Biodiversity IN Development

Guiding Principles

European Commission

DFID
Department for International Development

IUCN
The World Conservation Union

Biodiversity IN Development

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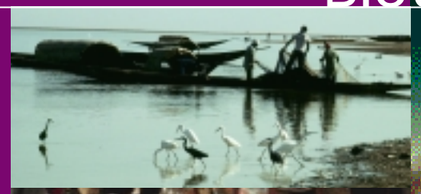

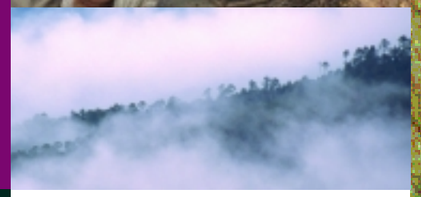

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Guiding Principles for Biodiversity in Development:

Lessons from field projects

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Foreword

Since the UN Conference on Environment and Development in Rio 1992, biodiversity has been increasingly recognised as a key component of sustainable development. As a result, many agencies have sought to integrate biodiversity issues into development cooperation programmes, and the time has now come to review the lessons learned from these initiatives.

One such review if this report: *Guiding Principles for Biodiversity in Development*, which has been produced by the Biodiversity in Development Project (BDP). It lays emphasis on the management of components of biodiversity outside protected areas – some 90% of the land in tropical countries – and highlights principles that support the sustainable use of biodiversity for sustainable development. It complements a companion volume produced by the BDP: *Strategic Approach for Integrating Biodiversity in Development Cooperation*. Both follow a recent IUCN/EC report: *Parks for Biodiversity: Policy Guidance based on experience in ACP countries*, which focuses on biodiversity in and around protected areas.

The BDP is a collaborative initiative of the European Commission, the UK Department for International Development (DFID) and IUCN – the World Conservation Union. However, it has involved much wider collaboration within Europe of staff from EU Member States' development agencies and from the European Commission.

Beyond Europe, national consultants in developing countries worked with project staff to produce 11 case studies. Experienced practitioners from 35 countries reviewed the resulting reports, and then added their own views at four regional workshops.

I am thus delighted to present this example of Europe-wide collaboration and of a worldwide consultation process. The voices of our partners underpin this document, and the principles described in it will provide valuable guidance for the integration of biodiversity into our development cooperation initiatives.

Poul Nielson,
Member of the European Commission

List of acronyms, abbreviations and glossary

BDP	Biodiversity in Development Project (EC/DFID/IUCN)
CBD	Convention on Biological Diversity
CBO	Community-Based Organisation
CGIAR	Consultative Group on International Agricultural Research
CHM	Clearing House Mechanism
DFID	Department for International Development (UK)
DG	Directorate General (of the European Commission)
EC	European Community
EIA	Environmental Impact Assessment
EU	European Union
GEF	Global Environment Facility
IPR	Intellectual Property Rights
IUCN	The World Conservation Union
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice (CBD)
UNEP	United Nations Environmental Programme
WTO	World Trade Organization
'tavy'	shifting rice cultivation system in Madagascar

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Section 1

Introduction

Since the late 1980s, the issue of biodiversity has increased in prominence, as illustrated by the Earth Summit and adoption of the Convention on Biological Diversity. A decade or so on, the first generation of 'biodiversity-sensitive' projects in developing countries are being completed, and the time has come to review progress and develop best practice guidelines which can be used when designing and implementing future programmes and projects.

Consistent with the EC's policy of integrating environmental considerations into all aspects of economic and development cooperation, this report focuses on biodiversity as a whole, and not simply protected areas.

The report captures the experiences and opinions of people working on biodiversity issues in EC partner countries. As noted in the Foreword, the production of this report involved consultation with 98 workshop participants, from 35 countries, at four sites: Limbe Botanical Garden, Cameroon; Mokolodi Nature Reserve, Botswana; Dambulla, Sri Lanka; and Iquitos, Peru. At the workshops, 11 case study reports, focusing on lessons learned from field projects funded by the EC or EU Member States, were presented by local consultants.

The conclusions of these case studies, supplemented by experiences from workshop participants, provide the basis of the report. The lessons learned and experiences have been condensed by the BDP to produce a set of Guiding Principles which aim to ensure that development cooperation projects and programmes are effective and sustainable, and take full account of environmental security and biodiversity issues. The Guiding Principles apply to all development cooperation activities, not solely natural resource management or conservation projects. Social, economic and institutional issues are an integral part of the Principles, since these are often the main underlying causes of biodiversity loss.

Of course every project is different in terms of region, ecosystem, political institutions, local economy, culture and so on, and circumstances are constantly changing; the Guiding Principles should be seen in this light. But we hope that the wide range of experience they reflect makes them robust

LESSONS LEARNED

Extracts from 11 case studies are included throughout this publication as lessons learned from field projects. The projects on which the case studies focus are:

- Biodiversity Conservation Project in the Mid-Zambezi Valley – Zimbabwe
- Capacity Building for Participatory Management of Degraded Forests in Orissa – India
- Chimalapas Campesino Ecological Reserve – Mexico
- El Nido Managed Resource Protected Area – Philippines
- Federal Conservation Units – Brazil
- Food Crop and Seed Project – Zambia
- KRIBHCO Indo-British Rainfed Farming Project – India
- Mananara-Nord Biosphere Reserve Park – Madagascar
- Mount Cameroon Project – Cameroon
- Negril Coral Reef Preservation Society Project – Jamaica
- Plan Directeur Rive Gauche du programme Après Barrage – Senegal

(See also Appendix 1)

enough to apply to a wide range of situations. It is also worth noting that the Principles correspond well with those listed under the Convention on Biological Diversity's decision on the ecosystem approach (Decision V/6).

The main target audience for this document is EC environment advisers and project managers, especially those on contract to the EC. Other groups who are expected to find the document useful are consultants, NGOs and CBOs bidding for EC contracts; EC desk officers or delegations responsible for designing and monitoring projects; EU Member States advisers; and counterparts in countries receiving development assistance.

The report includes a main section in which the Principles are explained and elaborated, and a short final section that shows biodiversity in development issues that were seen as priorities in the workshops. A bibliography provides more case study reviews for further reading.

Throughout the report, ideas which were recorded on cards during the workshops are used as illustrations (indicated by a pencil sign and 'boxed' text). They are not general conclusions or recommendations from the workshops, but examples from a spectrum of ideas put forward by participants.

Section 2

Guiding Principles

The final agreed wording of the seven Guiding Principles is shown on the next page. They summarise much thought and experience. As a result the Principles have been sub-divided into smaller, more manageable sub-principles, listed separately under each Principle.

The formulation of ideas using workshop cards at the Sri Lanka workshop.

Guiding Principles

- Principle **A**
  Adopt an *ecosystem perspective and multi-sectoral approach* to development cooperation programmes (taking into account the impacts on adjacent and downstream areas).

- Principle **B**
  Promote *fair and equitable sharing of costs and benefits* from biodiversity conservation and sustainable use at and between all levels: local, national, regional and international.

- Principle **C**
  Encourage *full stakeholder participation*, including partnerships between civil society, government and private sector.

- Principle **D**
  Ensure that *institutional arrangements* are effective, transparent, accountable, inclusive and responsive.

- Principle **E**
  Ensure that development cooperation projects and programmes are consistent with the *wider policy framework*, and/or changes are made to introduce supportive policies and laws.

- Principle **F**
  Provide and use accurate, appropriate, multi-disciplinary *information*, which is both accessible to and understood by all stakeholders.

- Principle **G**
  Development cooperation investments must be sensitive to, and *complement*, local and national structures, processes and capacities.

Principle A

- **Adopt an *ecosystem perspective and multi-sectoral approach* to development cooperation programmes (taking into account the impacts on adjacent and downstream areas).**

Sub-principles

A.i **Conservation and sustainable use of biodiversity should be an integral part of land-use management.**

A.ii **Avoid where possible irreversible losses of biodiversity (e.g. impairment of ecosystem functions, species extinction and erosion of genetic material) and, where necessary, restore ecosystem functions and promote the recovery of threatened species.**

A.iii **Observe strict protocols on the introduction of alien species, and living (genetically) modified organisms, and control those which threaten ecosystems, species or genetic material.**

Komodo Island (Indonesia) illustrates the close connections between different habitats within an ecoregion, stretching from ridge to reef: for example, forest clearance on the hills can lead to sedimentation of the reef.

a holistic approach is required in development programmes

biodiversity conservation and economic development of a country should be considered together; development may make conservation 'acceptable' to local communities

LESSONS LEARNED

Sustainable management of biodiversity was not possible as long as the population living inside the biosphere reserve, or in the buffer zones, were living in poverty and therefore dependent on using natural resources for their living. Sustainable biodiversity management can only succeed if it is integrated into sustainable economic development, and takes into account the local economic and cultural circumstances. It follows that it may be necessary to raise the development level of all of Madagascar in order to provide the right context for action on biodiversity.

Mananara-Nord Biosphere Reserve (Madagascar)

The ecosystem perspective moves away from a single species focus, to take a broader view that includes interactions between species, between ecosystems, and with the non-living environment. The design of a project should take these broader considerations into account, as well as the potential effects on adjacent and 'downstream' ecosystems and communities. It is important not to forget the impact of land-based actions, such as fertiliser run-off and sewage disposal, not only on adjacent land but on neighbouring bodies of water. In small tropical islands, for example, the whole watershed may be the ecological unit, stretching from the ridge, across the coastal plain to the coral reefs in the lagoon, necessitating a ridge-to-reef approach. This Principle, then, advocates a holistic approach to development.

In the ecosystem approach, scale is a vital consideration:

- the time scale, because effects may only become apparent over a long period;
- the spatial scale, whether it be regional, national or international. Ecosystems and their components do not usually correspond to administrative boundaries, and many species habitually migrate to and fro across national boundaries.

In a holistic approach, stakeholders from many sectors (e.g. agriculture, forestry, transport and town planning) need to be involved, because different sectoral policies and activities impact on the same ecosystems, and policies need to be coherent. Reconciling the different needs of a wide range of stakeholders often requires trade-offs, and this needs to be informed by a careful assessment of the need to both enhance livelihoods and maintain biodiversity. Improved livelihoods do not necessarily lead to enhanced biodiversity conservation.

To reconcile conflicting objectives, and to integrate the needs of different sectors and livelihoods without compromising environmental sustainability, strategies have to be multi-disciplinary. This, in turn, requires multi-disciplinary (and even inter-institutional) teams to implement field projects.

Sub-principle **A.i**

Conservation and sustainable use of biodiversity should be an integral part of land-use management.

This concept is at the heart of the CBD and underlies much thinking on the management of biological resources. However, it generated many conflicting messages in the workshops: in Central Africa, participants noted that local communities placed higher value on 'converted forests' than on wildlands, but in Latin America most participants supported the concept that livelihoods depended on biodiversity – some even suggested that 'biodiversity is culture'.

Sustainable use of natural resources – in this case rattan from the buffer zone of Kerinci Seblat National Park (Indonesia) – can provide livelihood benefits for local people, which are compatible with conservation in adjacent areas.

This sub-principle therefore presupposes that:

- different people have different understandings of 'biodiversity'; these range from simply referring to those resources that are used or useful, to reflecting a fuller set of local values including culture, religion and aesthetics.

- conservation as an activity is not the same as conservation as an objective. Sustainable use can achieve conservation objectives even though that may not be its primary purpose. For example, reducing the number of grazing livestock in semi-arid areas can improve water infiltration and maintain the productivity of rangelands for livestock, as well as benefiting biodiversity. Or allowing controlled gathering of non-timber forest products can encourage species that regenerate in forest gaps. Conversely, conservation action can support sustainable use: in recent years no-take fisheries reserves that protect all marine species have proved a very good way of rebuilding degraded fish-stocks in neighbouring areas, through emigration, and so securing a sustainable living for local fishers.

- consumptive use of natural resources, for example collecting fuelwood, should be distinguished from non-consumptive use, such as tourism and research.

Land use can be managed for multiple benefits by combining protection and sustainable use within productive landscapes, as can be seen here in Palawan (Philippines), with a protected area in the distance and rice fields in the foreground.

The ecosystem approach and Convention on Biological Diversity

In Decision V/6 of the fifth Conference of the Parties to the CBD, the ecosystem approach was endorsed, and a recommendation made that its 12 principles be implemented. This means that the ecosystem approach is central to implementing the CBD, and conservation and sustainable use of biodiversity should be addressed in a holistic manner, taking account of genetic, species and ecosystem levels of biodiversity, and fully considering socio-economic and cultural factors.

An ecosystem is defined as *a dynamic complex of plant, animal and micro-organism communities, and their non-living environment, interacting as a functional unit*. An ecosystem approach therefore requires a focus on the ecosystem as a whole, not in terms of its size, or climatic or physical perspectives, but by the extent to which a particular event can affect the various components *(UNEP/CBD/SBSTTA/5/11)*.

Taking these variables into account, technical appraisals and stakeholder participation are required to agree categories and limits of land-use zones. Land-use plans should build on available knowledge of land suitability (from soil type, rainfall, vegetation, etc.), and take account of ownership and access issues. The consultation processes should also be used to resolve conflicts. Integrated land-use plans may then need to be formalised in law, to avoid any special-interest groups pushing aside agreed plans that do not suit them.

Sub-principle **A.ii**

Avoid where possible irreversible losses of biodiversity (e.g. impairment of ecosystem functions, species extinction and erosion of genetic material) and, where necessary, restore ecosystem functions and promote the recovery of threatened species.

As human populations increase, and land-use practices change, it is inevitable that ecosystems will also change. To be valid in the long term, land-use plans must recognise this. In particular, unsustainable land-use practices should be anticipated, and prevented or mitigated. Land use plans should identify the main opportunities for improving sustainable livelihoods of the poor through better biodiversity management, as well as the main threats to biodiversity, such as large investments in road construction, mining, logging and human population movements.

Although the issue of species extinction was rarely discussed during the workshops, it was accepted as a valid concern. There was, however, stronger and unanimous agreement that the maintenance of ecosystem functions to ensure productive landscapes for both human development and biodiversity maintenance was even more important.

LESSONS LEARNED

Since most production systems in the Senegal River valley are heavily dependent on using the river, the only way to ensure that these activities are sustainable is to have a regional development plan which fully integrates an understanding of their impact on the environment.

Plan Directeur Rive Gauche (Senegal)

Degradation of ecosystems should be anticipated, because degradation processes are difficult to reverse, and their impacts expensive to repair. It is often impossible to restore unique habitats, and extinction of species or loss of genetic resources is irreversible. In this respect *ex situ* conservation is vital to safeguard against the loss of local crop,

Restoring vegetation cover is often the first step in rehabilitating degraded landscapes – careful use of existing vegetation is less costly. This erosion control programme is in Uganda.

livestock and fish varieties, as well as their wild relatives and representative populations of other endangered plants and animals, though for wild species *ex situ* conservation should always be seen as a complement rather than an alternative to *in situ* conservation.

Sub-principle **A.iii**

Observe strict protocols on the introduction of alien species, and living (genetically) modified organisms, and control those which threaten ecosystems, species or genetic material.

Agricultural development has depended on the movement and exchange of plant and animal varieties around the world, but the introduction of new crop, fish and livestock varieties poses two potential problems:

- loss of native (older) genetic stock due to accidental or deliberate hybridisation, when the new varieties interbreed with the older stock;
- discontinued use of older varieties in favour of the new.

The two agro-biodiversity case studies, from India and Zambia, both emphasised that evolution produces losers as well as winners, and many locally-evolved varieties suffer from locally-evolved pests and diseases. They emphasised the need to question a widely held misconception that all locally developed crops and stock are high yielding. Also, the introduction of new varieties did not lead to the immediate loss of local varieties of rice and maize. It was concluded that varieties (whatever their origin) will be cultivated as long as they are economically viable and acceptable to local consumers. The risk of eliminating local varieties is greatest in high production, high input, mechanised agricultural systems, where a few high-yield varieties can predominate.

LESSONS LEARNED

Participatory plant breeding has helped to conserve plant genes by crossing indigenous rice varieties to produce new varieties that are more heterogeneous than those resulting from centralised breeding. The successful introduction of improved new varieties did not replace landraces and local varieties, so that local biodiversity was actually increased, at least in the short-term. In the long-term, landraces may be replaced by not one but a mosaic of new varieties without reducing the crop biodiversity on local farms.

KRIBHCO (India)

Alien species are often a serious threat to indigenous species and livelihoods. These boats, in Port Bell in Kampala, have been immobilised by water hyacinth (*Eichhornia crassipes*), a native of the Amazon. The plants also block sunlight and oxygen from reaching other aquatic plants.

participatory crop improvement does not necessarily select varieties that require high inputs of fertilisers or pesticides

new crop varieties do not necessarily lead to genetic erosion

The introduction of alien species, as opposed to new varieties of existing species, is generally considered the second greatest direct cause of global species loss after habitat destruction. The most adaptable alien species become 'invasive' and wipe out indigenous plant and animal communities – a pronounced problem on small islands. An increasingly serious variant of this problem is the release or escape of plants and animals from aquaculture facilities and through shipping lanes into adjacent freshwater systems.

The conclusion is simple: where regulations exist on the release of plants, animals and micro-organisms, they should be implemented; where they do not, they should be developed and put into effect. The regulations should include effective measures to assess risk before any introductions are made. These assessments should cover both human health problems and biodiversity issues, as indicated in the recently agreed Cartagena Protocol on Biosafety under the CBD.

Principle B

- **Promote *fair and equitable sharing of costs and benefits* from biodiversity conservation and sustainable use, at and between all levels: local, national, regional and international.**

Sub-principles

B.i **Support and develop income-generating activities that encourage the sustainable use of biodiversity.**

B.ii **Encourage positive, and discourage negative incentives for conservation and sustainable use of biodiversity.**

B.iii **Encourage international, long-term funding mechanisms for effective programmes and projects on conservation and sustainable use of biodiversity.**

This Principle goes beyond a main objective of the Convention on Biological Diversity in stresseing the need to share costs as well as benefits. It also includes ecosystem and species levels of biodiversity with respect to benefit sharing, in addition to the 'genetic resources' referred to in the CBD's objectives. This Principle therefore indicates where development cooperation could complement the support given under the CBD from the Global Environment Facility.

It is important that benefits flow directly to the people whose livelihoods are affected by conservation and sustainable use measures. All too often most benefits flow to the administrative structures governing wider areas, or to companies that may be based outside the areas affected. Also, local support will only be forthcoming if people take account of the benefits they gain from biodiversity, especially those that are intangible and long-term.

for participatory approaches to succeed and be sustainable, stakeholders need to see benefits fairly early in the process

if short-term benefits are unattainable, complementary short-term development activities should be suggested

wildlife damage to crops and villages requires help to develop policies for compensation

In addition to *benefit* sharing, the equitable sharing of *costs* is crucial. Many stakeholders who use biodiversity-related goods and services live some distance from the resources. For example, town dwellers use fresh water generated from upland forests. Foreign tourists enjoy game parks thousands of miles from their homes and large companies in capital cities, not local people, take most of the tourism revenue. Similarly, timber companies may have headquarters in one area, but make profits from another region, or even country. Such users often benefit at the expense of other stakeholders, especially poor communities who live in the area concerned and may end up paying most of the costs: they may have to give up traditional use of a resource, or in the case of farmers in upland watersheds they may be prohibited from clearing land for farming. In some cases rural people have been evicted from their land to create national parks. Unless these costs are taken into account and shared, local stakeholders are unlikely to support biodiversity-sensitive land management.

As rural populations become increasingly drawn into the cash economy, their unequal position in trading relations may lead to unsustainable use and rapid elimination of resources. This is especially so where ownership rights are unclear, and resources can be lost to outsiders. For example, throughout West and Central Africa, bushmeat sales have risen rapidly in recent years: local hunters receive very low returns for their laborious work and must kill many animals for a useful wage. Under these circumstances there is no incentive for them to invest in sustainable management of the resource. This will only change if there is fairer sharing of benefits, which will give an incentive to local communities to maintain the natural resources.

The CBD Secretariat has compiled a list (UNEP/CBD/EP-ABS/2A) of potential benefits, both monetary (e.g. fees and royalty payments) and non-monetary (e.g. provision of equipment, scholarships, etc.). These can be included in benefit sharing agreements on the use of genetic resources, such as medicinal plants. Benefits can also be received in return for the use of species or ecosystems, as in the case of the taxes and fees water companies in Costa Rica pay for the maintenance of forested watersheds.

To achieve the equitable sharing of both costs and benefits, regulation of markets and prices is often important, which in turn requires effective and accountable institutions (see Principle D).

LESSONS LEARNED

The Mount Cameroon Project wanted every activity to be a 'win-win' situation for sustainable development and biodiversity conservation; but conflicts arose in the early stages because local people wanted immediate, tangible benefits from resource management. As a result project activities focused on those resources which were being exploited from the forests unsustainably, and for which local stakeholders expressed an interest in improved management. These *key resources* were generally of commercial value, and their improved management gave value to continued use of forest habitats.

Mount Cameroon Project (Cameroon)

Local communities can pay a high price for the conservation of wildlife. This photograph shows what little remains of a farmer's hut after an elephant attack (Sumatra, Indonesia).

Local people often feel the immediate and direct effects of conservation, and costs born by local people therefore need to be offset. This woman is washing her cotton in clean water supplied by the Annapurna Conservation Area Project (Nepal).

B

LESSONS LEARNED

A common problem arises in all projects when attention is focused exclusively on obstacles to progress. In Mananara-Nord, efforts were made to reward those farmers who were engaged in ecologically 'bad' practices, but promised to change their behaviour. But, it was also necessary to bring benefits to those 'good' farmers who were already practising ecologically-sound farming. Otherwise, the farmers who engage in 'good' practices are disadvantaged by missing out on project benefits. A separate solution had to be found for the 'good' farmers living inside the National Park, where even 'good' farming did not fit into the management plan.

Mananara-Nord Biosphere Reserve (Madagascar)

Sub-principle **B.i**

Support and develop income-generating activities that encourage the sustainable use of biodiversity.

When integrating biodiversity conservation and sustainable use into development projects, economic factors should be considered, for three obvious reasons:

- local people depend on natural resources for their livelihoods;
- powerful external economic interests may want access to natural resources;
- national and international policies often create disincentives for sustainable use.

One of the points most consistently raised at the workshops was that biodiversity losses continue because there is no economically viable alternative to take pressure off the resources. In response, projects have often included a component on alternative livelihoods, income-generating activities, or other support. However, this approach can lead to two sets of difficulties. First, although these activities are often important for building rapport between the project and the local people, they are generally not the reason for the natural resource

Wildlife safaris and hunting in savanna areas can provide substantial revenues for local people, and thereby provide an incentive for conserving wildlife through income generating activities. In other ecosystem types, such as forests, this type of ecotourism development is not usually an option.

LESSONS LEARNED

The principal constraint to enhancing biodiversity and ensuring environmental protection is the poverty of the local inhabitants. The project worked hard to improve local livelihoods so that new income-generating activities would be environmentally-friendly and would conserve biodiversity.

KRIBHCO (India)

income-generating activities not associated with the natural habitat do not lead to improved biodiversity management

conservation measures which disregard the livelihoods of poor farmers have little chance of success

for tourism revenues to support rural development, payments to communities must be carefully regulated, with careful selection of tourist sites and direct involvement of local communities

management project in the first place. Second, income-generating activities which are not directly linked to the natural resource in question seldom lead to better management of that resource. For instance, the provision of fish ponds to communities in the Hadejia wetlands of northern Nigeria did not reduce their fishing activities in the delta area.

Experience shows that local communities support conservation and sustainable use of wildlands only where markets favour the use of wildlands for economic development. For example, revenues from ecotourism can be distributed to local people, so providing them with a stake in nature conservation. Bioprospecting agreements can be another example. In order for economic incentives to be effective, it is vital that those people who live with biodiversity, and whose behaviour influences the conservation or destruction of biodiversity, receive part of the compensation or benefit. All too often only governments, or a small number of private firms, reap the bulk of the benefits.

Sub-principle **B.ii**

Encourage positive, and discourage negative incentives for conservation and sustainable use of biodiversity.

Certain types of economic incentive have adverse effects on the environment, and discourage sustainable development, such as many subsidies for agricultural development. Subsidies can encourage uneconomical and unsustainable use of land by hiding the true costs of alternative land-use practices. For example, where Amazonian rainforest was cleared to provide pasture for cattle ranches,

often supported by government subsidies, over half of the fields were abandoned in a degraded state in 10 years due to poor soils. Providing cheap seeds and fertiliser which encourage monocultures and pollution are other examples. Some workshop participants felt strongly that donor investments should aim to decrease or remove these perverse incentives.

Because of the complex nature of the public and private goods and services that biodiversity provides, removal of perverse incentives may need to be combined with positive incentive measures to ensure effective support for conservation and sustainable use of biodiversity. OECD (1999) reviewed potential measures which include fees and environmental charges, such as the increased timber royalty charges in Ghana to cover the costs of improved forest management, and assignment of well-defined property rights, as in the ownership of large mammals by local communities in Zimbabwe.

Such incentive measures have to be underpinned by:

a) information with which to decide on appropriate and effective incentive measures;
b) capacity building to assist in gathering this information, developing it into appropriate policies, and monitoring their impacts;
c) involvement by local communities as stakeholders.

However, these measures are not very effective where markets are small, or where policies and markets are weakly regulated, as in many of the case study countries. For this sub-principle to be effective, support from appropriate national polices and laws is essential (Principle E).

provide access to cheap credit or help with the development of micro-credit facilities

establish mechanisms which guarantee local benefits such as employment or funds

support agro-forestry where existing forestry production does not meet local and commercial demand

Subsidies which encourage agriculture and livestock have led to large losses of wild biodiversity. The economic benefits that accrue from these activities are often unsustainable once the subsidies cease. Here forest is being burned to allow cattle ranching near the Rio Branco River (Brazil).

This photograph shows a cloud forest at Sierra Madre, Oaxaca (Mexico). Natural habitats and environmental stability in tropical regions are important for global climate regulation. Long-term international investments are needed to maintain such global biodiversity benefits.

Sub-principle **B.iii**

Encourage international, long-term funding mechanisms for effective programmes and projects on conservation and sustainable use of biodiversity.

funding must be reliable and the funding period must be long enough to support the establishment of the whole project

international partnerships are important for supporting local conservation projects as they can bring new approaches and the much required funds.

LESSONS LEARNED

Securing long-term funding is the key to the continuation of any project's aims and activities once the project team has left the area. Funds have to be found not only for the staff salaries and office costs of those who carry on, but also for any programmes to improve local community skills and increase local environmental awareness. The reserve's own income-generating potential should be evaluated and supplemented by other options for sustainable funding, such as a trust fund.

El Nido Marine Reserve (Philippines)

Since most biodiversity is in tropical countries, many of which are poor, the rapid biodiversity losses now being experienced are unlikely to be significantly slowed down without investments from wealthier nations. Global support must be offered to maintain global benefits – an issue that was emphasised in the Cameroon workshop.

Given the nature of sustainable development, and the measures needed to alleviate poverty in a way that can be sustained, only long-term investments are likely to be effective, and bring about the changes in behaviour, institutions, capacity, policy and action that are needed for improved management of biological resources. Indeed, development projects of short duration, with large financial inflows, can distort local conditions (see also Principle G): short-term solutions (such as salary top-ups for civil servants), or which provide large amounts of funds for short-term technical assistance and infrastructure, mitigate against sustainable development, and against conservation and sustainable use of biodiversity.

Principle C

- **Encourage *full stakeholder participation*, including partnerships between civil society, government and private sector.**

Sub-principles

C.i **Respect local values and build on social and cultural contexts, expressed needs, and locally-adapted approaches, making full use of indigenous or local knowledge.**

C.ii **Reach, fully involve and empower poor and marginalised groups, including women and indigenous peoples, in the development processes.**

The issue of stakeholder participation was widely discussed in case study reports and all workshops. It is generally accepted that projects work better and are more sustainable if all stakeholders participate in their design and implementation. The participatory process can involve anything from information sharing, through consultation, to self-mobilised action, depending on the project's aims, and on the needs, interests and capacities of the groups involved.

Consensus should be sought between stakeholders, since reliance on only one group (for example, a strong NGO) can undermine the success of a project. Successful participation involves the full range of stakeholders, and takes account of local power relations, interests and understandings. As participation is not neutral, establishing mechanisms for conflict resolution is essential.

Working in partnerships may require that donor agencies work primarily as facilitators, giving local institutions the role of implementers. Stakeholder participation then involves not only consultation but also shared responsibility. Special attention should be given to forging partnerships between private sector, local communities and all levels of

participatory approaches require effective conflict resolution mechanisms

the widest possible consultation is needed to identify conflict areas and opportunities

LESSONS LEARNED

Many deficiencies of the Zambezi Valley project can be traced to the absence of a stakeholder analysis. Consequently many key stakeholders, including the Guruve Rural District Council and some beneficiaries and NGOs working in the area, were left out. The net result was conflict rather than cooperation in the implementation phase.

Mid-Zambezi Biodiversity Conservation Project (Zimbabwe)

The involvement of all stakeholders is important in ensuring that decisions made are understood and acceptable to all. While this is often a slow process the benefits can be substantial.

government. The inclusion of district and provincial (meso-level) authorities should not be forgotten; they may not have as direct a link to projects as the local managers, or national institutions (through the donor), but they are still concerned in what is happening and can influence outcomes.

In general, the larger the stakeholder network the more complicated the project. A clearer definition of the roles and expectations from all stakeholders is then required. A large and complex system need not prevent the process of consultation and collaboration as long as all participants recognise the need for cooperation, and sufficient time is allocated for effective consultation. As noted above, this requires long term engagement instead of short-term projects.

Several projects found that a wide stakeholder involvement was helpful in developing innovative solutions to problems. A simple example is the opinions of farmers guiding the selection of new crop varieties. In this way projects can build on the positive links that already exist between different groups in society. This is of increasing relevance as governments of developing nations slim down their activities and cut their subventions to conservation and sustainable use activities. Another advantage of this approach is that local people are involved in management, and this helps to alleviate the problem of high national staff turnover, which can in turn lead to inadequate supervision and slow implementation of projects.

The case study projects give two other important findings: first, participation tends to be broader when projects are located close to the field; and second, political instability and change of governments slows down or even destroys projects, though in cases of civil unrest this can be mitigated by donors working directly with communities on the ground rather than with government agencies.

LESSONS LEARNED

Perhaps it was a mistake to concentrate efforts to build consensus in the rural *congregaciones* alone, paying no attention to the townships. As the townships are the political centres of the region, building consensus here was critical to the project's success, because it was here that some of the stronger interest groups operated. Bottom-up processes are as important as top-down ones, in that conservation is not possible without the consent and active co-operation of local people. Building consensus among all stakeholders is an essential condition for successful biodiversity conservation.

Chimalapas Campesino Ecological Reserve (Mexico)

LESSONS LEARNED

Although the original intention was to consider the resources used by a number of pilot villages in a distinct geographical community, it soon became apparent that this approach was failing to include all the different users: from forest harvester, through transport provider and trader, to market stall-holder. As a result the Mount Cameroon Project changed tactics, and began collecting together all people with vested interests in a particular key resource into a 'community of interest'. This often meant that MCP had to become involved in negotiations and conflict management with groups covering a wide area, some living outside the project area.

Mount Cameroon Project (Cameroon)

Sub-principle C.i

Respect local values and build on social and cultural contexts, expressed needs, and locally-adapted approaches, making full use of indigenous or local knowledge.

To those who have to live with them, solutions generated at the local level are more likely to be accepted than those made elsewhere. Projects should be designed in response to local situations, should build on expressed needs, and should make use of indigenous knowledge where it is available. The concerns of the local people need to be heard.

This sub-principle has implications for the kind of techniques and management practices used. Small-scale, participatory interventions are often closer to peoples' usual practices and so involve less radical change, whereas more sweeping, imposed solutions can be difficult to carry out and sustain. Participation can also encourage the full mobilisation and use of local knowledge, skills and resources. At the same time, however, high-level political and administrative support is a characteristic of successful development projects. Such support can greatly help managers to resolve local issues and enforce agreed rules on boundaries and land-use.

In Chimalapas (Mexico), strong social organisation dramatically increased the chances of projects achieving their objectives of biodiversity conservation. Many of the successful joint forest management initiatives in southern Asia have also relied on strong civil society to be effective. In other areas, local institutions are not necessarily 'ready-made' partners for participation in projects – many are weakly organised, with little history of cooperative work.

the social nature of the community can significantly affect the outcomes of the project

PRAs (participatory rural appraisals) are required to assess local needs, preferences and culture

full participation requires careful listening by project managers

LESSONS LEARNED

The success of the project in promoting farmer-preferred, high-yield varieties, and in extending the cropping options, did not lead to an increased use of fertiliser and pesticides or the consequent negative effects on the environment. In fact the project showed that farmers can not afford these additional inputs, and therefore use them very little, or avoid them altogether. New varieties are tested under farmers' management practices and will only be adopted if they perform better than local varieties without additional inputs.

KRIBHCO (India)

In Sri Lanka, ayurvedic health care has treated illness for over 2,000 years. Some 1,414 plant species are used, and are widely held to be effective, particularly for treating long-term illnesses. Today there exist a number of government ayurvedic clinics and teaching hospitals. This photo shows the preparation of herbal medicine in the pharmacy of the Bandaranaike Memorial Ayurvedic Research Institute.

This Kenyah Dayak woman from East Kalimantan (Indonesia) is collecting medicinal plants. Indigenous peoples' knowledge of medicinal plants has become the centre of debates concerning bioprospecting and IPRs (see Principle E) and the equitable sharing of benefits arising from its use.

Sub-principle C.ii

Reach, fully involve and empower poor and marginalised groups, including women and indigenous peoples, in the development processes.

Groups that are often marginalised in development activities include, among others, women, children & youths, indigenous peoples and the landless. The interests and roles of these groups should be carefully considered in the design and implementation of projects and programmes, so as to ensure that there is some enduring incentive for them to commit to the project.

A complicating factor has been the movement of people. It is a common feature of African areas where problems of one kind or another, whether ecological, economic or political, have caused major migrations. As a result there is often conflict between long-term residents and recent immigrants. Clearly, these conflicts must be resolved before sustainable solutions to land management problems can be developed.

Full participation may first require capacity building (see also sub-principle D.i), since not all stakeholders necessarily have the resources or management skills to participate fully, or to benefit from a given activity. In many cases, building capacity means not only putting structures in place, but also actively empowering people to take their own decisions, and therefore to help themselves. It may mean encouraging the creation of a farmers' cooperative or it may mean re-invigorating traditional village structures, as it often takes the form of encouraging some form of social organisation in which a group of stakeholders can come together and negotiate in a coherent group rather than as individuals.

there is inadequate integration of gender issues at all levels. Indicators for women's involvement are needed

development programmes should not marginalise any sector or group

Principle D

- **Ensure that *institutional arrangements* are effective, transparent, accountable, inclusive and responsive.**

Sub-principle

D.i Support capacity building of sustainable structures.

As this Principle was discussed, each workshop wished to add another clarification to ensure that all aspects of institutional arrangements were covered. Institutional arrangements should include representation from all stakeholders, especially weak and marginalised groups, many of which depend on biodiversity for their livelihoods. Agreements between different parties needed to be transparent to all, in order to help build and maintain trust and accountability, and allow sanctions if agreements are broken or bent. Indeed, all issues of good governance are of concern.

Good laws must be backed up with effective implementation and monitoring. These patrol guards have seized jaguar skins (an endangered species) from poachers. Law enforcement is most effective where local people support regulations and act as local guards.

LESSONS LEARNED

It is essential that the land-use plan, which is an important element of the programme, should be made available to all the rural communities. It will be a vital tool for the different user groups in the community, allowing them to analyse their needs for land-use and then plan an orderly occupation of the land. This action would also help resolve the conflicts of fundamental interests that arise from the current haphazard management system and the inefficient production systems. Furthermore, once the land-use plan has been negotiated and agreed, it needs to be embodied in law, so that the 'bulldozers' from urban centres, who are wealthy and well-connected politically, cannot overturn the land-use plan for private profit.

Plan Directeur Rive Gauche (Senegal)

project-to-stakeholder relations were improved by shared goal-setting and information gathering

community vigilance is very important as policies and procedures can be ignored or bent

community participation might need to be included in biodiversity laws

Sub-principle **D.i**

Support capacity building of sustainable structures.

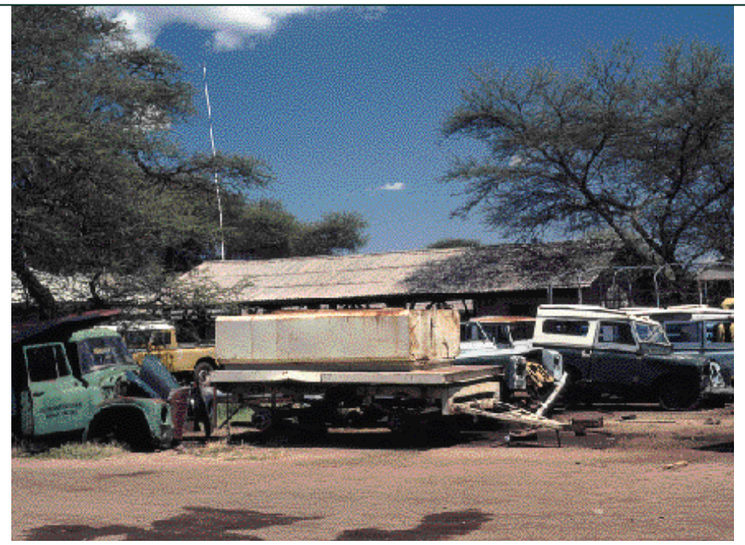
Establishing effective institutional arrangements requires the development of human, informational, scientific, policy, institutional and financial capacity. Although only the last two are considered under this Principle, the others are equally important and are covered under the other Principles.

Capacity building is part of a larger need to build a strong civil society, capable of carrying forward work on the ground. Building units of civil society, through the formation of self-help groups, cooperatives, CBOs and the like, has been the focus of many development cooperation projects. These efforts should be complemented by building the capacity of both government and the private sector, especially their capacity to interact with and support new initiatives at community level. Participants at the Asian workshop were particularly concerned with building capacity for monitoring and enforcement of law, and felt that civil society should be fully involved.

External technical and financial support can often help local government agencies to adopt new approaches to management – moving away from law enforcement and towards participatory management systems. Developing guidelines for participatory management, alongside mechanisms for conflict resolution, and recommendations on the best available models for community cooperatives, are vital actions. Other capacities that need developing are training, career opportunities, information exchange and commitment to goals.

Obviously, institutional arrangements also need to be effective in addressing the shared needs and aims of the stakeholders, and to be responsive to ineffective systems or to changing needs: all of these require resources, capacity and commitment.

Many of the issues raised in the workshops, and the case studies show that the practical issues involving institutional arrangements can only be addressed if there is a supportive policy framework and appropriate laws at the national level. As many projects have shown, local initiatives which do not obtain central policy and legal support will ultimately fail. The converse is that successfully instituted, high profile projects may have wider beneficial impacts beyond their original objectives, and may facilitate and encourage shifts and changes in policy at a higher level. In many ways, therefore, this Principle is directly linked with Principle E, as exemplified by the Manara-Nord (Madagascar) experience where local politicians promised the electorate that some of the more restrictive conservation rules would be relaxed. Undermining of unpopular management regulations has been a long-standing problem in protected areas.



The weakness of government services can severely hamper efforts to improve biodiversity management as is illustrated by this broken-down government landrover.

Building capacity for sustainable structures is a slow process for a variety of reasons. A low institutional capacity is often endemic at the outset of projects. Costs are high in getting people to spend long periods of time meeting to negotiate and agree plans, and many unexpected problems can arise from the different vested interests of a wide range of stakeholders. If lasting outcomes are to be achieved, development cooperation support needs to take a medium- to long-term view, rather than withdraw support before these processes are completed.

In the Zimbabwe case study it became clear that not only was capacity building needed at the local level for civil society, government and private sector operators, but that capacity building was also needed to provide a 'joined-up' system of decision-making, linking local, regional and headquarters administrations. Without such a system, agreements reached at the local level would neither be understood nor supported further up the administrative hierarchy. It is difficult to set up an environment to enable new approaches to co-management if staff in central government do not have knowledge and understanding of biodiversity issues. Information and training are needed at all levels.

To complement capacity building, there is a need to establish appropriate institutional structures, such as steering committees, councils of village elders, user group cooperatives, etc., and to identify roles and relationships between private sector,

LESSONS LEARNED

Flexibility and adaptability are important on all sides to avoid institutional stumbling blocks. They are useful attributes for project staff to help them absorb frustration and disappointment. The fact that the Negril Environmental Protection Area was the first of its kind in Jamaica and could serve as a model for the island should have been an advantage. But without the necessary administrative experience, legislation and management infrastructure in place, progress was slow. The evolution of the Negril Coral Reef Preservation Society, which gave birth to the Negril Area Environmental Protection Trust, is a lesson in change, adaptation and learning, which are essential characteristics for new organisations starting in unstable economic, political and social environments.

Negril Coral Reef (Jamaica)

LESSONS LEARNED

Participatory biodiversity conservation is an expensive undertaking with limited benefits. No developing country can afford to undertake it alone. Achieving the goals of participatory biodiversity conservation demands long-term commitment. Results cannot be expected in less than 10–15 years. Years pass before the goals are finally set, surveys made to fix quotas, agreements reached by all stakeholders and long-term funding is secured. And to achieve all the goals, yet more years are needed.

Mount Cameroon Project (Cameroon)

Capacity building of government staff, to act as facilitators in negotiations over natural resource use, is central to effective co-management approaches.

LESSONS LEARNED

As international financial support for the Conservation Units programmes in Brazil increases, the sustainability of their outcomes decreases. This is because IBAMA (Brazilian Institute for Environment and Natural Renewable Resources) has only a limited capacity to continue implementing all the programmes. This problem has been made worse by lack of planning and the absence of measures that would guarantee the sustainability of improvements made to the protected areas, particularly in the maintenance of infrastructure, in the training of managerial skills, and in the implementation of Emergency Plans and Management Plans. Studies of financial resources show that protected areas can generate their own funds if resources can be transferred directly to the conservation areas. Instead, such resources are currently channelled to the national treasury.

Federal Conservation Units (Brazil)

institutional arrangements must ensure that support can be given from higher to lower hierarchical levels where required

sustainable management structures should be in place before the project ends

NGOs, local community institutions and government. Alongside the establishment of effective links between these different groups, financial self-sufficiency is vital for the long-term sustainability of project activities. A range of project approaches will be required to achieve this, including income-generating or income-retaining schemes. These may require local management bodies to be established, or authority to be devolved to local institutions, giving them the rights to raise and retain revenue.

Principle E

- **Ensure that development cooperation projects and programmes are consistent with the *wider policy framework*, and/or changes are made to introduce supportive policies and laws.**

Sub-principles

E.i **Respect and promote local peoples' rights of access to, and tenure of, land, natural resources and biodiversity.**

E.ii **Harmonise national policies with international conventions and treaties.**

Making a significant and long-term improvement in environmental practice requires a high level of commitment from policy makers and political leaders. This in turn calls for the fostering of a common vision. The process of turning this vision into a reality is commonly called the 'mainstreaming' of biodiversity considerations into development processes.
As noted above, experience shows that international investments in conservation and sustainable use of biodiversity will be successful only where enabling and supportive policies are developed and agreed within the national legal and institutional context.

Complementarity and coherence of actions at all levels of government are needed, as well as coordination with international initiatives and national planning frameworks, such as: National Biodiversity Strategies (obligation under the CBD), National Environmental Action Plans, National Strategies for Sustainable Development (international development targets), Poverty Reduction Strategy Papers, Structural Adjustment Plans, etc. The integration of biodiversity into these processes often relies on the practice of Strategic Environmental Assessment and Environmental Impact Assessment; the capacity to carry out both needs strengthening in donor agencies and partner countries.

LESSONS LEARNED

Existing national and regional biodiversity plans that can serve as guides to local project design and implementation are essential tools for all community-based projects. This project would have been greatly helped if an integrated and coherent environmental policy had existed to facilitate biodiversity management. Although there were some useful by-laws covering biodiversity needs, they did not address biodiversity issues in total.

Mid-Zambezi Biodiversity Conservation Project (Zimbabwe)

The innovative strategies and approaches to biodiversity management of the Environmental Action Plan have revealed a need for a more adequate policy for biodiversity management at national level. While sectoral policies have been modified to be coherent and compatible with long-term visions of biodiversity management, an overall framework is still needed.

Mananara-Nord Biosphere Reserve (Madagascar)

LESSONS LEARNED

The El Nido Protected Area, and the Philippines Rural Reconstruction Movement project for El Nido, are securely backed by two important laws and by the National Protected Areas System (NIPAS) and Strategic Environment Plan for Palawan (SEP). But there was so much confusion during the review process of the El Nido project that the project was delayed by half a year. This disturbed both the work schedule and staff recruitment.

El Nido Marine Reserve (Philippines)

need to incorporate environmental assessment and EIA into biodiversity and development projects and programmes

need for integration of biodiversity into development related policies and laws

An expanding market in herbal remedies, and the continued use of wild plant products in drug development, emphasises the importance of regulating bioprospecting and ensuring benefits reach local communities that provided the information (see also sub-principle C.ii).

All workshops recognised that capacity to undertake these complex planning processes was generally low. Governments need to develop better policies for biodiversity management, therefore, and for improved integration of biodiversity concerns into legislation and policy in other sectors, such as food security. But in doing this, caution is needed to avoid following laws and policies from northern countries which may be inappropriate for the situation in developing countries (see Principle G). Also, even where countries have well defined laws, their implementation is dependent on many factors, including political commitment.

Technical and financial assistance may be required for policy formulation. As part of this assistance, awareness raising and training can be provided to policy-makers. This will help ensure that biodiversity-related issues are effectively integrated into the overall development path of the nation. It will also help ensure that policy development is locally appropriate, is receptive to changing circumstances, and that it ultimately leads to the development of effective laws. This training and capacity building of policy-makers is often overlooked.

Some countries require assistance specifically with implementation of their obligations under the CBD. Most notably to develop national biodiversity strategies and action plans, and integrate these into national decision-making. These are hard things to do, for even the most well-organised governments, and they rely on effective mechanisms to integrate biodiversity issues into development at the agency and national levels (e.g. through National Strategies for Sustainable Development).

The issue of drawing up appropriate biosafety and bioprospecting legislation is of particular interest to many developing countries. These are very new areas of concern, and capacity building support is needed, to avoid producing legislation controlling bioprospecting, that halt potentially useful research and development.

Sub-principle E.i

Respect and promote local peoples' rights of access to, and tenure of, land, natural resources and biodiversity.

Large areas of land in developing countries are treated as an open access resource, where traditional community management has been undermined over the course of time. The lack of clearly defined property rights can lead to over-exploitation and a lack of investment as nobody feels responsible for the resource. The land is also vulnerable to land- and resource-grabbing by

powerful groups. In all four workshops clarification of ownership and rights of access were identified as priority issues. For example, ownership of wildlife in many east and southern African countries rests with the State, even when animals are found on private land; this severely reduces incentives for private land-owners to manage the wildlife as an economic resource.

Secure property rights can promote the sustainable use of biodiversity where they: encourage longer-term investments and capital markets; enable land transactions; and favour conservation of natural resources for the future. They also offer local communities the opportunity to gain benefits from resources, and can encourage more cost-effective forms of management.

However, care must be taken in changing traditional land tenure arrangements, since alterations that were intended to reduce exploitation pressures on biodiversity, have often changed the distribution of costs and benefits significantly between stakeholder groups, for example allowing urban traders access to village resources. Moreover, benefits of ownership may only be realised if the owners' capacity to manage resources and resolve conflicts is effective.

LESSONS LEARNED

In six of the networked protected areas, land property security was given to farmers who were practising 'tavy' to settle them permanently on the land they had already cleared. This land settlement policy lasted less than five years; nevertheless the experience in using it so far has been positive in reducing clearance of new land.

Mananara-Nord Biosphere Reserve (Madagascar)

E

need to secure or clearly define land tenure and property rights to natural resources (e.g. user rights)

need to adapt land tenure system to suit local and regional priorities

need to improve legal description of zones (which of them are strictly protected, which of them allow for some sustainable use, etc).

need to define access to genetic resources

Sub-principle E.ii

Harmonise national policies with international conventions and treaties.

Investments in development cooperation should be consistent with national development programmes. Also, national policies should be in line with biodiversity-related international treaties, such as the CBD and the World Heritage Convention. Investments should be consistent with agreed statements, such as the influential Agenda 21 and the Rio Declaration. Capacity building needs to encourage a good understanding of the meaning and applicability of these international conventions and agreements in the minds of those responsible for developing national and local policies.

Open access can lead to uncontrolled exploitation of lands and resources, or their appropriation by outside interests. The rights of local people – such as this woman who harvests bushmeat in communal lands in Zimbabwe – need to be carefully defined and respected.

Although many governments have signed international conventions (including the CBD) and multilateral environmental agreements, these commitments are only translated into real change through the application of national policies and laws. Since many laws were passed before the CBD was agreed, it may be necessary to review existing national and local legislation to ensure that there are no conflicting or incompatible provisions. This particularly applies to

The impact of markets far away can be deleterious to biodiversity at the local level. This photograph shows harvesting of prawns. The large numbers of other fish in the catch are discarded because they are not profitable.

LESSONS LEARNED

The definition of community, and ownership issues, are critical factors in the implementation of projects where inhabitants have no title deeds but do have usufruct rights over the natural resources. When micro-project activities extended beyond the project area, the question arose whether the communities in the project area should be the only ones considered, or whether the communities outside the project area who would influence, or be affected by, these activities should also be included.

Mid-Zambezi Biodiversity Conservation Project (Zimbabwe)

PRIORITIES FOR INTERNATIONAL SUPPORT INCLUDE:

- *starting discussions with WTO to protect the interests of developing countries*
- *ensuring that appropriate market policies are developed worldwide, aimed at sustainable forestry, fisheries, etc.*
- *consideration of the impact of national and international trade arrangements on biodiversity*
- *development of regional and national positions for input into global discussions of intellectual property rights*
- *setting up regional fora for developing strategies to create a common front [at international conventions]*
- *developing and implementing full-cost accounting practices in order to adjust the way in which economic growth is measured*

mining activities planned or carried out in areas set aside for protection or sustainable use of other natural resources.

The globalisation of trade and the removal of trade barriers raise additional problems. These topics are discussed at international fora, such as the World Trade Organization, which takes decisions on the impacts of trade on biodiversity.

Although global trade favours economic growth, it can also be detrimental to the maintenance of biodiversity, and to the livelihoods of the poor in developing countries. Biodiversity is usually an unpriced public good (or common pool resource), and so producers and consumers are likely to overuse the environment unless economic policies exist to correct this market failure. Trade may thus result in biodiversity depletion without compensation to those nations who suffer most from this loss, namely developing countries. In addition, many governments make their trade decisions on a short time horizon, instead of focusing on development that can be sustained in the long term.

The workshop participants were concerned about the negative impact of market forces and trade polices on the poor and on the environment, and felt that the interests of developing countries were not adequately presented in international meetings and agreements.

Finally, it was noted that donor countries promoting conservation and sustainable use of biodiversity in tropical regions may have domestic policies, such as those regulating the import or export of certain goods, which have a negative impact on the environment in developing regions.

Principle F

- **Provide and use accurate, appropriate, multi-disciplinary *information*, which is both accessible to and understood by all stakeholders.**

The dissemination and sharing of information are frequently central to project success. The transparency and accountability of projects and programmes require a good flow of information both horizontally (between stakeholders at a local or regional level for example) and vertically (from local to national levels and vice versa). To achieve this, all objectives, plans and survey results should be in a format and language that can be understood by all stakeholders. This also helps build awareness about the real value of biodiversity, about project aims and best practice, and about how conservation and sustainable use objectives can be reconciled with sustainable development.

Information exchange inevitably leads to better coordination between projects, ministries and donors, and can also help create trust among the different stakeholders. One very good approach, especially at the early stages of project planning, is participatory information gathering, where stakeholders help gather the raw data which will form the basis for developing the agreement or plan of resource use. This helps build links and trust between project staff and stakeholders in what is usually an uncontroversial activity and one to which many stakeholders can contribute. For example 'parataxonomists' (local guides with indigenous knowledge of wild plants and animals) can gather data on which species exist where and how abundantly, local fishers can record their catches week by week, and local people can record damage caused by outsiders. The results can be displayed and debated at public meetings – and combined with technical and scientific information. In this way, the project staff build up trust and confidence with local people before the tough aspects of agreeing resource use among the various stakeholders begin. This approach also reduces the ever present danger of well-meaning but ill-informed outsiders imposing their own agenda on a project.

International partnerships, especially for technical and information exchange, and management capacity building, can be important for supporting local projects with information and ideas. In building these partnerships, care is needed to ensure that data gathering and monitoring systems are not expensive and over-elaborate, and that they can be sustained during periods when external assistance is not available. Simple and inexpensive technology is often all that is needed. Complex technology often adds only marginal benefits, and cannot be

LESSONS LEARNED

It is vital to make technical impact studies and conduct public enquiries before any new Conservation Units are created, or any changes made to boundaries of existing ones. During these consultation periods, the responsible public agencies are required to provide adequate information to the local people and other interested stakeholders in a form that they can understand.

Federal Conservation Units (Brazil)

Environmental education is needed to develop an understanding of how human development is linked to the environment, and the use of biological resources.

sustained in the long term. Monitoring and information gathering should also involve local research institutions, helping them build up their capacity and avoiding long-term (and usually expensive) dependence on external consultants.

Technical capacity can include information gathering and dissemination, and encompass a strengthening of local capacity through training in:

- participatory appraisal techniques;
- biodiversity assessments at all levels;
- environmental economic cost-benefit analysis;
- biosafety and bio-piracy issues (both national and local);
- data collection and analysis;
- vocational training in income generating activities.

Throughout the process of gathering, analysing and disseminating information, it is vital to focus effort on the information needed to answer key management questions. All too often vast amounts of not very relevant information are gathered that may keep scientists interested but waste resources, divert management time, and confuse stakeholders. It is interesting that in Brazil the rapid (emergency) management plans drawn up for some Conservation Units proved just as effective in guiding management as multi-volume management plans taking months to produce and packed with information.

LESSONS LEARNED

Scientists should conduct necessary biological and ethnobiological surveys in collaboration with local people. It is frequently assumed that the experience and knowledge of local people is sufficient for planning and implementing management practices. But a growing number of ethnobiologists and ecologists believe that traditional knowledge should be tested and validated. Techniques for resource use may function adequately in a traditional social and economic context, but function far less well in the context of a market economy.

Chimalapas Campesino Ecological Reserve (Mexico)

Lastly, in not one of the workshops was the issue of the CBD's Clearing House Mechanism (CHM) raised. The CHM is a process by which information on biodiversity conservation and sustainable use can be exchanged between countries, and should therefore be of direct relevance to this Principle. However, participants at the Brussels

Symposium tended to see the CHM as technically difficult to implement (for example, lack of email connectivity), and raised problems of ownership and sharing of information.

Moreover, when it comes to sharing expertise and information, bilateral links often work far better than multilateral links. Nothing is better than exchange visits in which the person newly appointed to a project visits a similar project elsewhere to learn from their experience and mistakes, perhaps with a return visit later.

LESSONS LEARNED

The transfer of knowledge to local people is essential. Without capacity building, project activities requiring skilled scientific knowledge are bound to come to a halt. Additional training is also needed for classroom teachers to be able to explain to their pupils the contents of all the educational material sent to them.

Negril Coral Reef (Jamaica)

F

- *education and public awareness needs to move beyond the existing understanding of natural resource management to cover broader biodiversity and development needs and also the need to involve all stakeholders including politicians, businessmen, etc.*
- *detailed biological and socio-economic information is needed to ensure sustainable harvesting and off-take; databanks are needed*
- *integration of science and technology with indigenous or local knowledge*
- *technological knowledge transfer may be required to help build local capacity*

Principle G

■ **Development cooperation investments must be sensitive to, and complement, local and national structures, processes and capacities.**

This Principle was added during the Sri Lanka workshop, and supported at subsequent workshops. A clear statement was made that the selection of projects and programmes was too often driven by the agendas of development cooperation agencies.

Where projects are perceived to be externally driven they have lower chances of success. This problem is exacerbated by the way projects are designed and run, for instance where there is insufficient use of local consultants, lack of full stakeholder participation, and insensitivity to local contexts (see also Principles C & D). Also, many procedures in place for accessing development cooperation funds make it difficult for local NGOs, small-scale projects, and those with few partners in donor countries to obtain support.

LESSONS LEARNED

When several donor-funded projects operate simultaneously in a conservation area, and no selection procedure exists for choosing and regulating new projects, there is a breeding ground for conflicting vested interests and duplication of effort. A framework for coordination and cooperation is vital to avoid unplanned and unnecessary expenditure, donor-fatigue and dispersion of local expertise. Worst of all, the different activities confuse local populations, who soon learn to resent interference in their daily lives.

El Nido Marine Reserve (Philippines)

Where local livelihoods are in a fine balance with a fragile environment, care must be taken not to distort local natural resource management through the introduction of large amount of funds or new technologies.

LESSONS LEARNED

Flexible projects need flexible funding, close monitoring and greater involvement by donors. Ideally, funding agencies should be involved in planning and implementation. In addition, it would be of benefit if officials from agencies focused on smaller geographic areas and maintained closer contacts with the people implementing the projects.

Chimalapas Campesino Ecological Reserve (Mexico)

LESSONS LEARNED

Donors should enter into funding arrangements on the understanding that small NGOs have few or no assets and are usually unable to sustain themselves during periods when funding fails to arrive.

Negril Coral Reef (Jamaica)

donors protect their own interests and do not collaborate enough; there is poor synergy between donors

external interests often conflict with local biodiversity conservation actions and initiatives

national programmes often reject small projects

local experts should be used as consultants

Experience has shown that if a project is to succeed, it is necessary to use an appropriate project design (in size, time-scale etc.), which is well adjusted to the local context. In addition, finding out what already exists and building on this is a valuable lesson which is often forgotten in project design.

Another issue reflected in the workshops was that delays in the payment of agreed disbursements can be severely damaging, since it means that project and programme continuation cannot be ensured, and staff motivation declines.

Management issues

In addition to the Principles, several comments were made about project management approaches. While management issues are crucial to the effective implementation of projects, they are more technical in nature than the Principles, and were therefore considered separately during the workshops.

Although mandates should be well-defined and adequate resources assigned from the start, it can also be vital to a project's success to have flexibility in planning and to use resources according to changing needs. Management should be adaptive, and methodologies and practices flexible, so that altered situations can be incorporated as they are monitored and reported. The process of 'learning by doing' allows management practices to be evaluated and improved.

Development projects often succeed because of the leadership and commitment of one or more exceptional individuals. These individuals have the rare ability to convince local people of what has to be done and then to turn this to implementation on the ground. Donor and recipient nations should recognize the value of outstanding project leaders, who should be given every encouragement and support.

need clear analysis of threats and options to develop focused, clear and measurable project outputs

flexible project size and structure are needed to cope with funding fluctuations

decentralised management requires decentralised funding

involving communities in project management can enhance the success rate

LESSONS LEARNED

In order to evaluate the success of a project, a monitoring and evaluation system must be introduced. Since the indicators for short- and long-term benefits are different, it makes sense to have two parallel strands within the monitoring system. An excess of detail should be avoided. The project managers should ensure that their systems include regular results, and that feedback to all stakeholders should be frequent and acted upon.

El Nido Marine Reserve (Philippines)

Section 3

Priority issues for biodiversity in development

The Guiding Principles refer to a wide range of contexts and situations, and it is worth considering how priority issues for biodiversity in development, as reflected in the regional workshops, differ around the world. At each of the four workshops, a set of regional priority issues for biodiversity in development was identified, discussed in working groups, and agreed upon in plenary sessions.

Each of the regional priorities were examined at the Brussels Symposium, where participants from all four regional workshops came together to produce a single integrated list. This integration proved less difficult than expected, because the *kinds* of priorities were broadly similar, although different emphasis was laid on particular issues at each workshop. Symposium participants therefore reformulated some workshop cards to express their more general meaning, and compiled a composite list (see below and Appendix 2 for more details).

Having established that these priorities had widespread application in all regions, the following general distinctions can be made between the four regional workshops:

In the **western and central Africa** workshop, three out of the seven priorities were indicative of problems relating to weakness of government services and, in contrast to most other regions, the lack of ecotourism opportunities. There were also repeated comments about poor people preferring to convert wildlands and forests to support their livelihoods.

The **eastern and southern Africa** workshop was strongly influenced by considerations of large savanna mammals, tourism and hunting. There was a strong focus on land tenure, access to natural resources, farmers rights and benefit sharing.

Most regions indicated that overlooking indigenous knowledge was a problem. In the **southern and South-East Asia** region, however, there is a substantial and ancient literature on traditional knowledge, and the workshop emphasised 'lack of value' given to traditional knowledge, which needs to be better integrated with modern scientific findings.

In the **Latin America/Caribbean** workshop, the human-elephant conflict commonly raised at all the other workshops obviously did not apply. There was strong emphasis laid on the links between culture and biodiversity, especially

in the case of indigenous groups in Latin America. Agrarian reform and empowerment of communities living in wildlands were common discussion topics as a result.

The special characteristics of **small island developing states** were discussed at the Latin America/Caribbean workshop. They are strongly reliant on tourism, and their small size makes them vulnerable to ecosystem changes (caused by severe weather, pollution, the introduction of alien species, etc.). They therefore require a 'ridge to reef' ecosystem approach to land management, and demand special caution when introducing new plants and animals.

PRIORITY ISSUES FOR DEVELOPING COUNTRIES

- *limited local institutional capacity for all aspects of biodiversity management and planning;*
- *market forces, and the pressure for short-term economic gain, work against biodiversity conservation and sustainable use;*
- *ineffective recognition of land tenure and tenurial rights over resources;*
- *biodiversity issues, and economic contribution of biodiversity, not adequately recognised and integrated in development plans;*
- *lack of sound knowledge on biodiversity at all levels results by stakeholders having different perceptions of the economic, social and cultural values of biodiversity;*
- *lack of adequate mechanisms to ensure sustainable use of biodiversity, due to lack of equity in the sharing of costs and benefits among the stakeholder groups;*
- *lack of alternative sources of income leads to over-exploitation and destruction of biodiversity by poor people;*
- *policies and law enforcement are ineffective for regulating conservation and sustainable use of biodiversity;*
- *there exists disparity between donors and local perspectives in relation to the sustainability of international development assistance;*
- *lack of empowerment of local stakeholders has marginalised their participation in biodiversity planning and management;*
- *displacement of people, due to creation of protected areas and land conversion, results in losses in livelihoods.*

Further reading

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Appendices

Appendix 1 – Workshops and case studies

Full workshop and case study reports (including lists of workshop participants) can be found on the web site: http://europa.eu.int/comm/development/sector/environment

BDP workshops

Region	Venue	Dates
West and central African	Limbe Botanic Garden, Limbe, Cameroon	28 June – 2 July 1999
Asia	Culture Club Resort, Dambulla, Sri Lanka	26 – 30 July 1999
Southern and eastern African	Mokolodi Nature Reserve, Gabarone, Botswana	6 – 10 September 1999
Latin American and Caribbean	Victoria Regia Hotel, Iquitos, Peru	27 September – 1 October 1999
Global (Biodiversity in Development Symposium)	Eurovillage, Brussels, Belgium	17 – 21 January 2000

Case studies

Subject	Case study project	Country	Author
Agriculture	KRIBHCO Indo-British Rainfed Farming Project	India	Daljit S.Virk
	Food Crop and Seed Project (Sida)	Zambia	Kees Manintvelle, Joyce Mulila-Mitti & Conny Almekinders
Forestry	Mount Cameroon Project	Cameroon	Peter Ayukegba
	Chimalapas Campesino Ecological Reserve	Mexico	Javier Caballero
	Capacity Building for Participatory Management of Degraded Forests in Orissa (Sida)	India	Marie Byström
Marine/forest	El Nido Managed Resource Protected Area	Philippines	Wilbur Dee
	Mananara-Nord Biosphere Reserve Park	Madagascar	Raymond Rakontonindrina
Rangelands	Biodiversity Conservation Project in the Mid-Zambezi Valley	Zimbabwe	Robert Mkwanda
Wetlands	Plan Directeur Rive Gauche du Programme Après Barrage	Senegal	Mamadou Daffe & Dagou Diop Ndiane
Marine	Negril Coral Reef Preservation Society Project (EC)	Jamaica	Margaret Jones Williams
Protected Areas	Federal Conservation Units	Brazil	Aline Bernardes

Appendix 2 – Composite priorities

Workshop cards detailing the priorities for each of the four regions were revisited at the Brussels Symposium. The tables below show how they were catagorised to arrive at the priorities listed in Section 3. The numbers in brackets indicate their ranking at a regional level.

I. Priority area 1

Composite priority issues	Peru	Sri Lanka	Botswana	Cameroon
Limited local institutional capacity for all aspects of biodiversity management and planning	Building management capacity (2)		Limited local institutional and technical capacity (2)	Capacity building and institutional development through regional/ international cooperation and support mechanisms for local population (1)
Market forces and the pressure for short term economic gain work against biodiversity conservation and sustainable use	The access of markets for the products of sustainable biodiversity use should be fostered or prioritised (4)	Free trade agreements and market forces work against sustainable use of natural resources (1) Preference for short-term commercial gains contrary to biodiversity conservation and sustainability (3)	Insecurity of land tenure and uncertainty of ownership of resources (3)	
Ineffective recognition of land tenure and tenurial rights over resources	Ineffective recognition of indigenous land rights (contradiction between agrarian state policy and biodiversity conservation) (1)			

II. Priority area 2

Composite priority issues	Peru	Sri Lanka	Botswana	Cameroon
Biodiversity issues and related economic contribution not adequately recognised and integrated in development plans	Economic contribution of biodiversity to livelihoods not recognised in development planning. The economic value of biodiversity use through sustainable ways is not adequately made available to the people that live in biodiversity areas (7)	Development of conservation planning not integrated due to inadequate recognition of the value of biodiversity (2)	Lack of integration of biodiversity issues in development (e.g. health, transport) (9)	Integrated land use planning for holistic management and conflict resolution (7)
Lack of sound knowledge on biodiversity at all levels results in stakeholders having different perceptions on the economic, social and cultural values of biodiversity	Encourage cooperative research related to sustainable management of biodiversity (3) Lack of education and awareness on biodiversity issues at all levels of the society (10)	Inadequate value given to traditional knowledge (insensitivity by planners) (4)	Stakeholders have different knowledge as well as different perceived economic, cultural and social values of biodiversity (1)	Lack of a sound and complete knowledge base (4) Need methods for valuing and monitoring biodiversity (8)
There are no adequate mechanisms to ensure sustainable use of biodiversity due to lack of equity in costs and benefits sharing among the stakeholder groups (N-S)	Develop mechanisms for benefit sharing (5) The economic value of biodiversity use through sustainable ways is not adequately made available to the people that live in biodiversity areas (addition)	Lack of mechanisms to ensure equity in cost and benefit sharing with local communities (6)	Lack of financial incentives for the poor to conserve biodiversity (6)	
Lack of alternative sources of income leads to over-exploitation and destruction of biodiversity by poor people		Lack of alternative income avenues leading to over-exploitation of key resources (7)	Biodiversity exploitation increased due to lack of alternative employment (income) opportunities (7)	Need for alternative sources of income (5)

II. Priority area 2 *(continued)*

Composite priority issues	Peru	Sri Lanka	Botswana	Cameroon
Policies and law enforcement are ineffective for regulating conservation and sustainable use of biodiversity	Transfer of biotechnology (6)	Weak implementation of existing policies (illegal activities) (8)	Weak and un-supportive policy and legal framework for conservation and sustainable use of biodiversity (5) Poor implementation of law, policy and action plans (4)	Weak and un-supportive policy and legal framework for conservation and sustainable use of biodiversity (2)
There exists disparity between donors and local perspectives related to sustainable international development assistance		Disparity between donor and local perspectives related to international development assistance (9)		Long-term funding commitment at national and international levels (3)

III. Priority area 3

Composite priority issues	Peru	Sri Lanka	Botswana	Cameroon
Lack of empowerment of local stakeholders has marginalised their participation in biodiversity planning and management	Institutionalise participation and empowerment of local organisations and communities for planning and management of biodiversity. Monitoring, evaluation and feedback should be an integral part of the process of participation. (9)		Marginalised local community institutions (8)	Take more decentralised and participatory approaches with full stakeholder involvement
Displacement of people due to creation of protected areas and land conversions results in losses in livelihoods		Displacement/loss of livelihoods due to protection and conversion (5)		

Appendix 3 – Participants in BDP regional workshops

* participants who also took part in the Brussels Symposium
° BDP case study authors

West and central Africa workshop

Name	Organisation	Country
Facilitators		
Vabi, Michael	WWF-Cameroon	Cameroon
Masanga, David W.	Cabinet VIDA Management International	Cameroon
Participants		
Abu Juam, Musa Manager	Environmental Conservation Forest Management Support Centre	Ghana
Ayukeba, Peter °	Independent	Cameroon
Bdliya, Hassan	Hadejia-Nguru Wetlands Project	Nigeria
Besong, Joseph	Mount Cameroon Project	Cameroon
Bihini won wa Musiti	IUCN Regional Office for Central Africa	Cameroon
Bodian, Boucary	Ministry of Planning, Economy and Finance	Senegal
Bourobou Bourobou, Henri-Paul	Institute for Research in Tropical Ecology	Gabon
Daffe, Mamadou °	Senagrosol Consult	Senegal
Dagou diop Ndiane °	Senagrosol Consult	Senegal
Dore, Mathew	Federal Environmental Protection Agency	Nigeria
Gbanzai, Paul	SODEFOR	Cote d'Ivoire
Iyebi Mandjek, Olivier	APFT/Ministère de la Recherche Scientifique et technique	Cameroon
Lawson, Georges Assion	UB-ESA	Togo
Lema Ngono, Danielle	CIFOR Cameroon	Cameroon
Loebenstein, Karin V.	Korup Project	Cameroon
Ndibi, Blaise Paquit	MINEF	Cameroon
Obot, Emmanuel Asuquo	Nigerian Conservation Foundation	Nigeria
Percy, Fiona	Mount Cameroon Project	Cameroon
Porteous, Isabelle	CEFDHAC-IUCN	Cameroon
Samb, Mor	Department of National Parks, Ministry of Environment	Senegal
Shadie, Peter *	IUCN HQ	Switzerland
Tindigarakayo Kashagire, Justus	Division of Wildlife, Ministry of Tourism, Trade and Forestry	Uganda
Waitkuwait, Wolf 'Eki'	c/o GTZ Bureau de la Cooperation Allemande au Developpement	Côte d'Ivoire

Asia workshop

Name	Organisation	Country
Facilitators		
Samaranayake, Mallika *	Institute for Participatory Interaction in Development (IPID)	Sri Lanka
Weerackody, Chamindra	Institute for Participatory Interaction in Development (IPID)	Sri Lanka
Participants		
Abeyratne, A.H.M.R.	Organization for Resource Development and Environment (ORDE)	Sri Lanka
Balakrishna, P.	IUCN-SSEA Regional Biodiversity Programme	Sri Lanka
Dangi, Tek Bahadur *	Nepal Tourism Board	Nepal
Dawson, Shanthini	World Food Programme	Union of Myanmar
de la Cruz, Margarita *	Guivan Development Foundation, Inc (GDFI) & Leyte-Samar Heritage Centre	Philippines
Dee, Wilbur °	IDC	Philippines
Dionisio, Gregorio G	PRRM	Philippines
Gamage, Gamini	Ministry of Forestry and Environment	Sri Lanka
Gawi, Jawal	Leuser Management Unit	Indonesia
Kirana, Chandra	PPSDAK	Indonesia
Mahindapala, Ranjith *	IUCN Sri Lanka	Sri Lanka
Mukalla, Ramesh C.	Embassy of Sweden	India
Natalia, Ita	PPSDAK	Indonesia
Pallewatta, Nirmalie	IUCN-SSEA Regional Biodiversity Programme	Sri Lanka
Rashiduzzaman, Ahmed	IUCN Bangladesh	Bangladesh
Ruttanadakul, Nukul	Wetland Project, Faculty of Science and Technology	Thailand
Sharma, S.C.	Ministry of Environment & Forests	India
Singh, Lala A.K.	Independent	India
Thapa, Dinesh	Tiger Mountain Pokhara Lodge	Nepal
Virk, Daljit °	Centre for Arid Zone Studies	India/United Kingdom

Southern and eastern Africa workshop

Name	Organisation	Country
Facilitators		
Murray Hudson, Mike	Ecosurv	Botswana
Parry, David	Ecosurv	Botswana
Mosinyi, Oshadi	Ecosurv	Botswana
Participants		
Chafota, Jonas	WWF - SARPO	Zimbabwe
Chitepo, Kule	Africa Resources Trust – South Africa	South Africa
Davis, George	National Botanical Institute	South Africa
Hachileka, Excellent	IUCN – Regional Office for Southern Africa	Zimbabwe
Jansen, Ruud	IUCN Botswana	Botswana
Katsumbe, Martin	Department of Natural Resources	Zimbabwe
Kishe, Edward	Tanzania National Parks	Tanzania
Mahomede, Daude	Ministry for Coordination of Environmental Affairs	Mozambique
Malepa, Dollina	National Conservation Strategy Agency	Botswana
Mboly, Jean Andre	MAB-UNESCO	Madagascar
Mckean, Steven	KwaZulu Natal Nature Conservation Service	South Africa
Mkwanda, Robert °	Department of Natural Resources	Zimbabwe
Mulila-Mitti, Joyce *°	Independent	Zambia
Muruthi, Phillip	African Wildlife Foundation	Kenya
Njala, Jonas James Abraham	Mulanje Mountain Conservation Trust	Malawi
Rakotonindrina, Raymond °	Independent	Madagascar
Takawira, Stancilas	European Commission (Harare)	Zimbabwe
Tveden, Stine	IUCN Botswana	Botswana
Waithaka, John *	African Conservation Centre	Kenya
Zuke, Steven	Swaziland Environment Authority	Swaziland
Zulu, Leo *	SADC-Biodiversity Focal Point	Malawi

Latin America and Caribbean workshop

Name	Organisation	Country
Facilitators		
Bernales, Antonio	Independent	Peru
Bouroncle, Claudia	Pro Naturaleza	Peru
Participants		
Alvarez Gallardo, Juan Marco	Salva-Natura	El Salvador
Barracatt, Gabriel	Servicio Nacional de Areas Protegidas (SERNAP)	Bolivia
Baudoin, Mario *	Dirección General de Biodiversidad	Bolivia
Braga Vela, Janeth	Universidad Nacional de al Amazonia Peruana	Peru
Brown, Jean	Negril Coral Reef Preservation Society (NCRPS)	Jamaica
Caballero, Javier *°	Jardín Botánico de la Universidad Nacional Autónoma de México	Mexico
Carrion de Samudio, Julieta	Independent	Panama
Crampton, William	Sociedade Civil Mamirauá	Brazil
Cross, Robyn *	NBSAP	Trinidad & Tobago
Díez Galindo, Carlos	Programa Pacaya Samiria, Pro Naturaleza	Peru
Elfi Cháves, María	Wildlife Conservation Society	Colombia
García Aguirre, Miguel Angel	Maderas del Pueblo del Sureste, A. C.	Mexico
Guzmán, Yolanda	Instituto de Investigación de la Amazonía Peruana (IIAP)	Peru
Hernández Escobar, Natalia Cecilia	Programa COAMA Fundación GAIA Amazonas	Colombia
Hernández Sánchez, Jorge	Unidad de Seguridad y Protección Ambiental, Petróleos del Perú	Peru
Hogan, Rolf	IUCN – The World Conservation Union	Switzerland
Jones Williams, Margaret °	Independent	Jamaica
López Ornat, Arturo *	Programa ARAUCARIA / AECI Cooperación Española	Spain
Mejía, Kember	Instituto de Investigación de la Amazonía Peruana (IIAP)	Peru
Muller, Stephan	Delegación de la Comunidad Europea en Lima	Peru
Nogales Morales, Adrian	Organización Territorio Indígena, Parque Nacional Isíboro Sólure (TIPNIS)	Bolivia
Rojas Ruíz, Pablo	Consejo Transitorio de Administración Regional de Loreto	Peru
Rosabal Gonzalez, Pedro	IUCN Protected Areas Programme	Switzerland
Rosales Benitez, Marina	Instituto Nacional de Recursos Naturales (INRENA)	Peru
Salas, Alberto	IUCN-Mesoamerica	Costa Rica
Trellez Solis, Eloísa	Independent	Peru
Tristao Bernardes, Aline °	Independent	Brazil/USA
Ugaz, Jorge	Pro Naturaleza	Peru

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The meeting minutes, and workshop and case study reports, including lists of participants (see also Appendix 3), are available on DG Development's environment web page: http://europa.eu.int/comm/development/sector/environment.

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