

Biodiversity and Sustainable Development



Convention
on Biological
Diversity





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Biodiversity and Sustainable Development

EDITORIAL



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The Convention on Biological Diversity was concluded as an integral part of the preparatory process for the 1992 United Nations Conference on Environment and Development, also known as the “Earth Summit”. Ten years on, the World Summit on Sustainable Development is being convened in Johannesburg to review the progress made since that time and to map out a way ahead towards achieving the goal of sustainable development.

Since 1992, much has been done in the implementation of the Convention. The Parties have agreed on key concepts and approaches, adopted programmes of work for various thematic areas and cross-cutting issues, and developed guidance for the allocation of funding through the financial mechanism of the Convention. The recent sixth meeting of the Conference of the Parties, held in April 2002, saw further progress towards implementation with the adoption of guidelines on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization, together with an expanded work programme on forest biodiversity and a Strategic Plan for the Convention up to the year 2010, among others.

Participants in that meeting were keenly aware of its importance in light of the upcoming World Summit and the need to send a clear signal about the vital role that biodiversity and the Convention process have to play in efforts to achieve sustainable development. With that in mind, a large gathering of ministers convened in the course of the meeting agreed on a Declaration

in which they resolved to strengthen their efforts to halt biodiversity loss by the year 2010 and sent a message to the World Summit setting out their expectations as regards to its outcome. Likewise, the Conference of the Parties itself, in its contribution to the World Summit, put forward ideas and proposals for the way forward in the implementation of Agenda 21.

A further encouraging sign that a corner had been turned and that biodiversity is gaining the prominence it deserves was the statement by the United Nations Secretary-General that included biodiversity as one of the five key areas on which progress can and must be made at the World Summit. The other areas mentioned by the Secretary-General are water, energy, health and agriculture, all of which are closely related to biodiversity.

The present publication reinforces the importance of biodiversity, particularly in the context of sustainable development. It attempts to give an overview of the issue, by analysing the main thematic areas and cross-cutting and strategic issues and exploring its direct and indirect links with the broader goal of sustainable development. The writers of the articles have been explicitly asked to focus on biodiversity and sustainability, particularly on how the conservation and sustainable use of the former is an essential component of the latter. From invasive alien species to sustainable tourism to bioinformatics, each article highlights a priority area in an attempt to address a wide-ranging and pressing issue. In this sense, then, the publication is greater than the sum of its component parts and offers a vision ensuring sustainability and a road map toward a more equitable and sustainable world.

In conclusion, I wish to express my deep gratitude to all those who have contributed articles to enrich this publication and trust that it would be both useful and informative to all readers.



Synergies that work: the Joint Work Plan between the CBD and Ramsar Conventions

*Delmar Blasco, Secretary General,
Convention on Wetlands (Ramsar, Iran, 1971)*

A lot has been written and said in recent years about “synergies” among the multilateral environmental agreements (MEAs). Personally, I am a staunch defender of “synergies” and I have done my best to bring the Ramsar Convention to practice them, with varying degrees of success, I must admit. But without going any deeper into the causes that make synergies work or not, let me say that, to my great satisfaction, the cooperation



Work Plan 2002-2006 endorsed by the Ramsar Standing Committee and CBD’s COP6, should become a useful tool at the service of that overarching aim of the WWSD. To achieve this, it will be important that the two secretariats, the subsidiary bodies, and the national focal points of both Conventions undertake a “refocusing exercise” to ensure that the implementation of the Joint Work Plan is fully inserted into the national poverty eradication strategies in place, or soon to be launched, in developing countries and countries with economies in transition in response to the results of WWSD. This should include the identification of

Both MEAs represent a quest to safeguard, or restore, the integrity of natural ecosystems, as a means to contributing to the well being of humanity, which implies the equitable sharing of benefits from the use of those resources.

effective, equitable, and bottom-up partnerships involving national and local governments (including the focal points of both Conventions), public and private donors, and major groups and stakeholders at the national and site levels. In Ramsar, we hope to be able to announce some of these partnerships already in Johannesburg.

and coordination between Ramsar and CBD is working increasingly well. And I hope that it will demonstrate very soon that it generates tangible benefits for the Parties to both treaties.

In both treaties, different terms are used in relation to their main purpose and the obligations of the Parties (bear in mind that Ramsar was drafted in the 1960s!), but there is no doubt that both share a common general aim: the conservation and sustainable use of natural resources (wetlands and their biodiversity, in one case, biodiversity in general, in the other). Both MEAs represent a quest to safeguard, or restore, the integrity of natural ecosystems, as a means to contributing to the well being of humanity, which implies the equitable sharing of benefits from the use of those resources.

Preparations for the World Summit on Sustainable Development show that the overarching aim of the political declaration, the implementation plan of Agenda 21, and the guiding principles for partnerships that should constitute the outputs of WSSD, is the eradication of poverty, with due regard to the three pillars of sustainable development: economic, social, and environmental. CBD and Ramsar, through the Joint

Among many others, the following are some of the areas of the Ramsar/CBD Joint Work Plan which are Summit-related, and thus could be the subject of interesting and practical partnerships: the joint CBD/Ramsar River Basins Initiative aimed at promoting and supporting the integrated management of wetlands, biological diversity and river basins; conservation and wise use of peatlands, including their potential role in carbon sequestration and mitigation of climate change; integrated marine and coastal areas management at local, national and regional level; and conservation and sustainable use of wetland resources in dry and sub-humid lands. Cross cutting issues such as invasive species, sustainable use and tourism, and traditional knowledge are other areas in which the two Conventions could also associate themselves with the Summit outcomes.



6 June 2002

Biodiversity is Humankind's Life Insurance

Jan Pronk

UN Special Envoy for the World Summit on Sustainable Development

Biological Diversity. The Biodiversity Convention calls upon parties to conserve and sustainably use biological diversity while equitably sharing the benefits of the use of genetic resources. These goals are key elements of sustainable development.

The CBD has proven not only to be at the heart of sustainable development but also to be capable of making the shift from policymaking to implementation.

focused on the progress we have made in implementing Agenda 21, and, even more importantly, on the challenges we are still facing.

As Special Envoy for the Johannesburg Summit, I have gathered views from all over the world on the priority issues. The general consensus is that Johannesburg will have to concentrate on a programme of action to more fully implement Agenda 21 and to achieve the Millennium Development Goals. In that connection, the CBD has proven not only to be at the heart of sustainable development but also to be capable of making the shift from policymaking to implementation. The results of the Sixth Meeting of the Conference of the Parties (COP6), which was held recently in The Hague, are a clear example. COP6 adopted a concrete and action oriented work programme on forests, guidelines for access to genetic resources and benefit sharing and guiding principles for the management of alien invasive species.

Sustainable funding for biodiversity

To achieve these goals we need to ensure sufficient funding. The Hague Declaration welcomes the outcome of the Monterrey conference on Financing for Development and calls upon developed countries to make concrete efforts towards the Official Development Aid target of 0.7 percent of Gross National Product and achieve a significant replenishment of the Global Environment Facility.



But on top of that, it will be necessary to create and strengthen partnerships at different levels with public and private partners in all

relevant sectors, including the banking and business sectors. New, innovative economic measures are also needed. This should include abolishing adverse measures and subsidies, lowering trade barriers for certain products, continuing work on the benefit sharing mechanism, discussing export promoting measures, and discouraging unsustainable consumption, through taxation and innovative economic incentives.

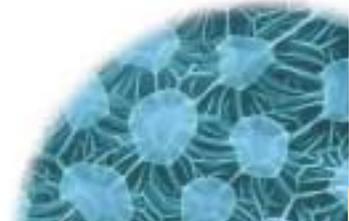
Economic incentives can play a major role. Green investment funds, for example, can boost private financial contributions, as experience in the Netherlands has shown. Tax exemptions are granted to individuals investing in these funds. The advantages are twofold: more private capital is attracted and lower interest rates can be charged on the loans that finance sustainable projects in developing countries.

We need funds specifically aimed at creating markets for sustainable use (such as organic agriculture, sustainable forestry and ecotourism). Projects in these areas can help to reduce poverty, generate employment and promote sustainable use of local natural resources. Kijani, a joint initiative of the World Conservation Union (IUCN) and the International Finance Corporation (IFC) in Africa, is an example of the direction we should take. It aims to set up a fund which will finance biodiversity projects, through cooperation between Northern and African banks.

In the long term the mechanism for benefits sharing could be taxation of the global commons. Those benefiting from the global commons would contribute to funds for their sustainable use and conservation. In this way a continuous flow of resources could be created.

After Johannesburg: focus on implementation

As I said before, the WSSD should focus on implementation and action. Arrangements should be made to monitor progress towards the goals and targets agreed upon at the Summit, including financial resources allocated to the goals. Biodiversity is humankind's biological life insurance. Implementation now is essential for the well being of future generations and ourselves.





The Ecosystem Approach



*Peter J. Schei
International Negotiations Director
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consolidated and coherent way?

There is a clear understanding of the need for flexibility and adaptation to local conditions and the relevant challenges at hand when applying the various principles. The ecosystem approach is general and meant for larger geographical areas, often with complex socio-cultural conditions and relationships between nature and people.

Already at the first meeting of Subsidiary Body on Technical & Technological Advice (SBSTTA) in Paris in 1995 the concept of “the ecosystem approach” was recommended as an appropriate implementation strategy for the Convention follow-up. This approach was later recommended as a way forward when the Conference of the Parties (COP) made decisions on the biome-thematic work programs. It was not, however, until 1998 that the various dimensions of the approach were more clearly developed and laid down as principles of the ecosystem approach. The “Malawi principles” were born. These principles, although slightly modified, have been endorsed by the COP in decision V/6 from Nairobi, and have been recommended to the Parties for application when implementing the convention and its articles.

The 12 principles of the ecosystem approach as described in decision V/6, are not cast in stone. They are reflecting the present level of common understanding of this integrated way of thinking for implementation of CBD, and are to be up for evaluation, revisions and improvements as the Parties gain experience from its application and further research shows that changes are necessary or recommendable.

As demonstrated and laid out in the various principles of the ecosystem approach, there are a number of dimensions to

management of nature that ought to be taken into account to ensure the most effective implementation of the CBD in the long-term perspective. The rationale for bringing these dimensions/principles into nature management related to biodiversity has been included in the decision of COP-5. There is also a clear understanding of the need for flexibility and adaptation to local conditions and the relevant challenges at hand when applying the various principles. The ecosystem approach is general and meant for larger geographical areas, often with complex socio-cultural conditions and relationships between nature and people. It is not meant to be applied to special areas that need to be addressed for protection or restoration of biodiversity or some other specific purpose. The matter of geographical scale is here very important, and this, together with the temporal scale, has been considered to be a basic factor to be taken into account in decision-making, and it is formulated into a separate principle of the ecosystem approach itself.

The ecosystem approach, in principle 4, establishes the importance of including the socio-economic dimensions of nature management when implementing the CBD. Human life, activities and well-being must be included as basic factors in the wider geographical application of the ecosystem approach. Biodiversity has to be integrated into the economy of the relevant communities, and the various values of biodiversity should be captured and realized at the local level to give the right incentives to those that are nearest to guard it. This socioeconomic dimension is also a reflection of the obligation of the Parties to CBD to integrate biodiversity concerns into the activities and responsibilities of the economic sectors, as laid out in article 6 of the Convention.

Biodiversity, however, has also values beyond the short-term consumption, extraction and direct use value. Biodiversity is the life insurance of life itself. The intra-specific diversity is the insurance for the species survival in difficult times, the inter-specific diversity is the guaranty for ecosystem functioning and services, and the variation of functional ecosystems is the life insurance for sustainable development. This should be a fundamental understanding of any approach to the long-term conservation and use of biodiversity.



Meeting Sustainable Development Goals without Endangering Species Diversity

*Claude Martin
Director General,
WWF International*

It is useful and indeed necessary to remind ourselves that a healthy human environment depends entirely on biodiversity. Everything we eat, wear and produce on this planet Earth is ultimately dependent on its biodiversity, yet we behave as if it hardly matters. And while we ponder over the question of whether there is life on Mars, we seem to have forgotten that only a fraction of all species on Earth have been found and described, while countless others both known and still undiscovered are driven to extinction. We are now



WWF's Species Programme focuses on a relatively small number of "flagship" species, not because they are more extraordinary than thousands of other species, but because they have disproportionate potential and value as icons and flagships for large-scale ecosystem maintenance as a whole. Apart from the important cultural, ethical and moral factors, it is not necessarily the tiger itself that provides tangible benefits to people from a socio-economic perspective. Rather, it is the benefits that the tiger's habitats, along with all those species on which it depends, offer to humanity, directly by providing natural resources and indirectly, through ecosystem functioning and services.

As society searches for solutions to planet-wide environmental degradation and increasing human suffering, the Convention on Biological Diversity (CBD) has a crucial role to play in habitat conservation and sustainable use of wild resources as well as decreasing threats to endangered species. Special focus should be placed on Article 8 of the Convention (sections c-f, k), which deals with ecosystems and resource management. In fact, a great deal more must be done to restore habitats and use their resources in a sustainable way to ensure

species diversity. Currently restoration criteria are lacking and what guidance has come out of the CBD is only voluntary, therefore implementation is difficult. Finally, restoration has not been successfully linked to sustainable development activities.

The economic and social needs of human populations will continue to rely on wild species, which implies that these will have to be used in a sustainable way, avoiding any threats of extinction. Solutions involve much more than looking at all living things as an economic resource, they are about changing legal and institutional frameworks as well as individual habits, particularly in industrialized nations, if species are to be saved. The CBD has not reached this level of action to drive changes in economic systems that currently allow species to be over-exploited and placed on the verge of extinction.



Governments have the obligation at the upcoming World Summit for Sustainable Development to make commitments to sustainable use of natural resources, based on sound, scientifically-based management, that provides benefits to local people as well as contributing to habitat conservation.

losing wild species at a rate that has been estimated to be 100 to 1000 times faster than the prehistoric background rate.

It seems equally ironic that whilst poverty reduction is rightly on everybody's mind, few recognize that the livelihood of the poorest 1.2 billion people on Earth depends either entirely or at least partly on wild resources. In this context the question may be raised as to whether measuring poverty based on a one or two dollar income is adequate, if the value of the goods and services provided by ecosystems is not included in the framework of national accounts. According to a World Bank study, for example, more than two billion people rely on traditional medicine. Thus, biodiversity conservation, and more specifically species conservation, must also be seen as an essential part of the maintenance of a healthy human environment and as crucial to the economic well-being of all societies. Threats that put species in danger are by this logic also a danger to humanity.



In order to address endangered species issues, the CBD should:

- endeavour to analyse the relationship between the root causes of biodiversity loss, closing gaps in wildlife trade legislation and addressing human poverty;
- call for commitment on law enforcement to eliminate illegal trade of species and their products;
- promote commitment to increase the proportion of trade goods purchased from sustainable sources, and WTO regulations to facilitate responsible trade;
- ensure implementation of existing CBD work programmes, especially as related to Article 8.

Governments have the obligation at the upcoming World Summit for Sustainable Development to make commitments to sustainable use of natural resources, based on sound, scientifically-based management, that provides benefits to local people as well as contributing to habitat conservation. Preserving species diversity is one of the most challenging and vital aspects of the sustainable development agenda.



Biological Diversity of Dry and sub-humid Lands, a Remarkable Example in Burkina Faso

*Willem Van Cotthem
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President TC-DIALOGUE Foundation*



More and more people are convinced of the necessity to develop synergies between the UNCBD, UNCCD and UNFCCC, especially in the drylands, where climate changes are strongly affecting biodiversity and desertification. These,

Therefore, the three secretariats need to work closely together, e.g. by exchanging information or by planning cooperation activities, especially by assisting governments to develop integrated approaches to the conventions by involving all ministries concerned. All projects or programs, aiming at strengthening these links, should be strongly encouraged and supported.

The current situation of this small reforestation project is a remarkable example of the synergy between simple solutions for desertification and biodiversity problems. It is also a success story in the alleviation of poverty, leading to sustainable development.

In this light, we have the pleasure of describing the remarkable results of a small-scale reforestation project of the Belgian TC-DIALOGUE Foundation, set up in 1988 in Arbolle, Burkina Faso. Here, the Foundation worked closely together with the Ministry of the Environment and with the Canadian Cooperation. In Arbolle, 80 km north

in turn, are influencing local climatic processes. Progressing desertification goes hand in hand with loss of biodiversity. Similarly, solutions to combat loss of biodiversity are also limiting desertification and climate change. The three conventions are clearly tackling different aspects of sustainable development.

of the capital Ouagadougou, a completely barren piece of clayey land was chosen to be reforested with saplings from a local nursery.



The original tree savannah vegetation had been completely destroyed by cutting of fuelwood. Only a denuded piece of land was left, with hard, compacted clayey soil on which no plant could grow, except for a couple of resistant *Balanites* shrubs. In August 1988, during the rainy season, almost two hectares were planted with saplings of different tree species: *Acacia nilotica*, *Cassia siamea*, *Parkia biglobosa*, *Azadirachta indica*, *Leucaena leucocephala* etc.

All saplings were planted with the TerraCottem soil conditioning method, mixing a granular, water absorbing and fertilizer stocking compound with the soil in the plant pits. As this soil conditioner was able to stock a large quantity of water and fertilizer around the roots, no more irrigation water had to be provided, the annual 350 mm of rain being sufficient to keep the young trees alive.

Local foresters, taking care of the follow-up of the project, not only noticed a fantastic outgrowth of the young trees, but also the gradual reappearance of a number of grasses and weeds around the trees, profiting from the presence of the soil conditioner in the plant pits. Already in 1994, a dense vegetation layer was covering the complete surface of the little wood. It consisted of many different flowering plants, which in turn attracted a multitude of insects and thus a number of birds and mammals.

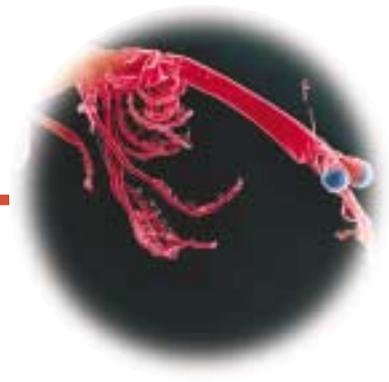
The protecting vegetation cover, creating more shadow and a higher water retention capacity, gradually improved the overall soil conditions, in which the presence of worms, insects and a manifold of microorganisms was registered. Mice, squirrels and rabbits returned.

In 2000, only twelve years after planting young trees on a barren surface, a young wood was generated, with a remarkable growth in biodiversity. Soil conditions were improved in such a considerable way that some local farmers were allowed to set up some small fields inside the wood and to produce additional food for their families.

The current situation of this small reforestation project is a remarkable example of the synergy between simple solutions for desertification and biodiversity problems. It is also a success story in the alleviation of poverty, leading to sustainable development. Is it still wishful thinking that the necessary resources can be found to multiply such a successful initiative in many countries and at a larger scale? Looking forward for the support of all international organizations concerned. It is time for action.

Ecosystem and Fisheries Management Paradigms: Towards Fusion or Collision?

*Serge Michel Garcia
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FAO, Fishery Resource Division*



It is often claimed that despite 1982 Convention on the Law of the Sea, UNCED, the Convention on Biological Diversity, and the FAO Code of Conduct for Responsible Fisheries, the world's biological resources continue to be degraded at an alarming rate. Fisheries and fish farming are considered as one of the degradation factors together with pollution and conservation and sustainable use are still all too often seen as being irreconcilable.

How can we maintain biodiversity and ecological processes whilst optimizing people's benefits? Aquatic resource management is beset by fundamental conflicts between different conservation and fisheries management despite ample justification for a strong, active, balanced and responsible collaboration between them. The first has developed a body of knowledge on ecosystem structure and functioning, is developing sets of sustainability indicators, has tested management organizations, processes and instruments



(e.g. protected areas) appropriate for their goals, and is lately rediscovering that people, their aspirations, costs and benefits, allocation and equity, with the potential conflicts they can generate, have to be fully taken into account. The second has

Fisheries need to consider ecosystem constraints and broader societal needs and ethics. Ecosystem cannot always be returned to their "pristine state" and people cannot be easily "excluded" from their livelihood.

developed an important body of knowledge on resources, population dynamics, interactions between fisheries, impacts on target resources, sustainability indicators, management performance,

resource allocation and is rediscovering that maintaining associated and dependent species as well as critical habitats and ecosystems processes is necessary for productive fisheries.

Both paradigms are still struggling with conflicts, but have discovered that they must be tackled and resolved equitably, and that enforcement capacity must be improved. Both are beginning to test the assumption according to which increased participation, decentralization and transparency will improve management performance.

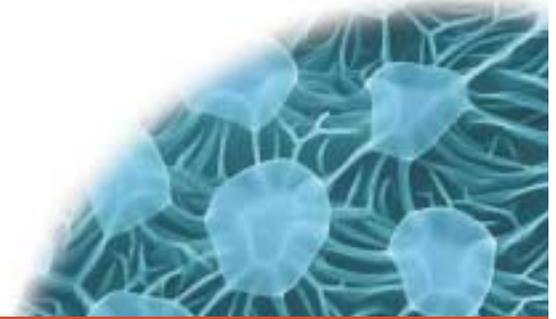
Despite many parallels, the examination of both trajectories indicates that, while starting from a common set of principles, the two management paradigms have diverged into two different perspectives, with different focus and instruments. As a result, both have met with dismal performance but are rediscovering the need for balance. Fisheries need to consider ecosystem constraints and broader societal needs and ethics. Ecosystem cannot always be returned to their "pristine state" and people cannot be easily "excluded" from their livelihood.

While extremists can be found on both sides, the modern trajectories of the paradigms are converging around the issue of sustainable use. This is illustrated by the development of an ecosystem approach to fisheries as recommended by the 2001 FAO Reykjavik Conference, on the one hand, and the promotion of protected areas, on the other. It would seem obvious that there is a need to join the paradigms but there are two fundamental difficulties in the way:

- 1) We have created two poorly connected streams of ministries, organizations and legal instruments and two types of scientists similar by their academic background but different by the institutional system in which they operate, often competing for budgets. This creates the need for collaboration but also the incentives to maintain separate identities;
- 2) We now need to confront the difficult question of allocation of resources at societal level instead of fisheries level, dramatically increasing the potential for conflict and inequity in the short to medium term.

A joint paradigm may hopefully emerge out of these two wandering trajectories which seem to be finally converging again, but the process, in the next 2 decades, could be either of :

- 1) A violent collision between "hardened" paradigms, thrown out of balance by globalisation, with violent conflicts between stakeholders. Considering the respective political and electoral weights, fishermen are likely to lose the conflict in many countries, particularly in the developed world, with very significant political, financial and cultural losses.
- 2) A rather smooth confluence through much improved collaboration or merging between existing institutions. Fisheries will effectively adopt a more ecosystem and precautionary approach, adjusting fishing capacity to ecosystems properties, tackling transition costs, providing education, training and identifying employment alternatives. The ecosystem stakeholders will more effectively include people in their strategies, taking account of existing resource use and human communities' needs, traditions, skills and knowledge. Both groups will recognize that long-term benefits can become powerful incentives only if the allocation issue is resolved. Both should also accept that, on the short-term, the cost of change is overwhelming and that the challenge is to work out a transition acceptable to all.





An Ecosystem Approach for Agriculture

*Interdepartmental Working Group on Biodiversity,
Food and Agriculture Organization*



Agriculture now extends to cover about one third of the land surface, and is the largest user of biodiversity and its components.

Projections suggest that global food production will need to double over the next half-century; either by intensification of existing production systems or by expansion into new lands.

Either way, there will be major impacts on biodiversity. This means that the management of agricultural ecosystems has to be an essential part of any overall strategy for biodiversity conservation.

Moreover, the productive management of agricultural biodiversity will be key to meeting future food needs while also maintaining or enhancing the other goods and services provided by agricultural ecosystems. For example:

- Better use of crop and livestock genetic resources will be key to achieving sustainable increases in food production, not only through breeding enhanced varieties and breeds, but also through a more intelligent deployment of genetic diversity in the field to reduce pest and disease outbreaks;
- Wider application of integrated pest management and of other approaches for the management of the components of biodiversity in agricultural ecosystems – such as pollinators, soil biota and the natural enemies of pests and diseases – can contribute to productivity increases and reduce the use of external inputs at the same time.

As noted by the recent meeting of the Conference of the Parties in The Hague, moving forward will require an improved understanding of the ecological functions of agricultural biodiversity and of the interactions among its components, the physical environment, and socio-economic factors. It also needs the wider applications of programmes of community-

The management of agricultural ecosystems has to be an essential part of any overall strategy for biodiversity conservation. Moreover, the productive management of agricultural biodiversity will be key to meeting future food needs while also maintaining or enhancing the other goods and services provided by agricultural ecosystems.

based learning, research, and adaptive management of agricultural biodiversity, in order to integrate ecosystem approaches into everyday management. After all, farmers comprise the largest group of ecosystem managers and there are important opportunities to engage them to improve the management of biodiversity

in ecosystems.

FAO's experience with "farmer field schools" clearly demonstrates the potential. Through this form of community-based non-formal adult education, farmers have increased their understanding of the rice-ecosystem and the interactions between the crop, insect pests, their natural enemies and other components of the ecological food webs. Each week in the rice growing season, groups of farmers carry out an "agro-ecosystem analysis" as the basis of their crop management decisions. This way farmers have been empowered to become better managers of the agro-ecosystem, increasing production while substantially reducing pesticide yields. To date millions of farmers have graduated from farmer field schools or similar approaches.

The approach is being extended through the Global IPM Facility. FAO is now working with a range of other partners to promote the management of other areas of agricultural biodiversity. For example, FAO is leading the International Pollinators Initiative, established by the Conference of the Parties, in order to protect and enhance pollinator services to agriculture and natural ecosystems valued at over US\$ 50 billion per year. FAO has also initiated the International Soil Biodiversity Initiative to address this hitherto neglected component of biodiversity which, literally, is at the root of all agriculture. The Ecosystem Approach (see box) provides a unifying framework for all this work.



The Five points of operational guidance for application of the ecosystem approach adopted by Decision V/6.

1. Focus on the functional relationships and processes within ecosystems
2. Enhance benefit-sharing
3. Use adaptive management practices
4. Carry out management actions at the scale appropriate for the issue being addressed, with decentralization to lowest level, as appropriate
5. Ensure intersectoral cooperation

Additionally FAO is promoting the implementation of the Global Plan of Action for the conservation and sustainable use of plant genetic resources for food and agriculture – in line with the new International Treaty on Plant Genetic Resources for Food and Agriculture – as well as the Global Strategy for the management of animal genetic resources.

“Agriculture” and “Biodiversity” are two of the five issues for the Johannesburg Summit highlighted by Secretary General Kofi Annan. Applying the ecosystem system approach can contribute both to increasing agricultural production and sustainability, and to protecting and using biological diversity.



Invasive Alien Species and the Conservation and Sustainable Use of Biodiversity

Jeff Waage
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UK

Invasive alien species are non-native organisms which cause harm to the environment, economies and health. While most alien animals, plants or micro-organisms appear benign, and some are beneficial, a small proportion of species become damaging through rapid growth and spread, over-running natural habitats or causing epidemics of disease. Alien invasive

Using biodiversity to protect biodiversity, by understanding and improving the resilience of ecosystems to invasions, or by the careful use of specific natural enemies of alien species for biological control, are promising areas for research and development.

natural ecosystems. Climate change, by putting stress on these ecosystems, is predicted to further facilitate the spread of opportunistic, alien invasive species.

Environmental threats are a newly-appreciated dimension to an alien invasive species problem which has serious impact on human economies and development. Environmental and societal effects of invasive alien species are closely linked. For instance, invasive terrestrial and aquatic weeds threaten unique local biodiversity and reduce the availability of water resources for fishing, agriculture, drinking and industry, affecting both rural and urban livelihoods at a regional level.

species are now recognized as one of the key threats to biodiversity conservation worldwide, causing local species decline and extinctions and, on a much larger scale, interfering with ecosystem processes such as water cycles, fire regimes and ecological succession. Even where habitat loss and pollution has been checked and conservation areas established, damaging alien species continue to invade and degrade our

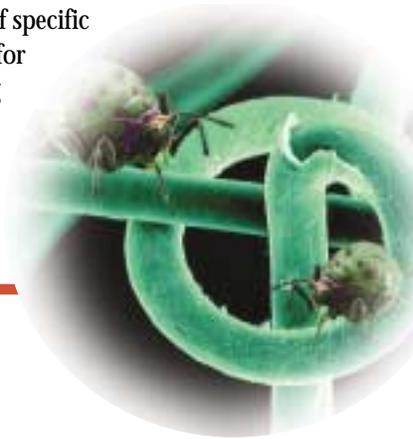
The current growth of invasive alien species problems is closely linked to the dramatic increase in world trade and travel over recent decades. Existing barriers to invasion, including national pest and disease prevention systems, are challenged by trade liberalization under WTO. The proliferation of new kinds of alien invasive species problems, particularly for the environment, will strain systems currently focused on protection of agriculture and human



health. The impact will be particularly severe on developing countries, where prevention and management systems are often under-resourced, and where, paradoxically, many serious invasive species problems have been inadvertently created by development assistance programmes.

Addressing the invasive alien species problem at the national level requires an unprecedented level of cooperation between departments of agriculture, environment, commerce, trade and others to develop national policy and action plans. At the international level, there is a need for coordination between international bodies and conventions (e.g. CBD, IPPC, OIE, IMO, etc.) to provide a consistent and thorough coverage. International trade negotiations need to recognize this problem as a large, self-perpetuating but avoidable cost of globalization, and to take appropriate action.

We urgently need a better understanding of the nature and scale of the threat posed to different ecosystems by invasive alien species. However, we know enough now about existing invasives to reduce their further spread. This requires not only national capacity building, but a focused, short-term effort on key pathways of invasion through trade, travel, transport and tourism, and hence public-private sector cooperation. Prevention of new invasive species problems, including early detection and eradication, is a priority because the cost of control of well-established alien invasives is enormous. Using biodiversity to protect biodiversity, by understanding and improving the resilience of ecosystems to invasions, or by the careful use of specific natural enemies of alien species for biological control, are promising areas for research and development.



Access to Genetic Resources: the Bonn Guidelines and Beyond

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For many years, negotiations on access to genetic resources and equitable benefit sharing had been complex and difficult to the edge of frustration. However, a major breakthrough was achieved last April during the Sixth Conference of the Parties, when the Bonn Guidelines on Access and Benefit Sharing were finally adopted. They represent the first step towards an integrated regime that respects the rights of countries and communities, while ensuring a fair share of benefits to those conserving the genetic wealth of the planet.



The Bonn Guidelines represent the first step towards an integrated regime that respects the rights of countries and communities, while ensuring a fair share of benefits to those conserving the genetic wealth of the planet.

The guidelines include recommendations aimed at improving the negotiating position of developing countries and empowering local communities, contributing to leveling the playing field for the most vulnerable agents involved in access negotiations. In addition, the guidelines call for a comprehensive range of benefits to be considered in access

agreements, including technology transfer and directing research efforts to priorities of providers of genetic materials.

Other major feature of the guidelines is the inclusion of several substantive provisions for individual users and for countries



where users are located. The recognition that responsibility for ensuring compliance with CBD provisions regarding access to genetic resources should fall not only on provider countries, but also on those countries where those resources are being utilized will greatly contribute to the reduction in the transaction costs, to the creation of a more transparent regime for access to genetic resources and to provide greater assurances to local and indigenous communities that their rights will be protected along the entire product development chain.

The guidelines came in time for many countries to consider them when drafting their own legislation on genetic resources. Of course, the real effect of the guidelines will depend on the extent to which they are used. If users are able to signal their adherence to them by implementing measures, provider countries will be able to ensure the Convention's objectives with less restrictive legislation, thus ensuring that access is facilitated, that benefits are realized and can then be shared. There is no doubt that facilitating access is the key to realizing the benefits.

The adoption of the Bonn guidelines positively contributes to the advancement of the objectives of Agenda 21 by empowering local communities and less developed countries. Hopefully, this improved bargaining power will be translated into technologies, human resources and new products for the benefit of countries providing genetic resources.

Looking beyond the Guidelines, it will be crucial to ensure that compliance with national legislation can be signaled clearly to user countries in order to allow them to support such compliance. These measures must also be cost effective in order to avoid unnecessary restrictions on access. One possible means to do this is through the development of certificates of origin as a complement to the provisions included in the guidelines and those in national legislations. The discussion in the years to come are likely to focus on this issue.



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Traditional Knowledge and Sustainable Development

Traditional biodiversity related knowledge (TBRK) has the potential to play a key role in assisting global actions to ensure the sustainable use of biological resources. Indigenous TBRK is an existing knowledge base that can compliment scientific knowledge and provide decision-makers with more complete information on biological systems. More importantly, TBRK can provide a basis for indigenous communities to address issues of poverty and food security in an increasingly global society.

Indigenous Traditional Biodiversity Related Knowledge (TBRK) is an existing knowledge base that can compliment scientific knowledge and provide decision-makers with more complete information on biological systems. More importantly, TBRK can provide a basis for indigenous communities to address issues of poverty and food security in an increasingly global society.

Human societies have always relied on biological resources for physical and spiritual sustenance. Biodiversity ultimately provides us with a source of food, medicines, materials and opportunities. Indigenous peoples in common with all

peoples have a right to derive a means of existence from the sustainable use of biological resources found within territorial borders according to cultural practices. This right is based on the long and close association between indigenous peoples and their traditional biological resources developed and in



many cases maintained over thousands of years. This interdependence has created the diversity of cultures we see today and the diversity within biological systems commonly referred to as biodiversity. It is no small coincidence that the majority of the world's remaining biodiversity reside in indigenous territories.

A key element of the relationship between indigenous peoples and biodiversity is the detailed understanding of components of biodiversity and the dynamics of living systems built up by indigenous peoples over millennia. Through observation, assessment, and experimentation, indigenous peoples have successfully adapted their modes of production to the particular characteristics and limits of biological resources. This know-how includes, for example, breeding methods, agricultural systems, harvesting routines, fishing and hunting techniques, and pharmaceutical properties of different plants. Considered for a long time as primitive and outdated, such expertise is in fact highly relevant for the ongoing national and international initiatives aiming at protecting biodiversity. Indigenous communities' way-of-life proved to be respectful of nature and their wisdom and knowledge offer interesting alternatives to the solutions proposed by modern science.

This know-how has variously been referred to as traditional knowledge (TK), traditional ecological knowledge (TEK) and more recently as traditional biodiversity related knowledge (TBRK). It is now widely acknowledged that TBRK has a vital role to play not only in conservation but also in the sustainable use of biodiversity. The Convention on Biological Diversity acknowledges this role in its preamble and respective articles, and a work plan has been developed by governments in consultation with indigenous peoples to support the potential that TBRK offers.

For indigenous peoples the preservation and protection of TBRK are major concerns. Indigenous peoples want to protect their intellectual property rights by managing and controlling access to TBRK. This indigenous peoples believe can only happen sufficiently when western IP systems adopt principles for prior informed consent whilst recognising and utilising

customary legal systems. TBRK has the potential to deliver benefits to all peoples through the creation and dissemination of new innovations in agriculture, aquaculture, pharmaceuticals etc. Indigenous peoples have a right to derive at least an equal share in the benefits that arise from the use of TBRK.

One major issue for indigenous peoples, and one that should be of great concern to all peoples, is the accelerating loss of TBRK. Loss of TBRK, as well as representing a loss of our common cultural inheritance, represents a loss of potential solutions to some of the problems identified at the Rio Earth Summit. To prevent this loss a greater commitment is required from governments, NGOs the private sector and the general public to respect and embrace the value of indigenous cultures and their TBRK. This requires global and national education strategies that raise the level of awareness about indigenous peoples and their role in the conservation and sustainable use of biodiversity. Incentive measures from governments are required to encourage indigenous peoples to preserve their TBRK in the face of ongoing globalisation and the resulting erosion of cultural diversity.

Indigenous people believe that a starting point to address conservation and sustainable use of biodiversity and the role of TBRK has to be the recognition and protection of indigenous territories. Hand in hand with this is a requirement for an enabling environment that encourages self-determination. This does not need to be viewed as being exclusionist but merely a beginning point. By working in partnership with indigenous peoples through capacity building activities communities will be better placed to participate at all levels in relation to the conservation and sustainable use of biodiversity.





The Cartagena Protocol on Biosafety: A Tool for Sustainable Development

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Introduction

When it looked certain that the Cold War was finishing, two trends of major importance started. Those who aimed at equity, economic and environmental well-being and the sustainability of development created Agenda 21 and the most significant environmental conventions that emerged from the United Nations

If the Summit in Johannesburg does not create the necessary good will, the prospects for sustainable development are bleak.

Conference on Environment and Development in Rio de Janeiro in 1992. The Cartagena Protocol on Biosafety was negotiated under one of these agreements, the Convention on Biological Diversity (CBD).

And those who saw themselves winning the Cold War aimed at regulating globalization and created the current trade agreements and the World Trade Organization (WTO) in Marrakesh in 1994. The WTO agreements developed a very effective enforcement mechanism through the use of trade embargo. We thus have a situation in which trade agreements are taken very seriously, but environmental agreements can be disregarded.

The environmental agreements of Rio de Janeiro, and indeed all others, failed to create effective enforcement mechanisms.

The Cartagena Protocol on Biosafety, being thus deficient in effectiveness of enforcement, is inherently weak. The fact that the United States of America, the biggest producer and user of LMOs, will not become party to the Protocol because it has refused to become party to the CBD, accentuates this weakness.

Application of the Precautionary Principle

The basis for decision taking in the handling, use and transboundary movement of LMOs in the Cartagena Protocol is the Precautionary Principle (see Articles 10.6 & 11.8). This principle implies that any LMO has to be considered risky until proven otherwise. It contrasts with the principle of "Substantial Equivalence", which implies that it is safe unless proven otherwise.

The AIA procedure is compulsory for ensuring that decisions are based on full and accurate information, and thus on the Precautionary Principle (see Articles 7-10). This procedure has been modified for LMOs that are commodities

in that all the information for the AIA is given in the Biosafety Clearing-House (BCH) of the Protocol instead of being individually submitted to each country, and that a country has the right to regulate, again through the BCH, the importation of any LMO commodity into its territory (see Article 11).

Loopholes that Have to Be Plugged

There are a number of loopholes that need to be addressed for the Protocol to be more effective. First, LMOs that are pharmaceuticals for humans (see Article 5) are not to be regulated by the Protocol if there are other relevant international agreements or organizations mandated to regulate them. At the moment, there is no international law other than the Protocol for regulating LMOs of any kind, and WHO's mandate does not include the environmental impacts of LMOs. Countries have thus to resort to their national laws for safety.

Secondly, contained use is not to be regulated through the AIA procedures of the Protocol, but the definition of what constitutes contained use is left to every country (see Article 6). Each country should, therefore, be always on the lookout to control LMOs that could pose risk owing to the peculiarities of its environment or socio-economic conditions (see Article 26).

And thirdly, if damage arises from the use of LMOs or their products, there is no redress possible because there is no international law on the matter. The process for the negotiations of a liability and redress regime (Art. 27) shall be adopted in the first meeting of the Conference of the Parties of the CBD serving as the meeting of the Parties to the Protocol.

Concluding Remarks

Given good will, the Cartagena Protocol will be an effective instrument for fostering sustainable development. But terrorism is now the focus of global attention. Modern biotechnology is a potent instrument for modifying microorganisms to be deadly to humans, crops, and/or other components of the environment. The Biological Weapons Convention seems to have been rendered more or less ineffective.

If the Summit in Johannesburg does not create the necessary good will, the prospects for sustainable development are bleak. Even human survival as a species may become doubtful. The Summit should urge all states to ratify and fully implement the Protocol.



Sustainable Use

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With the entry into force of the CBD in 1992, the promotion of sustainable use of biological diversity, enshrined as one of its three primary objectives, became a subject of debate. Formal meetings and informal discussions have been held to define what sustainable use is and how best to achieve it.

In nations which are highly urbanized and where populations are largely divorced from day to day contact with the natural world, a perception developed that sustainable use of biological diversity is unnecessary at best or harmful at worst. Indeed, there is little awareness in most urbanized societies that the food on the table is a product stemming from biological diversity. This lack of awareness compounds the problem that



their survival. With burgeoning human populations resulting from advances in medicine and control of diseases, the challenge is to ensure that

livelihoods are preserved by encouraging opportunities for traditional lifestyles, that traditional uses of biological diversity remain within sustainable limits, and that interested communities participate actively in sustainable use programs.

The CBD, in collaboration with other agencies, is developing a set of guiding principles for the sustainable use of biological diversity. These principles are not designed to be immutable laws or to be a panacea guaranteeing that their application will result in sustainability. Rather, they should be understood as an evolving tool to be adapted to different human societies and biomes and thus open to modification and improvement resulting from their application in the field. Only through an adaptive and ongoing process of this kind is it possible to maximize the chances that use of biological diversity will be sustainable in the long-term.

It is necessary that civil society and Governments understand that sustainable use is a prerequisite for the achievement of the broader goal of sustainable development. Moreover, they should recognize that this is not an option but an imperative if humankind is to survive.

ever-increasing demands on the world's resources to satisfy the needs of modern life are leading to overuse of biological diversity. Arguably, then, the greatest challenge facing humanity is to either curb unrealistic expectations and bring over-used resources back to sustainable limits, or find alternatives for these resources.

In the less developed world, use of biological diversity is more direct; rural and indigenous communities have been linked intimately to the use and preservation of the surrounding biological diversity for millennia. Regrettably, this relationship is often poorly understood but this has not prevented local and indigenous practices from contributing significantly to the immeasurably rich tapestry of present day human society. This use provides the basic human needs of food, shelter, clothing and medicine to the less privileged, and is often the very key to

It is necessary that civil society and Governments understand that sustainable use is a prerequisite for the achievement of the broader goal of sustainable development. Moreover, they should recognize that this is not an option but an imperative if humankind is to survive. This requires successful sustainable use programs to be documented and disseminated speedily so that others can learn from these initiatives and experts in sustainable use issues should be involved in building capacity where it is needed. The guiding principles for sustainable use should be employed as practical aids to achieve sustainability and active feedback is needed to ensure their ongoing improvement. Finally, effective networks between the CBD and CSD and other agencies have to be established to enable lessons learnt from implementing sustainable use programs with biological diversity to be applied in other areas of sustainable development.



Biological Diversity and Tourism



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Tourism is a major service-based economic sector, currently part of our unsustainable patterns of production and consumption. Despite its global flavour, significant parts of its revenues never leave originating countries, often well

developed. It squanders locally scarce resources such as water and energy, and often pollutes coastal areas. Long-haul leisure travel accounts for around 4% of the world's carbon emissions, ultimately endangering some of its most precious destinations through global warming. Due to its inherent fragmentation and relatively narrow profit margins, the sector lags behind in terms of its contribution to environmental and social causes, in spite of encouraging signs of change. Even ecotourism often

Tourism does not thrive in degraded areas, disease-ridden regions, or places under serious civil disruption. It makes business sense for tourism stakeholders to be natural allies of sustainability.

displaces indigenous and local communities and erodes cultural traditions. Why, then, has the General

Assembly of the United Nations declared 2002 the International Year of Ecotourism? Why can sustainable tourism be one of the most effective uses of biodiversity?

The basic fact is that a healthy social and natural environment is the first and most important asset for this industry. We could not imagine tourism without beaches and coral reefs, mountains and valleys, rivers, wetlands, savannas, forests and islands. Tourism does not thrive in degraded areas, disease-ridden regions, or places under serious civil disruption. It makes business sense for tourism stakeholders to be natural allies of sustainability.

Second, in some destinations, concrete evidence shows that the right kind of tourism can make a difference in conservation of biodiversity: a market-based tool such as sustainable tourism can provide protected area managers with financial resources

The basic fact is that a healthy social and natural environment is the first and most important asset for this industry.

and social and political support. Cousin Island in the Seychelles, for instance, is a private 66-acre reserve, now completely restored to its original ecosystem, and maintained by a local NGO exclusively with day-use tourism revenues. It generates well over 600 thousand dollars per year to the local economy. "The Cousin example demonstrates that a successful marriage between biodiversity conservation and tourism can be achieved", says Nirmal Shah of BirdLife Seychelles, the local NGO managing the island reserve. Under the right circumstances, tourism can be less impacting than other economic alternatives, such as logging, unsustainable extractive industries, destructive fishing, or slash-and burn agriculture.

Third, as Dr. Klaus Toepfer, Executive Director of the United Nations Environment Programme, says "sustainable tourism must be recognized as an important tool for alleviating poverty, the worst kind of pollution". Many biodiversity-rich countries face the challenge of poverty, and for them, sustainable tourism and ecotourism development is an opportunity they just cannot afford to lose. Examples such as Mauritius, Kenya and Seychelles are well known. Even in Europe, tourism can help support depressed agricultural regions with substantive biodiversity through networks of small-and medium enterprises.

Finally, traveling is still one of the most effective ways of learning: it can raise awareness of travelers and hosts about environmental and social issues, and bring political support to worthy causes, from peace to conservation of natural resources.

Tourism certainly will not achieve those goals by itself – we need a combination of voluntary and regulatory policy tools, supported by efficient public-private partnerships. We need to change the way tourism operates today. The global platform for this change is set by documents such as the WTO/OMT's Global Code of Ethics for Tourism, the CBD Guidelines on Sustainable Tourism in Vulnerable Ecosystems and the Quebec Declaration on Ecotourism. They point to a new paradigm of tourism development: one that is truly multi-stakeholder in its planning, maximizes local benefits, contributes to sustainable environmental management, and allows cultural exchange and dialogue to happen.



These ideas have to be discussed at the World Summit on Sustainable Development - a critical event for governments, civil society and the private sector to consolidate the progress made over the last years in sustainable tourism. In the current draft of the Implementation Plan for WSSD, the sector is already linked to energy and biodiversity conservation, and its importance to sustainable development in SIDS and Africa is acknowledged. We need to use this unique global forum to form a new coalition that supports sustainable tourism, and to propose clear action plans for its implementation.

If tourism is one of the biggest industries in the world, with almost 500 billion dollars in receipts per year, it just has to become an essential tool to overcome biodiversity losses and eradicate poverty. The industry itself, consulted by UNEP as part of the preparations for WSSD, recognises its responsibility, but clearly says it cannot bring about this change without the help of governments and other stakeholders. UNEP and the CBD can be effective catalysts in this process. We look forward to supporting the CBD Guidelines on Sustainable Tourism in Vulnerable Ecosystems, and to implementing the Quebec Declaration on Ecotourism through concrete action plans in the framework of the World Summit on Sustainable Development.



The Strategic Plan of the Convention

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Ten years have passed since the CBD entered into force. Ten years of intense negotiations and hard work by Parties, Secretariat and civil society have translated the text of the CBD into more concrete and 'workable' instruments such as work

For the Strategic Plan to be effective, it is important that the World Summit on Sustainable Development (WSSD) acknowledges the importance of biodiversity for sustainable development as well as the leading role of the CBD in this regard.

programmes and the Cartagena Protocol. Nevertheless, biodiversity, the very basis of life, is today still being lost at high speed and the implementation of the CBD remains difficult. The broad scope and overarching nature of the CBD as well as limited political support for its implementation, make existing instruments neither enough known nor used.

To counter this, the CBD needs to expand its circle of influence and reach out to policy makers, sectors, stakeholders and the wide public. A Strategic Plan was therefore adopted at COP6, which serves two main purposes. As an internal working document it provides guidance to Parties to implement the CBD, and as a political document it has an external dimension which aims at improving communication and raising the political profile of the CBD.

However, for the Strategic Plan to be effective, it is important that the World Summit on Sustainable Development (WSSD) acknowledges the importance of biodiversity for sustainable development as well as the leading role of the CBD in this regard. UN Secretary General Kofi Annan therefore created a unique opportunity to raise the political importance of biodiversity by rightly identifying it as one of the 5 priority issues for sustainable development. As mentioned in the COP6 Ministerial Declaration, this should further be reflected in Partnerships on biodiversity to be adopted at WSSD.



Thanks to the successful outcome of COP6 and many efforts from Parties, Secretariat and stakeholders, good progress was also achieved during PrepComIV in Bali on the biodiversity section of the Draft Plan of Implementation for WSSD which now reflects much of the Strategic Plan. It identifies CBD as the key instrument and specifically mentions issues such as sectoral integration, NBSAP's, effective synergies with other agreements, adequate financial and technical support, capacity building, and involvement of all stakeholders.

The main outstanding issue in the Bali text are the targets. In the Strategic Plan, Parties committed themselves to achieve by 2010 a significant reduction of the current rate of biodiversity loss and this contributes to the overall goal of reversing the decline of environmental resources by 2015. WSSD should act on this and accept these targets in the Plan of Implementation.



The key question will further be to ensure that all commitments, instruments and policies adopted at high political level are effectively implemented and targets reached. The Strategic Plan states that better methods should be developed to evaluate progress and also more than 120 ministers at COP6 specified that mechanisms for assessment and review of implementation as well as compliance regimes are necessary. It is very important that this is clearly dealt with at WSSD *inter alia* through the proper integration of better international environmental governance (IEG Cartagena) into the WSSD: issues such as compliance with MEA's and improved synergies between them, as well as an Intergovernmental Panel on Global Environmental Change will largely contribute to the implementation of the CBD.

Finally, it is important that at WSSD, next to the Plan of Implementation and the Partnerships, also the Political Declaration by Heads of State will confirm biodiversity as a fundamental cornerstone for sustainable development.

Biological Diversity Communication, Education and Public Awareness: Preparations for Johannesburg

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It is now widely recognized that biodiversity – the variability of life in all of its forms and at all of its levels, from genes to landscapes – acts as a deterrent to several adverse effects of human activities and enhances the resilience of ecosystems (natural and man-made) to those effects, such as the role of biodiversity as a barrier to ecological invasions (Kenney, 2002). Moreover, the interlinkages between biodiversity and some of the major issues of societal interest that are impacted by and have an impact on the environment (availability of food and



By implementing the programme of work on Communication, Education & Public Awareness under the CBD, governments will have a much greater chances to implement the provisions under Agenda 21 and the recommendations emanating from Rio+10.

fibers, maintenance of good health conditions, creation of sustainable livelihood systems, etc.) are becoming increasingly clear (Millennium Ecosystem Assessment, 2002; Bridgewater and Arico, 2002).

Although some economic activities in the far past were indeed global, especially trade, globalization in the sense we use nowadays is a recent phenomenon. As such, it is understandable that, while the advantages of globalization are notable (for example the



possibility for different groups of people throughout the globe to use remote communication to advocate similar causes and therefore build consensus (Di Castri, 2000)), the social and environmental costs of globalization are also significant!

The conservation and sustainable use of biodiversity are possible only when economies take into account existing knowledge of the cultural and biological systems in which they operate and when they include benefit sharing as one of their goals. In the context of globalization, biodiversity becomes a capital on which governments can and should build to achieve sustainable levels of social and economic organization – a precondition for sustainable development (Bridgewater and Arico, 2002).

Hence the need for biodiversity science and for public education and awareness about the importance of biodiversity in support of current international policy and institutional efforts in the biodiversity area. We suggest biodiversity communication, education and public awareness are critical to the WSSD.

According to UNESCO's terminology (International Bureau of Education, 1991), education is the process by which a person develops abilities, attitudes and other forms of behavior considered to have value in the society in which he lives; when education is informal it virtually equals personal growth. A subset of education is training - the systematic educative process by which one learns new skills. Public awareness is the public opinion, perception or awareness by society of a given topic, which we consider to be part of the set of "cultural models" often referred to in traditional anthropology (Kempton, 1995). In this context, communication is a key instrument to achieve education, including training, and awareness building.

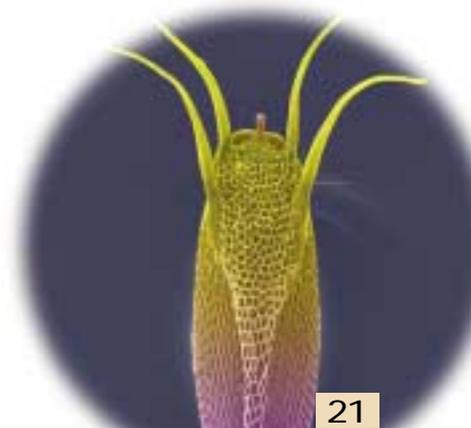
These working definitions are profoundly challenged when one deals with the concept of biodiversity. While conventional communication and educational approaches have been used successfully to design and implement environmental education programmes and public awareness activities, biodiversity communication, education and public awareness ("CEPA") require new approaches.

The work conducted by UNESCO and the Secretariat of the Convention on Biological Diversity on the basis of the advice of a group of experts in this subject area and in partnership with a number of relevant non and intergovernmental organizations (UNEP, in press) has led to the key conclusions, among others, that biodiversity CEPA is a field on its own, which requires specific expertise and explicit recognition in the policy-making process, as well as networking among all key actors; and that we are far from having a set of solutions to implement biodiversity CEPA, which is why there is a strong need for demonstration projects.

By implementing the programme of work on CEPA under the Convention on Biological Diversity, governments will have a much greater chance to implement the provisions under Agenda 21 and the recommendations emanating from Rio+10. More important, as other multilateral environmental agreements are in the process of elaborating modalities for implementing their CEPA-related articles, this is a perfect timing for synergy development towards an integrated sustainable development CEPA strategy – a goal to the achievement of which the WSSD will provide the perfect platform.

References (in order of citation)

- Theodore A. Kennedy *et al.* (2002). Biodiversity as a barrier to ecological invasion. *Nature*, 6889 (417).
- Millennium Ecosystem Assessment at <http://www.millenniumassessment.org>
- Peter B. Bridgewater and Salvatore Arico (2002). Conserving and managing biodiversity sustainably: The roles of science and society. *Natural Resources Forum*, 26.
- Francesco Di Castri (2000). Ecology in a context of economic globalization. *BioScience* 50 (4).
- UNESCO International Bureau of Education Education Thesaurus (1991). UNESCO Press.
- Willett Kempton *et al.* (1995). Environmental Values in American Culture. MIT Press.
- UNEP (in press). Decisions of the Conference of the Parties to the Convention on Biological Diversity at its sixth meeting (available at <http://www.biodiv.org>).





Partnerships and the WSSD Offer Exciting New Opportunities for the CBD

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On May 14 2002, UN Secretary General Kofi Annan proposed five priority areas of focus for the World Summit on Sustainable Development (WSSD): **Water, Energy, Health, Agriculture, and Biodiversity and Sustainable Ecosystem Management** – known by the acronym “WEHAB”.

From the WSSD Prepcom IV deliberations in Bali through to the June 25th “Handing over the Torch” meeting in Rio and beyond, the ‘WEHAB’ framework has received support throughout the world as a concrete and compelling agenda for action.

This recognition of ‘*Biodiversity and Sustainable Ecosystem Management*’ as one of the five key pillars of sustainable development adds powerful momentum to the CBD COP VI Ministerial Statement and throws a challenge to all of us working for the CBD to follow-up. *But how do we meet this challenge?*

Both the CBD and the WSSD implicitly acknowledge that environment and development challenges — such as biodiversity loss and poverty — cannot be addressed by any one actor or sector alone. *What is urgently needed is a new kind of partnership for biodiversity that builds upon the recognized strengths of communities, NGOs and the private sector and the dedicated service of the public sector.* It is where the interests of these various actors and sectors intersect that the most promise lies since innovation derives from bridging the gaps between apparently competing interests.

What is urgently needed is a new kind of partnership for biodiversity that builds upon the recognized strengths of communities, NGOs and the private sector and the dedicated service of the public sector.

In this regard, a notable novelty of the WSSD process is the recognition that informal *Type 2 partnership outcomes* offering grounded strategies for success at the local level are of importance and should complement the formal (and hopefully progressive and far-reaching) *Type 1 intergovernmental agreements*. It is in this arena of ‘innovative partnerships’ that we in the biodiversity community need to put substantial attention in the run-up to WSSD and beyond to expand our constituency and impact. *But where and at what levels?*

Arguably the most potent examples of successful partnerships and real achievement since Rio have occurred at the local level. UNDP’s work over the past decade with a variety of ‘small grant windows’, including Africa 2000, LIFE, and the UNDP/GEF Small Grants Programme, have revealed a treasure trove of literally thousands of examples of local level partnerships and accomplishment to meet livelihood needs while protecting the natural resource base.

Yet these examples are not sufficiently known or accessible and it is precisely this lack of awareness of local success stories that undercuts international support for sustainable development. One new partnership program, the *Equator Initiative* aims to strategically address this gap by raising awareness of existing success stories, providing analysis of the factors underlying their success, and supporting a significant ‘south-south’ community-to-community learning exchange programme.

Within just 14 weeks of its launching, the *Equator Initiative* attracted 420 nominations from 77 tropical countries for the Equator Prizes. These inspiring examples of community partnerships to alleviate poverty and sustain biodiversity from throughout Africa, Asia and Latin America cover the full range of ecosystems and types of interventions from generating new markets for non-timber forest products, to viable eco-agriculture and sustainable aquaculture practices, to livelihood opportunities associated with protected areas.



To make these kinds of innovative and successful local approaches to conserving and sustainably using biodiversity widely known, six community initiatives from among the 420 nominations will receive the prestigious *Equator Prize* during a high visibility ceremony in Johannesburg during WSSD.

But obviously we must not stop at the WSSD — and we must expand the impact of these community initiatives beyond the local level. To have a global impact, the *Equator Initiative* will utilize its experience, networks and resources for ‘south-south’ capacity building, as well as to influence policy at the local, national, regional and global levels. This is why the Equator Initiative has been proposed as a ‘Type 2 partnership’ initiative and the agencies sponsoring the *Equator Initiative** invite other partners to join them in this ambitious program.

But many other major ‘Type 2 partnerships’ need to be created to take full advantage of the opportunity the UN Secretary General has offered the CBD. In fact, UNDESA and UNDP are facilitating a process to help generate other viable Type 2

partnerships for each of the WEHAB priority areas, including Biodiversity, and partners from all sectors and regions are urged to participate.

Now, precisely 10 years after the CBD was established — and with the World Summit nearly upon us — it is time for all of us in the international biodiversity community to redouble our efforts to expand the constituency working on behalf of the planet’s biodiversity. Through innovative partnerships we can broaden our support for ‘*Biodiversity and Sustainable Ecosystem Management*’, and in the process launch the kind of worldwide movement required to make truly meaningful progress towards poverty eradication and achievement of the three critical goals of the CBD.

* *Equator Initiative Partner Agencies*: BrasilConnects, the Government of Canada, the International Development Research Centre (IDRC), IUCN – The World Conservation Union, the Television Trust for the Environment, UNDP and the United Nations Foundation.



Sustainable Community Livelihoods

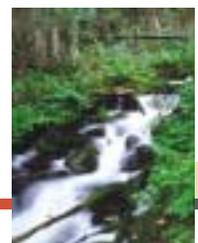
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Environment Canada

Those who were in Rio in 1992 understood the urgency with which the world had to act in order to forestall the unprecedented rate of disappearance of the world’s plant and animal life.

Those who are going to Johannesburg in 2002 will understand this as well. They will also be aware, even though we still cannot measure with certainty what is really happening, that species extinction and habitat loss trends have not changed for the better, except in isolated pockets and rare instances. They will also be thinking of other global priorities for urgent action, including national security, diseases such as AIDS and malaria, food and water shortages, poverty and war that compete for the world’s attention.

The CBD, with all its softness and complexity, contains many of the keys we need. It is about conservation, of course. It is also about sustainable resource use and, demonstrating great insight, it is about sharing. It recognizes the importance of addressing issues of inequity and fairness.

It will be important for those who attend the World Summit in 2002 to look back to Johannesburg as the point at which we began to deal effectively with some of the underlying causes of unsustainable living. This personal essay is about a small but important aspect of sustainability as seen through the lens of the Convention on Biological Diversity (CBD).





The CBD, with all its softness and complexity, contains many of the keys we need. It is about conservation, of course. It is also about sustainable resource use and, demonstrating great insight, it is about sharing. It recognizes the importance of addressing issues of inequity and fairness. It acknowledges the importance of aboriginal ways. It is the only multilateral environmental agreement to recognize explicitly that poverty is an underlying impediment to conservation. It promotes sovereignty and national or local solutions to conservation issues while at the same time encouraging international cooperation, information sharing, technology transfer, benefit sharing and mutual respect.

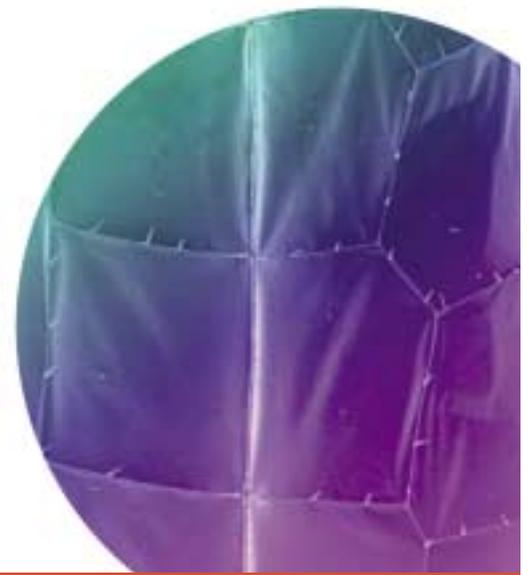
The CBD acknowledges sustainable resource management as a basic means of addressing conservation and economic issues, within the context of the full spectrum of biological resources: fisheries, forests, agriculture, wild plants and animals as well as the genetic material derived from them. The world's greatest concentrations of this biological wealth occur in tropical developing countries where the most acute poverty and the highest rates of biodiversity decline are often experienced. In these countries, poverty concentrates in urban areas, but is often rooted in rural communities.

Yet, encouragingly, examples abound of rural communities, in those same countries, generating sustainable livelihoods for their citizens using conservation principles, including sustainable resource management. Aboriginal communities are among the most noteworthy. These communities, through living in harmony with their surroundings, have been able to realize the satisfaction of community stability, adequate food and shelter, family cohesion, self-esteem and basic education and health care, though probably still considered "poor" in monetary terms.

While these examples are becoming better known, there is much that communities can share and learn from each other, much grassroots action to be generated to that end and much that donor agencies can do to stimulate and support such activity. It is now broadly apparent that there is a need for mainstreaming the facilitation of sustainable community livelihoods in development strategies by governments and international institutions.

One such effort in which Canada is engaged is The Equator Initiative. (<http://www.EquatorInitiative.org>) This, an international partnership managed by UNDP, is designed to reduce poverty at the rural community level in tropical developing countries through the conservation and sustainable use of biodiversity, effective local governance and collaborative partnerships. The Initiative intends to have a major presence in Johannesburg. Exemplary communities will be invited to share their good practices, with activities centered in the Ubuntu Village. The objective will be to promote post-Summit community-to-community learning and to stimulate new support for a community-based approach to sustainable living, poverty reduction and, not incidentally, biodiversity conservation.

The WSSD will be a timely showcase for this approach and will stimulate development of the global movement it deserves to become. Poverty reduction, sustainable communities, environment/health relationships and sustainable resource management, are thematic destinations for the WSSD. The Convention on Biological Diversity can provide the road map. Communities can select a route and provide the drivers. The rest of us can provide the fuel and be confident that the transport is extraordinarily fuel-efficient.





To Acknowledge and Pay for

Hans Thiel
Vice-minister of the Environment
Ecuador

Tropical native forests, the most biodiverse on the planet, have been vanishing for decades at an annual rate of around 14 M hectares. In order to stop this loss, thousands of millions of dollars have been invested without a satisfactory result being obtained up to now.

have no better alternative than entering forests looking for a piece of land to cultivate in a precarious manner in order to barely survive. But the enormous weight of external debts, the difficult access to markets and other structural hindrances stop developing countries from taking this step, which would allow them to fight poverty - the worst enemy of forest conservation - in an efficient manner. Sustainable development means necessarily the development of balances.

Most of these funds have been used for promoting the conservation and sustainable use of biodiversity, ecotourism projects, harvesting non timber and timber products; many of these activities having shown promising results.

But these isolated experiences seldom have had an effect on those structural and market conditions that mean that the conservation and the sustainable use of forests have not yet managed to become a source of income sufficient to let the owners of those forests - in many cases local villages and communities - feel that conservation has become an alternative capable of replacing the short term income generated by destructive exploitation.

How can an apparently good short term business be replaced by practices that are less profitable but can be sustained on a long term basis? How can we move on from successful but isolated experiences to structural changes capable of reversing alarming global trends?

Perhaps the industrialization of developing countries is an alternative to decrease the pressure on native forests? It is far more efficient and cheaper to provide basic services, education, health and communication for urban communities than for widely scattered masses of rural inhabitants. Are industrialization and urbanization an alternative for relieving the enormous pressure to which tropical forests are subjected? Urban cultural homogenization and globalization would imply necessarily the loss of the valuable ethnical and cultural diversity associated with forests.

No doubt spontaneous colonization and its destructive sequels could be considerably reduced through the development of urban poles for technological and industrial development, capable of generating jobs and welfare for those who at present

We have had ten years of experiments with projects: it is time to steer in a different direction, to implement far reaching and long term structural solutions.

The global undertaking to conserve and use in a sustainable manner those biological and cultural values associated with forest biodiversity and to guarantee a fair distribution of the benefits generated by that biodiversity also requires new models going beyond the isolated instances of projects. We have had ten years of experiments with projects: it is time to steer in a different direction, to implement far reaching and long term structural solutions.

In addition to the fact that forests must not go on becoming populated, that agricultural frontiers must not be further enlarged - it being preferable to promote sustainable agricultural activities - the only way to conserve those native forests that we still have is to integrate within the ecosystem approach, every possible source of income arising from the conservation and sustainable use of forests, so that the local communities that own them may obtain direct benefits. But even this results in an insufficient financial income.

That is why the cultural, social and environmental services generated by native forests for the benefit of the local and the global community must be also acknowledged and paid for. The owner of a forest must receive a payment in cash for these services, to be added to whatever value may be generated by the various sustainable use alternatives. It is national governments and the international community who must create such structural conditions as may help us, once and for all, to reverse the ominous tendency to destroy and lose one of the most important strategic resources available to humankind: the biodiversity present in native forests.



The Role of Informatics in the Conservation and Sustainable Use of Biodiversity

*James L. Edwards
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GBIF endorses the efforts to narrow the digital divide, particularly the UN Information and Communications Technologies Task Force, and supports putting into practice the kinds of Type II (voluntary) partnerships that we expect will emanate from the Rio + 10 Summit.

Electronic databases, especially when linked together over the Internet, constitute powerful tools for scientists and decision makers, for such purposes as understanding ecosystem structure and function, monitoring changes in floras and faunas, developing conservation strategies and action plans, and tracking invasive species.

In order for a biodiversity informatics resource to be maximally useful, four enabling conditions must be fulfilled:

1. **Content.** Most biodiversity data has not been transferred from paper to electronic databases (digitized). When digitized, this large backlog of information can provide comprehensive records of where and when organisms have been found. Their utility has been illustrated in Mexico, where CONABIO assembled information on Mexican species from natural history collections around the world and used this information to predict and model the effects of habitat fragmentation, to plan the optimal placement of protected areas, etc.
2. **Repatriation of Data.** Although the greatest concentration of species is found in the tropical regions, much of the scientific information about these species, including most of the specimens in natural history collections, is found in developed-country institutions. Once these data are digitized, they can easily be repatriated back to the countries or regions of origin.

3. **Developing a Computerized List of the World's Species.** Currently, there is no comprehensive, standardized list of the approximately 1.8 million species that have already received scientific names. This makes it difficult to compare information in different databases. Ongoing efforts (notably Species 2000 and ITIS) need to be supported and new mechanisms need to be developed in order to complete the species list in a reasonable time frame.
4. **Building Informatics Capacity.** Perhaps the most serious informatics problem is ensuring equitable access to biodiversity information. Reliable Internet connections, sufficient hardware and software, and training in informatics are needed in many parts of the world.

GBIF and the World Summit on Sustainable Development

One example of a growing number of international informatics resources is the Global Biodiversity Information Facility (GBIF), which was established to promote the compilation, linking, standardization, digitization and global dissemination of the world's biodiversity data (using electronic means), within an appropriate framework for property rights. GBIF endorses the efforts to narrow the digital divide, particularly the UN Information and Communications Technologies Task Force, and supports putting into practice the kinds of Type II (voluntary) partnerships that we expect will emanate from the Rio + 10 Summit. GBIF is also committed to the realization of the goals of Chapter 15 of Agenda 21 and the Convention of Biological Diversity, and especially urges implementation of the recently approved Work Programme for the Global Taxonomy Initiative (GTI), as it addresses all of the above-mentioned enabling conditions. Particularly GBIF would like to be supportive of the GTI's operational objectives 2 (build and maintain systems and infrastructure to obtain, collate and curate taxonomic collections) and 3 (facilitate an improved and effective system for taxonomic information, with priority on ensuring countries of origin gain access to information on biodiversity). If fully implemented, these activities should provide the informatics tools and resources that will allow policy makers, resource managers, and the general public to learn about and sustainably manage biodiversity resources.



Target 2010 for Plant Conservation

*Peter Wyse Jackson
Secretary General
Botanic Gardens Conservation International*

*H. David Cooper
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It is clear that between 60,000 to 100,000 plant species are threatened worldwide, perhaps one third of the world's flora.

Plants are a vital part of the world's biological diversity and

an essential resource for human wellbeing. Besides the crop plants that provide our basic food and fibres, many thousands of wild plants have great economic and cultural importance and potential, providing food, medicine, fuel, clothing and shelter for vast numbers of people throughout the world. Traditional Chinese medicine alone uses over 5,000 plant species and traditional medicines in India are based on 7,000 different plants. Plants also play a key role in maintaining the planet's basic environmental balance and ecosystem stability and provide an important component of the habitats for the world's animal life.

Yet, despite our reliance on plants, crisis point has been reached. Although much work remains to be carried out to evaluate the status of the world's plants, it is clear that between 60,000 to 100,000 plant species are threatened worldwide, perhaps one third of the world's flora.

Plants are endangered by a combination of factors: over-collecting; unsustainable agriculture and forestry practices; urbanisation; pollution; land use changes; the spread of invasive alien species and climate change.

A key part of this challenge is to halt the destruction of the plant diversity that is so essential to meet the present and future needs of humankind.

The Secretary-General lists biodiversity conservation as one of the five main challenges for the World Summit on Sustainable Development. A key part of this challenge is to halt the destruction of the plant diversity that is so essential to meet the present and future needs of humankind.

Working through a unique partnership of international and national organizations, governments and NGOs, the Convention on Biological Diversity has developed — in only two years — a Global Strategy for Plant Conservation which was adopted unanimously at the Convention's Sixth Meeting of the Conference of the Parties held in The Hague in April 2002. While the entry point for the Strategy is plant conservation, aspects of sustainable use, capacity building and benefit-sharing are also included.

The Strategy provides an innovative framework for actions at global, regional, national and local levels. A global dimension is important because it can facilitate the development of a consensus of key objectives, targets and actions and enhance collaboration and synergy at all levels. The Strategy is backed by a wide range of organisations and institutions — governments, intergovernmental organizations, conservation and research organizations (such as protected-area management boards, botanic gardens, and gene banks), universities, research institutes, non-governmental organizations and their networks, and the private sector. But the really new element of the Strategy is the inclusion of 16 outcome-orientated targets, aimed at achieving a series of measurable goals by 2010. This is the first time that the Convention has adopted such targets and the success of this



approach will be watched with interest as a potential model for other aspects of the work of the Convention. National governments are being invited to adopt their own targets with the framework of the Strategy and work in a coordinated way to achieve its goals by 2010.

Clear targets that are adopted by the international community can help shape expectations and create the conditions in which all actors, whether Governments, the private sector, or civil society, have the confidence to develop solutions to address threats to plant diversity. Already, thanks to the Strategy, some extra funds have been committed. But much more needs to be done. The Strategy and its 16 targets clearly set out the challenge for all of us.

Plant Conservation Targets for 2010

Understanding and documenting plant diversity:

1. A widely accessible working list of known plant species, as a step towards a complete world flora;
2. A preliminary assessment of the conservation status of all known plant species, at national, regional and international levels;
3. Development of models with protocols for plant conservation and sustainable use, based on research and practical experience;

Conserving plant diversity:

4. At least 10 per cent of each of the world's ecological regions effectively conserved;
5. Protection of 50 per cent of the most important areas for plant diversity assured;
6. At least 30 per cent of production lands managed consistent with the conservation of plant diversity;
7. 60 per cent of the world's threatened species conserved *in situ*;
8. 60 per cent of threatened plant species in accessible *ex situ* collections, preferably in the country of origin, and 10 per cent of them included in recovery and restoration programmes;
9. 70 per cent of the genetic diversity of crops and other major socio-economically valuable plant species conserved, and associated indigenous and local knowledge maintained;
10. Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems;

Using plant diversity sustainably:

11. No species of wild flora endangered by international trade;
12. 30 per cent of plant-based products derived from sources that are sustainably managed;
13. The decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted;

Promoting education and awareness about plant diversity:

14. The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes;

Building capacity for the conservation of plant diversity:

15. The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this Strategy;
16. Networks for plant conservation activities established or strengthened at national, regional and international levels.



Progress Towards Sustainability The Business Case in Shell Canada Limited



Roger Creasey
Shell Canada Ltd.

The last decade has seen significant progress in applying the concepts of Sustainable Development (SD) to the business activities of corporations and agencies. The Royal Dutch/Shell Group of Companies, including Shell Canada Limited (SCL), has pledged its full commitment to contribute to the sustainable development of every country where it operates. In addition, Shell has identified biodiversity as a key element in implementing Sustainable Development. Addressing biodiversity offers opportunities to improve our performance and work with stakeholders.

In SCL, we continue to seek ways to implement the principles of sustainable development in all of our business activities. We also believe that this commitment holds the key to our long-term business success and we work to incorporate SD principles into everything we do.

Sustainable production and consumption

To SCL, sustainable production and consumption means producing oil and gas and refined products to meet the needs of society while minimising the environmental impacts over that portion of the life cycle within our influence. We work towards improving environmental performance by optimising resource use, minimising waste generation and maximising energy efficiency and waste recycling or reuse. Crucial to our success is accountability and transparency. For these, we have mechanisms in place to measure and assess our SD performance and present the results openly to our stakeholders. We monitor and report on our performance through an annual "Journey Toward Sustainable Development" report. Another challenging and rewarding journey has been the ISO 14001 registration of all of our key operating facilities.

Making sustainable development work in Shell Canada

The aspects of SD that are important to Shell Canada are listed below. We strive to incorporate these goals into every business decision at all levels of the organization.



Economic

Generate robust profitability

Successful financial performance is essential to SCL's sustainable future and contributes to the prosperity of society. We use recognised measures to judge our profitability. We seek to achieve robust profitability by, for example, reducing costs, improving margins, increasing revenue and managing working capital effectively.

Deliver value to our customers

Customers are the lifeblood of our business. We seek constantly to strengthen existing customer relationships and develop new ones. We strive to meet and exceed customer expectations by designing and delivering highly attractive and innovative products and services.

Environmental

Protect the Environment

The natural environment supports all human activity. We continually look for new ways to reduce the environmental impact of our operations, products and services throughout their life. To address the issue of biodiversity, in the Shell Group we are committed to:

- work with others to maintain ecosystems,
- respect the basic concept of protected areas, and
- seek partnerships to enable the Group to make a positive contribution towards the conservation of global biodiversity.

To that end, the Group is:

- addressing biodiversity issues early in the project planning process,
- consulting with biodiversity experts during planning/development,
- integrating biodiversity into the impact assessment process,
- implementing follow-up programs and management systems, and
- building biodiversity into performance measures.

Manage resources

Efficient use of natural resources such as energy, land and water, for example, reduces our costs and respects the needs of future generations. We constantly look for ways to conserve them.

Social

Respect and safeguard people

We aim to treat everyone with respect. SCL strives to protect people against harm from its products and operations. Our employees are encouraged to respect and value personal and cultural differences and we try to help people realize their potential.

Benefit communities

Wherever we work, we are part of a local community. We will constantly look for appropriate ways to contribute to the general well being of the local community and the broader societies who grant our licence to operate.

Work with stakeholders

We affect and are affected by many different groups of people, who are our stakeholders. Our goal is to recognize their interest in our business by listening and responding to them.

Further information

To see SCL's 2001 (11th) annual report on its "Progress Toward Sustainable Development," and more on what we do to deliver on our SD commitments, please visit: www.shell.ca

For information on the Royal Dutch/Shell Group of Companies, please visit: www.Shell.com



The Hague Ministerial Declaration of the Conference of Parties to the Convention on Biological Diversity

We, the Ministers responsible for the implementation of the Convention on Biological Diversity, having met in The Hague, The Netherlands, on 17 and 18 April 2002, on the occasion of the sixth meeting of the Conference of Parties to the Convention on Biological Diversity

1. **Acknowledging** the critical importance of biodiversity – the variability among living organisms from all sources and the ecological complexes of which they are a part, including diversity within species, between species and of ecosystems – that has made earth a uniquely habitable place for humans and that is essential to our planet and our well-being;
2. **Acknowledging** further that biological diversity is being destroyed by human activities at unprecedented rates and that the Convention on Biological Diversity is the foremost instrument for the conservation and sustainable use of biological diversity, as well as for the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, and that therefore clear objectives and goals to halt and reverse this trend have to be set;
3. **Noting** the shift in emphasis within the Convention process from policy development to implementation and the need to put equal weight on the three objectives of the Convention;
4. **Recognising** the need for clear targets and timetables as follow-up to the adoption of the Strategic Plan and to put mechanisms in place to reach these targets and review progress in the implementation of the Convention's work programmes;
5. **Recognizing** that biodiversity underpins sustainable development in many ways; poverty eradication, food security, provision of fresh water, soil conservation and human health all depend directly upon maintaining and using the world's biological diversity and therefore sustainable development cannot be achieved without the conservation and sustainable use of biological diversity;
6. **Reconfirming** our commitment to the three objectives of the Convention on Biological Diversity and underline the need to guide our actions based on ethical principles of

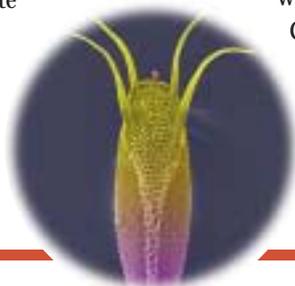
implementation of the Convention towards the broad goal of sustainable development, based on integration of economic, social and environmental matters. We *commit* ourselves to move from dialogue to action;

7. **Emphasizing** the progress made in the last decade in translating the objectives of the Convention on Biological Diversity into national and international policies and concrete activities, including through:
 - National Biodiversity Strategies and Actions Plans in more than one hundred countries;
 - The Cartagena Protocol on Biosafety;
 - The Bonn guidelines on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization;
 - The development and use with respect to all ecosystems of key concepts, such as the ecosystem approach;
 - The work programme on the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity;
 - Guiding principles on invasive alien species that threaten ecosystems, habitats or species;
 - Work programmes on forest biological diversity, on dry and sub-humid land, inland water ecosystems, marine and coastal ecosystems, agrobiodiversity and on cross-cutting issues;
 - Increasing awareness that biodiversity is critical for the provision of goods and services;
 - Clearing-house mechanisms established at the Secretariat and at national levels to promote technical and scientific cooperation and information exchange.





8. *We stress* the importance of the contribution of the Convention on Biological Diversity to the implementation of Agenda 21 and emphasize that at the same time Agenda 21 is indispensable for the implementation of the Convention on Biological Diversity.
9. *We reconfirm* our commitment to consider the conservation and sustainable use of biological diversity, as well as the fair and equitable sharing of benefits arising out of the utilization of genetic resources as essential for achieving sustainable development and contributing to poverty eradication. We urge the promotion of synergies between the Convention on Biological Diversity and related conventions and the exchange of experiences and lessons learned between countries and regions and all relevant stakeholders.
10. *We regret*, however, that despite the efforts of governments and relevant stakeholders the Global Biodiversity Outlook indicates that biodiversity continues to be destroyed by human activities. We underline the statement of the Secretary-General of the United Nations: “Therefore we must face up to an inescapable reality: the challenges of sustainability simply overwhelm the adequacy of our responses. With some honourable exceptions, our responses are too few, too little and too late.”
11. *We acknowledge* that life is on the line and therefore resolve to strengthen our efforts to put in place measures to halt biodiversity loss, which is taking place at an alarming rate, at the global, regional, sub-regional and national levels by the year 2010.
12. *We commit* to developing and revising, as appropriate, National Biodiversity Strategies and Action Plans by the time of the seventh Conference of Parties is held.
13. *We reconfirm* the commitment to halting deforestation and the loss of forest biodiversity and ensuring the sustainable use of timber and non-timber resources and we commit ourselves to the full implementation of the Convention on Biological Diversity’s expanded action-oriented work programme on all types of forest biological diversity in close cooperation with the United Nations Forum on Forests, the United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change and other forest-related processes and conventions, and with the involvement of all relevant stakeholders.
14. *We resolve* to develop and implement effective and innovative mechanisms that guarantee the equitable sharing of the benefits arising out of the sustainable use of genetic resources, including the valuation and economic retribution of global environmental services, acknowledging that the rates of destruction of biological diversity will remain very high unless the countries and their peoples, who are custodians of this natural wealth, benefit from it.
15. *We call upon* the World Summit on Sustainable Development to:
 - (a) *Reaffirm* that the Convention on Biological Diversity is the principal international legal instrument for the coordination, consolidation and strengthening of efforts undertaken through the various regional, subregional and international biodiversity-related agreements and programmes;
 - (b) *Reaffirm that* States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction;
 - (c) *Recognize* the strong links between biodiversity and other policy fields in terms of policy development and implementation and in particular promote:
 - The strong interlinkages between the conservation and sustainable use of biological diversity and sustainable development, poverty eradication and natural disaster management;
 - The integration of biodiversity objectives into social and economic policies, programmes and actions, in particular when addressing the interface of sustainable development with trade and financial agreements;
 - Synergy and mutual supportiveness between the Convention on Biological Diversity and international trade-related agreements and policies with a view to attaining the objectives of the Convention on Biological Diversity in a more concrete manner, in particular with the WTO, including the Doha Agreement, and therefore





the proper recognition and status of the Convention on Biological Diversity within the relevant WTO bodies ;

- Effective cooperation and coordination among biodiversity-related Conventions and other bodies and processes in areas of mutual interest, in particular with the the United Nations Forum on Forests, the United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change, the Convention on International Trade of Endangered Species of Wild Fauna and Flora, The Convention on Migratory Species and the Ramsar Convention on Wetlands and at regional, sub-regional and global level;
 - Enhanced coordination, synergies and partnerships at the national, regional and the sub-regional levels;
 - The ecosystem approach as one of the key concepts for integrated management of land, water and living resources.
- (d) *Reconfirm* the commitment to have instruments in place to stop and reverse the current alarming biodiversity loss at the global, regional, sub-regional and national levels by the year 2010;
- (e) *Recognize* the need for the intensification of basic surveys and research on biological diversity to enhance our scientific knowledge on biodiversity and ecosystems;
- (f) *Encourage* governments to take appropriate policy measures to conserve and restore important ecosystems, in particular wetlands including shallow coastal water areas and coral reefs, as well as mountain and arctic ecosystems;
- (g) *Urge* all States to ratify and fully implement the Convention on Biological Diversity and its Cartagena Protocol on Biosafety, the International Treaty on Plant Genetic Resources for Food and Agriculture and the biodiversity-related agreements, the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification and to promote a coherent approach in their implementation at the national, regional and international levels and welcome and support the results of the process on International Environmental Governance;
- (h) Welcome the positive outcome of the United Nations International Conference on Financing for Development held in Monterrey, Mexico, in March 2002 as reflected in the Monterrey Consensus, which represents a crucial step towards achieving the goals of poverty eradication, sustained economic growth, and promotion of sustainable development;
- (i) Urge developed countries that have not done so to make concrete efforts towards the target of 0,7 per cent of Gross National Product (GNP) as ODA to developing countries and 0,15 to 0,20 per cent of GNP to least developed countries;
- (j) Urge developed countries to achieve a significant replenishment of the Global Environmental Facility (GEF);
- (k) Reaffirm the need for capacity building, the facilitation of the transfer of environmentally sound technology and the provision of adequate and predictable financial resources and the promotion and protection of knowledge, including traditional knowledge, and sound science for the conservation and sustainable use of biodiversity in developing countries, in particular the least developed countries and the small island developing States amongst them, and countries with economies in transition to fully implement the Convention on Biological Diversity as an essential component for achieving sustainable development;
- (l) *Create and strengthen* partnerships at different levels with public and private partners in the different regions in all relevant sectors, including the banking and business community, international organisations and institutions to promote capacity building, the transfer of environmentally sound technology, the provision of adequate financial resources and the provision of knowledge, including provisions for preserving and maintaining traditional knowledge and sound science for the conservation and sustainable use of biodiversity and to promote investments in biodiversity activities, especially in developing countries, in particular the least developed countries and the Small Island Developing States amongst them and the countries with economies in transition. Encourage parties and stakeholders to propose such partnerships as Type II outcome to the WSSD;





- (m) *Urge* governments to strengthen their efforts to develop and implement educational and capacity-building programmes, especially in developing countries, in particular the least developed and the small island developing States amongst them and countries with economies in transition, to increase the level of awareness and technical competencies necessary at all levels of society to achieve sustainable development and to promote the objectives of the Convention in such programmes; Urge countries to ensure coherence between the national strategies for biodiversity and other policies and strategies, in particular for (a) sustainable development and poverty eradication; (b) climate change and desertification and (c) economic activities, such as agriculture, forestry, fisheries and tourism;
- (n) *Recognize* the commitment to halting deforestation and the loss of forest biodiversity and ensuring the sustainable use of timber and non-timber resources and the commitment to the full implementation of the Convention on Biological Diversity's expanded action-oriented work programme on all types of forest biological diversity in close cooperation with the United Nations Forum on Forests, the United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change and other forest-related processes and conventions, and with the involvement of all relevant stakeholders.
- (o) *Encourage and enable* all stakeholders to contribute to the implementation of the objectives of the Convention on Biological Diversity and recognize in particular the specific role of youth, women and indigenous and local communities in conserving and using biodiversity in a sustainable way. In particular it is important to recognize the rights of the indigenous and local communities and incorporate, with their prior approval, their unique knowledge, innovations and practices in conserving biodiversity and securing sustainable development and promote their participation in the Convention process;
- (p) *Urge* governments to undertake adequate measures with respect to their international obligations, including through the development of mechanisms for assessment and review of implementation and the establishment of compliance regimes;
16. *We reiterate* our commitment to the success of the Preparatory Conference for the World Summit on Sustainable Development, which will be held in Bali, Indonesia on 27 May-7 June 2002 at ministerial level and the Summit in Johannesburg, South Africa, on 26 August-4 September 2002. In this regard, we urge the Parties to constructively contribute to and actively participate in the process of the World Summit on Sustainable Development in order to ensure the achievement of the objectives of the Convention, particularly those relating to poverty eradication and sustainable development.
17. *We welcome* the outcome of the Youth Conference and the Multi Stakeholder Dialogue, as annexed to this Ministerial Declaration, as valuable contributions to the work of the Convention on Biological Diversity and resolve to organise meetings of youth and of involved stakeholders in the framework of future Conferences of Parties to the Convention on Biological Diversity.

Appendix I

The Youth Declaration to the Convention on Biological Diversity, the Hague, Netherlands

We, the Youth of the World, want our voices be heard in all the decision-making that is taking place at the Conference of Parties to the Convention on Biological Diversity. On the occasion of the sixth meeting of the Conference of the Parties we met in The Hague, The Netherlands on 13-18 April 2002 and agreed on the following.

We know the importance of biological diversity in sustaining our lives and making this world a better place for people and nature to live in harmony.

We understand that there are threats to biodiversity and its disastrous consequences are now being felt.

We do not have enough scientific knowledge on the issue of biological diversity and we are aware that we do not have political power to make major differences in the world, but we do have sufficient knowledge to know what is happening to our world.

We recognise that problems associated with biological diversity concern everyone and that we need to act urgently as decisions made will greatly influence our future.



We need to speak out and ensure that our voices are heard and considered in all the decision-making that will take place here in this Convention on Biological Diversity and succeeding meetings or conferences on the said issue.

Forests

We understand the effects of rapid deforestation and loss of biodiversity of our forest areas. Forests are greatly needed; they are sites of immense biological diversity.

We, the youth would want to emphasise that:

- *Primary or ancient forest must be saved;*
- *Corruption in the trade of forest products and illegal logging must be stopped;*
- *Conventions and international regulations must be established on the trade of forest products;*
- *Poverty, amongst other factors lead to the degradation of our forests and must be fought in many fronts as it is equally related to the loss of forest biodiversity;*
- *Indigenous peoples and other stakeholders of the forests must be protected;*
- *Education at all levels and public awareness is necessary;*
- *Governments must realise that the benefits of proper forest management and the maintenance of biological diversity shall in the long run, bring economical as well as environmental advantages to everyone.*

Genetic resources

We also understand the importance of genetic resources and we need to let you know that:

- *Genetic resources are a precious asset of the entire humanity and cannot be used only for the benefit of a certain country or corporation and should be open for everyone to benefit from;*
- *We believe that all patenting on the benefits of genetic resources must not be allowed;*
- *Legal measures must be provided to secure the benefit sharing between developed and developing countries in the use of genetic resources;*

- *We are concerned of the potential threat of inhumane uses of genetic resources, such as genetic manipulation and production of biological weapons; and that we demand that the governments provide regulations to prevent this unethical and improper activity;*
- *Genetic resources must be preserved from genetic erosion and we insist that all nations cooperate in the protection of genetic resources.*

Participation in decision-making

Finally, we would like you to know that on the issue of participation in decision-making:

- *Participation and cooperation of the entire world, including the youth, is vital for the preservation of the world's biodiversity;*
- *The involvement of indigenous peoples is especially important as their valuable knowledge from living close to nature can be put to great use in the conservation of biological diversity;*
- *The role of women, children and the youth cannot be ignored;*
- *Workable and sound policies are necessary for the preservation of the world's biological diversity.*

To guarantee the future of the youth, we resolve to:

- *Organise an international network, starting with the participants in this youth meeting in the Hague, for continuous exchange of information and discussions;*
- *Assist each other in the establishment, management and implementation of activities of youth organisations in our respective countries for various environmental concerns in each particular state through the exchange of experience and advice;*
- *Come-up with specific, workable action plans that can be undertaken by the youth;*
- *Participate in all meetings of the Convention on Biological Diversity in the future to convey the concerns of the youth;*
- *Deliver the discussions held and the results achieved in this meeting to the youth of our respective countries;*
- *Continue to speak our ideas to the world through contribution of articles to the media;*



- *Utilise various media communication such as television, radio or internet to promote public awareness, especially of the youth.*

We, the Youth, gathered in this meeting, hereby urge that this document be adopted by the sixth Meeting of the Conference of Parties to the Convention on Biological Diversity here at the Hague, on 18 April 2002.

Appendix II

Multi Stakeholder Dialogue: Summary by the President of the Conference of the Parties

1. On 18 April 2002, I chaired two sessions of the Multi Stakeholder Dialogue.
2. The Co-Chair on behalf of the non-governmental organizations was Maria José Lopez of Sobrevivencia, on behalf of Friends of the Earth (FOE) Paraguay.
3. The first session was attended by more than 200 delegates from parties and civil society organizations.
4. A keynote speech on the involvement of women in the conservation and wise sustainable use of biodiversity was delivered by Ms. Lorena Aguilar of the World Conservation Union.
5. She stated that conservation and sustainable use of biodiversity are impossible without gender equity. She requested the issue to be addressed on institutional, political and practical levels. She argued when planners and policy-makers decisions are based on half the population, resource threats and poverty are only half understood, initiatives do not make use of the ideas and innovations of women and extra costs occur when initiatives are unsuccessful when they do not fit into daily practices. She noted that involvement is not in the numbers but in the quality of the process.
6. Two representatives of the Youth Conference gave a strong and well received speech. They represented themselves not as countries. They acted as true ambassadors of a very important stakeholder namely youth. Their dream was: no more loss of ancient forest and a world to be a place where harmony rules. They asked for immediate action to stop unsustainable practices and to involve all stakeholders in decision-making.
7. Statements were also made by representatives of various organizations and regions.
8. They asked for more effective representation of women in decision-making processes, including the Conference of the Parties to the Convention on Biological Diversity. Earth itself was called a woman, a woman from which we can feed but we should not devour her. Mahatma Gandhi was quoted in saying: Nature can take care of the needs of people but not of the greed of people.
9. The second session was about access to genetic resources and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
10. Due to the fact that the start of this session was postponed to late afternoon Mrs. Rigoberta Munchú Tum, representative of Fundacion Rigoberta Menchú Tum and Nobel Prize Winner, refrained from delivering her keynote speech. Her statement was distributed among the participants.
11. Statements were delivered on behalf of various organizations. Speakers noted that progress has been made by the Food and Agriculture Organization of the United Nations and the Convention on Biological Diversity. The result of sixth meeting of the Conference of the Parties on the guidelines for access and benefit sharing for genetic resources was noted as a good step forward, but several said they were disappointed by the speed of the process. More concrete action is necessary. Education and participation were mentioned as necessary tools for true access and benefit sharing.
12. It was the first time a multi stakeholder dialogue was held during a meeting of the Conference of the Parties to the Convention on Biological Diversity. Due to unforeseen circumstances, it did not receive the time and attention it should have and I apologize to everyone who had prepared for these sessions.
13. However I think it was a good take off, we must learn from our experience and improve on the process of dialogue between parties and civil society in future meetings. So I have good hope it will become a tradition from now on in the Conference of the Parties to the Convention on Biological Diversity.

Ms Geke Faber
State Secretary of the Ministry of Agriculture,
Nature Management and Fisheries of the Netherlands



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