19 January - 5 February 1999 in New York, US. For more information contact: Women's Rights Unit, DAW; fax: +1 (212) 963-3463; e-mail: connorsj@un.org; Internet: <http://www.un.org/womenwatch/daw/cedaw/committ>

COMMISSION ON THE STATUS OF WOMEN: The Commission on the Status of Women will hold its 43rd Session from 1-19 March 1999 in New York. There will be an in-session Working Group on the Elaboration of a Draft Optional Protocol to the Convention on the Elimination of All Forms of Discrimination Against Women from 1-12 March. The second week of the commission will serve as the Preparatory Committee for Beijing +5. For more information contact: the UN Division for the Advancement of Women; e-mail: daw@un.org; Internet: <http://www.un.org/womenwatch>

BEIJING +5: The General Assembly will convene a Special Session to review the implementation of the Beijing Platform for Action from 5-9 July 2000. For more information see: <http://www.un.org/womenwatch>

/SOCIAL DEVELOPMENT

COMMISSION ON SOCIAL DEVELOPMENT: The 37th session of the Commission for Social Development will be held in New York from 9-19 February 1999. For more information contact: the Secretariat of the UN Commission for Social Development; tel: +1 (212) 963-6763; fax: +1 (212) 963-3062; e-mail: ngoran@un.org; Internet: <http://www.un.org/esa/socdev/social.htm>

COPENHAGEN + 5: The Preparatory Committee for the Special Session of the General Assembly on the Implementation of the Outcome of the World Summit for Social Development (WSSD) and Further Initiatives will hold its first substantive session in New York from 17-28 May 1999. The second session will be held from 3-14 April 2000. The Special Session will be held in 200 at a date to be determined. For more information contact: the Secretariat of the UN Commission for Social Development; tel: +1 (212) 963-6763; fax: +1 (212) 963-3062; e-mail: ngoran@un.org; Internet: <http://www.un.org/esa/socdev/wssdcall.htm>

/HABITAT

COMMISSION ON HUMAN SETTLEMENTS: The 17th Session of the Commission on Human Settlements will be held from 5-14 May 1999 in Nairobi, Kenya. The focus themes of the meeting are local implementation of the Habitat Agenda with particular attention to Agenda 21 and international cooperation for the implementation of the Habitat Agenda. For more information: Information and External Relations, UN Centre for Human Settlements, UNCHS (Habitat); tel: + (254-2-623067; fax: +254-2-624060; Internet: <http://www.unhabitat.org/>

/INTERGOVERNMENTAL ORGANIZATIONS

GEF COUNCIL MEETING: The NGO Consultation will be held on 4 May and the Council Meeting will be held from 5-7 May 1999. An NGO Consultation will be held on 16 November and the Council Meeting will be held from 17-19 November 1999. For more information contact: Marie Morgan, GEF Secretariat; tel.: +1 (202) 473-1128; fax: +1 (202) 522-3240; Internet: <http://www.gef-web.com>.

UNCTAD: The twentieth executive session of the Trade and Development Board will be held on 5 February 1999. The Board's Forty-sixth session (Preparatory process for UNCTAD X) will be held from 18-29 October 1999. The Expert Meeting of the Commission on Enterprise, Business Facilitation and Development will be held from 14-16 April 1999. The Commission on Science and Technology for Development will hold its fourth session from 17-21 May 1999. The Expert Meeting of the Commission on Enterprise, Business Facilitation and Development will be held from 2-4 June 1999. The Intergovernmental Group of Experts on Competition Law and Policy will be held from 7-9 June 1999. The Commission on Enterprise, Business Facilitation and Development will hold its fourth session from 19-23 July 1999. For more information contact: Secretary of the Board, Intergovernmental Support Services; tel: +41 22 907 57 27; fax: +41 22 907 00 56; e-mail: awni.behnam@unctad.org

INTERNATIONAL MONETARY FUND/WORLD BANK: The International Monetary Fund-World Bank Spring Meetings will be held on 25 April 1999 in Washington, DC, US. The IMF/World Bank Joint Annual Meeting of the Boards of Governors will meet from 28-30 September. For more information contact: Merrell Tuck; +1 (202) 473-9516; e-mail: Mtuckprimdahl@worldbank.org

INTERNATIONAL LABOR ORGANIZATION: The 87th ILO General Conference will be held from 1-17 June 1999 in Geneva. For more information contact: the ILO; tel: + (41 22) 799-7732; fax: + (41 22) 799 8944; e-mail: RELOFF@ilo.org; Internet: <http://www.ilo.org/public/english/10ilc/ilc87/index.htm>

/READINGS

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International environmental negotiations

"Coalition formation in international environmental agreements and the role of institutions." European Economic Review, 1998, Vol.42, No.3-5, pp.573-582. G. Ecchia and M.Mariotti discuss the role played by international institutions in achieving effective international environmental agreements. They emphasize the strategic nature of environmental negotiations and use a game theory model of coalition bargaining to illustrate some of the main issues. They look at ways in which international institutions can intervene in the framing of the strategic interactions between countries i.e. setting the rules of the negotiation game and influence actual agreements.

Ocean and marine resources

"Common security ? Geopolitics, development, South Asia and the Indian Ocean." Third World Quarterly, 1998, Vol.19, No.4, pp.701-724. S.Chaturvedi (India) explains that critical geopolitics seeks to problematize the concept of environmental security and its relationship to social and political practices of dominance in local, national and international politics. While environmental problems do undoubtedly exist in the Indian Ocean, conflicting perspectives and future prospects for common security between and within countries, subregions and social groups, suggest that a better understanding of how ecological threats are described, prioritized, and globalized and how knowledge about environmental degradation and sustainable development is produced as political resource, is possible only by contesting, or at least by going beyond, the conventional categories and typologies which privilege and protect certain actors, interests and priorities.

"Four principles in marine environment protection: A comparative analysis." Ocean Development and International Law, 1998, Vol.29, No.2, pp.91-123. D.M. Dzidzornu notes that the protection of the marine environment is propelled in part by specific principles that yield normative prescriptions to guide conduct. Four of these - namely sustainable development, pollution prevention, precaution and the polluter-pays - are all ultimately characterized as principles. In that form they are, in terms of general juridical efficacy, prescriptively imprecise and capable of generating an interlocking array of more specific norms that may be applied to realize their common goal of keeping the seas clean. In comparison, their conceptual individualities coincide and reinforce each other as to normative content and implications, as well as the procedural prescriptions they could and do, interpretively, yield.

"Agenda 21 and sea-based pollution: opportunity or apathy ?" Marine Policy, 1998, Vol.22, Nos.4-5, pp.375-391. J.Wonham (Wales) examines emerging issues including the incorporation by the International Maritime Organization of the precautionary approach and progress made in implementing the IMO's strategy for extra budgetary activities related to environmentally sustainable de-

velopment, covering such issues as the provision of waste reception facilities in ports and capacity-building for coastal states bordering an area used for international navigation.

"The United Nations and Fisheries in 1998." Ocean Development and International Law, 1998, Vol. 29, No.4, pp.323-338. J.Hyvarinen, E.Wall and I.Lutchman (England and the US) discuss the UN Convention on the Law of the Sea and one of its implementing agreements: the UN Fish Stocks Agreement. The article considers problems, opportunities, and key principles that have emerged in recent international negotiations on fisheries. It notes that the large number of international forums dealing with fisheries encourages a lack of focus and inefficient decision making. The article suggests that the UN General Assembly's annual ocean debate could play a critical role in addressing these problems.

"Sustainable oceans development: the Canadian approach." Marine Policy, 1998, Vol.22, No.4-5, pp.393-412. C.L. Mitchell (Canada) examines the implications of the Canadian government's oceans strategy and management regime for sustainable ocean development. The paper supports the thesis that a sustainable ocean management regime could be more efficient and effective in solving some of the current and future difficulties faced by Canada's ocean industries.

Women

"Women's rights are human rights: platform for action." International Social Work, 1998, Vol. 41, No.3, p.371. E.Reichert (US) notes that the strongest international statement about women's rights emerged from the United Nations Fourth World Conference on Women held in September 1995 in Beijing. In the Platform for Action, UN delegates unanimously agreed that rights of women and the girl child are an indivisible part of universal human rights. The author discusses violence against women as a violation of human rights and the philosophy behind the concept of rights. The paper also explains the first organized gathering of international social workers in conjunction with a UN conference. Finally, the Platform for Action's significance for international social work is explored.

"Gender and renewable energy: policy, analysis and market implications." Renewable Energy, 1998, Vol.15, No.1-4, pp.230-239. B.C. Farhar (US) notes that women are the main producers of energy in developing countries and households are the main user of energy. Because gender roles and traditions have been largely ignored in energy, the global potential for renewable energy has been negatively affected. However, microcredit lending could fund sustainable development technology. The author argues that renewable energy, gender roles, and microfinancing should be inherent parts of sustainable economic development programs. The relevant activities of pertinent development organizations and potential synergies are briefly described, the plans of the United States National Renewable Energy Laboratory to explore the gender issue are summarized, and the evolution of gender and energy as a field is addressed.

"Robes, relics and rights: The Vatican and the Beijing conference on women." Social and Legal Studies, 1998, Vol. 7, No.3, pp.339-363. D.E. Buss (UK) notes that the FWCW in Beijing represented, in some respects, a culmination of international positioning around gender and women's rights. As such, it attracted the participation of not only a large contingent of women's organizations but also a significant number of fundamentalist and conservative religious groups. The author explores the participation of the Vatican in the Beijing process. The Vatican's long history of involvement in international population issues has allowed it to position itself as a leading international actor in opposing women's rights to reproduc-

tive freedom. The article focuses on the rhetorical and discursive strategies used by the Vatican in Beijing and explores some of the tensions and contradictions in not only the Vatican's position but also in the campaign for women's rights. The article offers some insight into the internationalization of rights debates and the significance this has for those on the religious right.

"International environmental health: Priorities from Huairou." Journal of Public Health Policy, 1998, Vol.19, No.3, pp.319-330. A.M. Rossignol and C. Neumann (US) set out with two objectives in this article on the UN's FWCW. The first objective is to summarize the priority concerns identified in Huairou that are related to international environmental health. The second objective is to provide the rationale and documentation that support inclusion of these priorities in professional education and practice regarding environmental health in the United States. The authors hope that their project will help environmental health professionals in better appreciating the connection between global environmental health problems and local problems together with the applicability of gender relevant environmental health concerns to local programming, policies and infrastructure.

Forests

"Economic parameters of deforestation." World Bank Economic Review, 1998, Vol.12, No.1, pp.133-153. J. von Amsberg (US) begins with the observation that, in theory, economic instruments should overcome the market failures that lead to excessive deforestation. Secure property rights could be established and enforced to eliminate the open access problem. In practice, the size of the welfare loss that arises from market failures in the forest sector in the absence of such first-best policies is determined by the incentives, prices and policies faced by those who make decisions about land use. In many cases, the effects of policies on deforestation are not straightforward. For example, there are conflicting views on whether an increase in the price of logs leads to an increase or a decrease in deforestation. The effect of a change in the price of logs has particular relevance for the controversial debate about the effect on deforestation of a ban on log exports or other trade restrictions that lower the domestic price of logs. The article provides an analytical framework for determining the effects of changes in economic policies and parameters on deforestation.

"Social determinants of deforestation in developing countries: A cross-national study." Social Forces, 1998, Vol.77, No.2, pp.567-586. K.Ehrhard Martinez (US) examines the social forces that drive deforestation. Neo-Malthusian, modernization, and dependency theories are applied in a cross-national comparison of 51 developing countries. Multiple regression techniques are applied to estimate the rate of deforestation using the level of urbanization, economic growth rate, population growth rate, level of sectoral inequality, rate of change in primary product exports and rate of change in tertiary education. Results support modernization theory, indicating that the level of urbanization has a curvilinear effect on the rate of deforestation, that economic growth contributes to deforestation, and that sectoral inequality reduces the rate of deforestation.

Sustainable development

"Global environmental change and global inequality - North/South perspectives." International Sociology, 1998, Vol.13, No.4, pp.499-516. M.Redclift (UK) and C.Sage (Ireland) note that global environmental change (GEC) carries serious implications for developing countries and for North/South relations. The authors argue that global inequalities need to be understood against the background of structural adjustment and indebtedness that characterized

the 1980s. Looked at from the perspective of the South there are serious difficulties in agreeing to take measures to reduce atmospheric emissions when the 'problem' was not one of their making. The authors conclude that, for this reason alone, a real global contract will need to address underlying 'developing' country issues, principally poverty, before the global concerns of the North can be successfully met.

"Raising awareness of Local Agenda 21: the use of internet resources." Journal of Geography in Higher Education, 1998, Vol. 22, No.2, pp.201-210. J.E.Bullard (UK) reports on the use of seminar discussions and internet resources to stimulate debate and enhance undergraduate students' understanding of Local Agenda 21. Emphasis was placed on exploring local authorities' Local Agenda 21 strategies and examining how these were being implemented and monitored.

"Environmental communication and the cultural politics of environmental citizenship." Environment and Planning A, 1998, Vol.30, No.8, pp.1445-1460. J.Burgess, C.M. Harrison and P.Filius (UK and Netherlands) present a comparative analysis of how representatives from the public, private and voluntary sectors of two cities (one in England, the other in the Netherlands) responded to the challenge of communicating more effectively with citizens about issues of sustainability. The analysis is set in the context of literature about the need to widen participation in the determination of Local Agenda 21 policies and the drive for more inclusive forms of communication in planning and politics. Workshop participants in both countries acknowledge the urgent need for public, private and voluntary sector organizations to match their own practices to their environmental rhetoric.

"Localizing Agenda 21 in small cities in Kenya, Morocco and Vietnam." Environment and Urbanization, 1998, Vol.10, No.2, pp.175-189. R.Tuts (Kenya) describes a Localizing Agenda 21 programme in three small cities which sought to enhance the local capacity for urban planning and management for the benefit of the citizens and the quality of their urban environment. The article explains the focus of this programme within a growing worldwide Local Agenda 21 movement.

"Sustainability and modernity in the European Union: A frame theory approach to policy-making." Sociological Research Online, 1998, Vol.3, No.1, pp.U16-U30. A. Triandafyllidou and A. Fotioux apply a frame analysis to discourses of both social movements and institutional actors in the context of public policy-making. More particularly, the study is concerned with the discourses of social actors who participate in the making of EU environmental policy. The advantages and limitations of frame analysis as a method for analyzing discourse in an institutional context are discussed. Two case studies are used to highlight the pros and cons of the method. First, the competing discourses of environmental organizations, business associations and EU officials with regard to environmental sustainability and the Fifth Action Programme are examined. The second case study addresses the issue of Trans-European Networks and examines different types of framing of sustainable mobility developed by policy actors. Conclusions are drawn with regard to the contribution of frame theory in the analysis of policy-making processes.

"Corporate strategies and environmental regulations: An organizing framework." Strategic Management Journal, 1998, Vol.19, No.4, pp.363-375. A.M. Rugman and A. Verbeke (UK and Belgium) contribute to the emerging subfield of strategic management dealing with the natural environment as it affects corporate strategy. To analyze this, the authors organize the literature on environmental

regulations and corporate strategy into a new managerial framework. They develop a resource-based view of the interaction between firm-level competitiveness and environmental regulations, including the conditions for the use of green capabilities. Finally they analyze the green capabilities of multinational enterprises within a standard international business model, using firm-specific advantages (FSAs) and country-specific advantages (CSAs). The FSA/CSA configuration is used to explore hypotheses on environmental regulations, competitiveness and corporate strategy.

“The environment in an ‘Information Society’ - a transition stage towards more sustainable development.” Futures, 1998, Vol. 30, No.6, pp.485-498. P.Jokinen, P.Malaska, and J. Kaiwoola (Finland) observe that social scientists and futurists have suggested that societal development is advancing to a novel stage, to an ‘information society.’ However, the crucial qualifiers of this ‘new’ society are ambiguous. Further, the authors note, environmental goals have created new challenges for information society studies. The paper examines the interaction and dynamics between the information society and sustainable development, which most often manifest themselves as competing scientific and socio-political discourses. On the one hand, there is the potential for reducing the stress on the environment: the emergence of information technologies and services can lead to a dematerialization of production and immaterialization of consumption. On the other hand there are risks: positive environmental effects might be overcome by the ‘rebound’ effect caused by excessive economic growth. It is concluded that further theoretical and empirical studies are needed in order to examine the complex and contradictory relationship between the information society and the environmental issues.

“Struggling with sustainability: weak and strong interpretations of sustainable development within local authority policy.” Environment and Planning A, 1998, Vol.30, No.8, pp.1351-1365. D.C. Gibbs, J.Longhurst, and C.Braithwaite (UK) note that in recent years there has been a growing interest in sustainable development as a guiding principle to allow the integration of economic development and the environment within policy and strategy. At all levels of policy making a major emphasis has been placed upon the local scale as the most appropriate for the delivery of such policies and initiatives, with a particular stress upon local authorities as the major delivery mechanism. Though it is often assumed that this integration is relatively unproblematic, this paper indicates that this is not the case. The paper draws upon research with urban local authorities in England and Wales, which reveals that there are varying interpretations of the environment within local authorities, reflecting environmental and economic development perspectives. In each case, however, these are effectively interpretations which tend towards the ‘weak’ end of a sustainability spectrum and it is suggested that such divergent interpretations of sustainability are hindering integrative activity and the potential for introducing ‘strong’ sustainability measures.

“Corporate environmental responsibility.” Journal of Business Ethics, 1998, Vol. 17, No.8, pp.825-838. J.DesJardins (US) offers directions for a continuing dialogue between business ethicists and environmental philosophers. He argues that a theory of corporate social responsibility must be consistent with, if not derived from a model of sustainable economics rather than the prevailing neoclassical model of market economics. He uses environmental examples to critique both classical and neoclassical models of corporate social responsibility and sketch the alternative model of sustainable development.

Trade and the environment

“On the environmental externalities of global trade.” International Political Science Review, 1998, Vol.19, No.4, pp.339-355. C.L. Lofdahl notes that environmental degradation can be one of the most pervasive and longest lasting consequences of development. Too often these consequences are simply catalogued without sufficient consideration given to their social, political and economic causes. Global deforestation, the author’s litmus test of environmental lateral pressure, is examined in relation to domestic GNP, population growth, and a variable constructed for the study, namely trade-connected GNP, which accounts for the trade effects among nations. The model specifically addresses the ongoing debate between economists and environmentalists over the costs and benefits of free trade.

Climate Change

“Research frontiers in the economics of climate change.” Environmental and resource economics, 1998, Vol.11, No.3-4, pp.603-621. M.Toman (US) notes that academic and policy debates over climate change risks and policies have stimulated economic research in a variety of fields. The author briefly discusses eight overlapping areas of current research in which further effort is particularly warranted. These areas include decision criteria for policy; risk assessment and adaptation; uncertainty and learning; abatement cost and the innovation and diffusion of technology; and the credibility of policies and international agreements.

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Selected Sustainable Development Meetings

February 1999

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
	1	2	3	4	5	6	
	20th UNEP Governing Council - Nairobi					APEC Business Advisory Council - Brunei	
	1st APEC Senior Officials Meeting - Wellington, New Zealand						
7	8	9	10	11	12	13	
	World Renewable Energy Conference - Perth, Australia						
	Commission on Social Development - New York						
	The Hague Forum (ICPD review) - The Hague, Netherlands						
	International Conference on Lead Poisoning - Bangalore, India						
APEC Business	1st APEC Senior Officials Meeting - Wellington, New Zealand						
14	15	16	17	18	19	20	
	WTO Ctte. on Trade and Env. - Geneva						
	23rd FAO Committee on Fisheries - Rome						
	6th Session of the Working Group on a Biosafety Protocol - Cartagena, Colombia						
	Commission on Social Development - New York						
21	22	23	24	25	26	27	
	Seminar on Trade-Related Aspects of Forest Mgmt - Geneva					Democracy, Markets and Dev. - Seoul	
	International Expert Meeting on the Role of Planted Forests - Santiago, Chile						
	Extraordinary Biodiversity COP-Cartagena						
	CSD Intersessional Working Group on Tourism, Consumption and Production - New York						
	41st Meeting of the CITES Standing Committee - Geneva						
28							

Selected Sustainable Development Meetings

March 1999

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	International Emissions Trading Workshop - Toronto			Corp. Sustainability Reporting - London		
	CSD Intersessional Working Group on Oceans and Seas - New York					
	43rd Session of the Commission on the Status of Women - New York					
7	8	9	10	11	12	13
	Expert Mtg on International Arrangements to Promote Sustainable Forest Mgmt - Costa Rica					
	43rd Session of the Commission on the Status of Women - New York					
14	15	16	17	18	19	20
	International Expert Meeting on Protected Forest Areas - Puerto Rico					
	Eco-Efficiency Workshop - Sydney, Australia					
	43rd Session of the Commission on the Status of Women - New York					
21	22	23	24	25	26	27
	Sust. Dev. Research Conf. - Leeds, UK					
	Sust Dev Indicators Expert Group - NY					
	Various Montreal Protocol Committee Mtgs - Montreal					
	Environmental Mgmt, Health and Sustainable Development - Alexandria, Egypt					
	Commission on Population and Development - New York					
28	29	30	31			
	Population Commission - New York					

Selected Sustainable Development Meetings

April 1999

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
	Environment Quality and Development Needs Symposium - Pretoria, South Africa					
11	12	13	14	15	16	17
18	19	20	21	22	23	24
	8th Session of the FAO Commission on Genetic Resources for Food and Agriculture - Rome					
	7th Session of the Commission on Sustainable Development - New York					
25	26	27	28	29	30	
	Emissions Trading Conf. - London					
	7th Session of the Commission on Sustainable Development - New York					