

## **Sustainable livelihoods and ecosystems management For the Preparatory Committee for the World Summit on Sustainable Development - 4<sup>th</sup> Preparatory Meeting, Bali (Indonesia)**

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*While one cannot say with any confidence what forms an ecological crunch might take, when it might happen, or how severe it might be, it is easier to predict who will have the worst of it. The poor and powerless cannot shield themselves from ecological problems today, nor will they be able to do it in the future.*

*J.R. McNeill, "Something New under the Sun"*

### **Introduction**

As a conservation organization that puts people at centre stage in its mission and vision, IUCN welcomes the new international focus on poverty alleviation. We know from our own experience that the pursuit of environmental goals at the expense of economic well-being and social justice is doomed to fail. We also know that economic growth at the expense of social justice or the environment is likely to be unsustainable. Thus, it is not a case of choosing between economic development and environment, but of treating both as complementary priorities.

Sustainable development is built on sustainable livelihoods. For development to yield lasting benefits, it must offer the world's population a means of making a living that does not lead to the degradation of the environment, the loss of biodiversity, the disenfranchisement or marginalization of large groups of people, the deepening of equity gaps, the spread of poverty, or the weakening of the institutions on which human security depends. For development to be sustainable, it must create and preserve sustainable livelihoods, in all their diversity.

### **Sustainable approaches to poverty reduction**

The Millennium Development Goals (MDG) have served to refocus the attention of the world community by setting ambitious targets for the elimination of poverty, while reaffirming the importance of ensuring environmental alongside social and economic sustainability, as the third pillar of sustainable development. The indicators used, however, to measure progress on the environment capture only a small proportion of the many real ways in which the livelihoods of the rural and urban poor depend on sustainable management of natural resources. As a consequence, it appears that insufficient attention is being paid to the environmental underpinnings of sustainable development. Governments need to adopt natural resource valuation and other methods that can help them to better assess the environmental sustainability of their development policies.

No one questions the urgency of alleviating the suffering of people living in poverty. At the same time, there are large risks associated with short-term approaches to eradicating poverty, particularly where these rely on unsustainable use of natural resources and ecosystems. As we prepare for WSSD, there is an urgent need to remind ourselves of the very real threat that ecosystem functions and species will be lost, and that the negative impact of such losses will fall largely on the poor. This is because poor people rely more heavily and more directly on local renewable resources for their livelihoods than other socioeconomic groups, and because the poor are more vulnerable to loss of environmental resources - due to a lack of alternative assets.

On the up side, the fact that many poor people live closely with natural resources and rely heavily on low-input production systems give them an advantage in the development of new environmentally-friendly products and services. From ecotourism schemes to organic agriculture, watershed protection contracts and carbon farming, there are a host of new livelihood opportunities where poor rural communities can compete without doing undue damage to their environment, provided they are not excluded by insecure land tenure, high transaction costs and other barriers to participation in emerging “green” markets – and the natural resources in question not destroyed through environmentally and socially perverse subsidies.

At the same time, while the existence of win-win solutions such as “green” markets is encouraging, we must not forget that in many cases there are significant trade-offs between environment and development objectives. In such cases there is an urgent need to improve the way in which human societies address environment/development trade-offs. Market-based mechanisms are part of the answer, but there is likewise a need for improved governance, to empower disenfranchised stakeholders to contribute to negotiated solutions, to ensure that the role of ecosystems as present and future livelihood support systems is taken into account in key public investment decisions, and to provide increased assistance from rich to poor countries to conserve ecosystems and prevent species extinctions.

## **Develop first, conserve later?**

Not everyone agrees that sustainable poverty alleviation depends on environmental management. Proponents of an exclusive focus on rapid economic growth often assert that people have to get rich first before they can be bothered to save the environment. This argument is typically supported by pointing to the impressive recovery of some formerly depleted ecosystems in rich countries, such as the spontaneous regeneration of forest cover in the Northeastern USA and the rehabilitation of rivers that were severely polluted in Western Europe.

But this is an unhelpful way to think about sustainable development at a global scale. First, it does not address the fact that some restoration efforts in rich countries have been made possible by the shift in highly polluting manufacturing industries to the South, in effect by “exporting” the North’s environmental problems. Second, by assuming that environmental conditions must get worse before they can get better, it dismisses as irrelevant the ongoing investments that poor people and communities themselves make in ecosystem management to secure resources critical for their livelihoods. Third, it ignores the fact that many tropical and subtropical ecosystems are less resilient than temperate ones, that species extinction is irreversible, and that restoring damaged ecosystems is often impossible or prohibitively expensive. Finally, the theory that environments improve with rising income fails to hold for certain natural resources, as shown by the continuing rise in greenhouse gas emissions from rapidly growing economies in rich countries.

## **Poor people's livelihoods depend on ecosystem functions**

Recent advances in understanding the causes of poverty, the sources of economic growth, and the measurement of human well-being, have re-emphasized the role of natural capital in human development: people, particularly rural poor, need secure access to productive ecosystems as well as the security of a healthy environment in order to create and sustain their livelihoods.

The majority of the world's poor people continue to live in rural areas. The World Bank estimated recently that around 75% of the world's poor people reside in rural space and that the rural poor will outnumber their urban counterparts for at least another generation.

Rural people use many ecosystems as essential productive assets, whether on a day-to-day basis or seasonally. Farmers who cannot afford to buy fertiliser transfer soil fertility from woodlands to their fields, either directly through litter harvesting or through using manure from browsing livestock. In African dryland farming systems, where seasonal food shortages are common, dry-season flood plain grazing and fisheries, and the collection and sale of non-timber forest products provide a lifeline during times of need. Natural resources are thus a key element of the risk management strategies of the rural poor. Local communities should be recognized and empowered as legitimate and effective stewards of natural resources and ecosystem services.

The importance of natural resources in directly supporting human livelihoods is often overlooked, as the goods and services they yield are either for subsistence purposes, or traded informally, so they do not show up in national economic statistics. Work by IUCN, the World Bank and others to develop comprehensive measures of national income reveals that most conventional indicators, such as the Gross Domestic Product (GDP), significantly overstate economic growth by failing to account for changes in environmental quality. This phenomenon tends to cast large-scale development projects established at the expense of existing natural resources in an overly favourable light, as the benefits foregone due to the displacement of local livelihoods are underestimated. A whole generation of failed river valley development projects that promised food security but yielded salinization and the destruction of sustainable flood plain farming and grazing systems as well as the disruption of estuarine fisheries illustrates this problem. As a matter of course the pursuit of sustainable livelihood may involve modification and even substitution of ecosystems in some places. This can be acceptable provided it is done in a sustainable manner. Unfortunately, this has often not been the case. Governments need to apply the precautionary approach in decisions about the use and conversion of productive ecosystems.

Goods and services provided by productive ecosystems are the cornerstone of the livelihoods of the rural poor, while also providing urban populations with a number of key services, such as clean water. Ecosystem conservation can also literally be a matter of life and death. A detailed assessment of the impact of Hurricane Mitch, which led to mudflows and flash floods that killed almost 18,000 people and left 2.5 million homeless in Central America in October 1998, revealed the key contributions of forests on steep slopes in preventing landslides. Similarly barrier reefs and mangroves were shown to be instrumental in providing coastal protection during storms and tidal surges. Governments need to identify and safeguard ecosystems essential for preventing and mitigating the impact of natural disasters in collaboration with local communities.

Ironically, it may well be easier to demonstrate the value to local livelihoods of natural resources once they have been severely degraded. Where this has happened, for instance through ill-advised development schemes, the local people will be aware of what they lost.

Also it will be easier to do robust valuation exercises on the basis of real data, and mobilise both political and local support for their application. A recent valuation of an IUCN floodplain restoration effort established that the value of the restored floodplain could be as much as US\$3,000 per km<sup>2</sup>, not a large figure in global terms but locally very significant (see Box 1).

### **Box 1 Waza Logone: floodplain restoration for poverty alleviation**

In Northern Cameroon, a dry area where rainfall is uncertain and livelihoods are extremely insecure, the Waza Logone floodplain, covering some 8,000 km<sup>2</sup>, represents a critical area of high productivity and biodiversity. The goods and services provided by the floodplain ecosystem (dry season grazing, fish, natural resource harvesting and surface water supplies) provide basic income and subsistence for more than 85 per cent of the region's rural population, or 125,000 people.

The biodiversity and level of productivity of the floodplain depend to a large extent on the annual inundation of the Logone River. But in 1979, the construction of a small irrigated rice scheme (40 km<sup>2</sup>) reduced flooding by almost 1,000 km<sup>2</sup>. Thousands of local households have suffered direct economic losses worth more than US\$2 million a year in total. The affected population, mainly pastoralists, fisherfolk and dryland farmers, include some of the poorest and most vulnerable groups in the region.

In 1994 and 1997 two pilot flood releases were effected in the floodplain as part of IUCN's Waza Logone project funded by the Netherlands, unblocking watercourses that had been sealed off as a result of the construction of the irrigation scheme. These releases were welcomed by local communities, as they led to demonstrable recoveries in floodplain flora and fauna. Future reinundation measures have the potential to restore up to 90 per cent of the floodplain area, at a capital cost of approximately US\$10 million. Adding more than US\$2.5 million a year to the regional economy, or US\$3,000/km<sup>2</sup> of flooded area, the benefits of reinundation are expected to cover initial investment costs in less than 5 years. (IUCN 2002)

Access to natural resources, often managed by local communities as common property, is a key livelihood asset for most of the rural poor and will continue to be so in the foreseeable future. Such assets enable the poor to manage risk by spreading production across a diverse portfolio of natural resources. But many common property resources are under increasing pressure from encroachment and destructive resource extraction by outsiders. This leads to loss of livelihoods, which in turn undermines social cohesion and stability, leading to increased poverty, social friction and political tension. In extreme cases, these tensions lead to violent conflict, which diverts vital development resources to meet urgent humanitarian and peace-keeping needs. Communities need to be empowered to manage the ecosystems they depend upon, and be protected from exploitation by powerful outsiders. Listening to communities' own perceptions of environment and development problems and solutions will be essential in order to integrate indigenous knowledge in solutions that are commensurate with their needs and aspirations. Technological changes aimed at increasing income are unlikely to be adopted unless they are compatible with the risk management strategies of the rural poor.

To sum up, productive ecosystems provide options for improving the livelihoods of future generations, whereas ecosystem depletion and species extinction reduce capacity to adapt to future stresses such as climate change, and respond to opportunities such as the marketing of ecological services.

## Current state of ecosystems and species

The World Resources Institute has recently completed a pilot analysis of the world's ecosystems' conditions and trends. The overall picture emerging from these is one of severe declines in the condition of most of the earth's surface. (Table 1).

**Table 1. Overview of global ecosystems conditions and trends**

Ecosystem	Condition	Trend
Coastal	20 per cent of land area 19 per cent of land within 100 km of coastline is altered for agriculture or urban use 39 per cent of world's population lives here	50-80 per cent of original mangrove lost
Forests	25 per cent of land area only 40 per cent undisturbed by human activity 80 per cent of endemic bird areas are in forests	20 per cent decrease since pre-agricultural times since 1980, at least 10 per cent decline in developing countries
Freshwater	<1 per cent of land area but services estimated at USD trillions large dams impound 14 per cent of world's runoff	50 per cent of world's wetlands lost during the 20th century
Grasslands	40 per cent of land area almost 50 per cent of Centres of Plant Diversity include grassland habitat 12 per cent of threatened birds are specific to grasslands	significant loss due to conversion for agriculture nearly 49 per cent lightly to moderately degraded
Agroecosystems	28 per cent of earth's surface 31 per cent is cropland (primarily cereal production) with 69 per cent under pasture	pasture area increasing at 0.3 per cent annually areas under irrigation increasing ~1.6 per cent annually

While outright loss of forest and wetland ecosystems is relatively simple to ascertain, much of the damage that has been done has been a more insidious loss of quality that is far more difficult to measure. Species loss is sometimes used as a proxy for this loss of ecosystem quality.

The 2000 IUCN Red List of Threatened Species reports a depressing story: 24 per cent of mammals and 12 per cent of birds are threatened. Preliminary studies on other taxa indicate that 20-30 per cent of reptiles, amphibians and fishes are also threatened. Unfortunately very little is yet known of the level of threat facing invertebrate taxa (which contain very large numbers of species), but early indications are that the great majority of species in freshwater habitats are under extreme threat. The available numbers are viewed as a minimum level of threat to some taxa: in particular long-lived species such as trees, marine turtles and elephants, will take several generations to be accurately evaluated.

The fisheries sector provides a good example of the unsustainability of current exploitation patterns. The proteins derived from fish, crustaceans and molluscs account for between 13.8 and 16.5 percent of the animal protein intake of the human population worldwide. The total food fish harvest has been growing at a rate of 3.6 per cent per annum since 1961. Average per capita consumption increased from about 9 kg per annum in the early 1960s to 16 kg in 1997. The per capita availability of fish and fishery products has therefore nearly doubled in 40 years, keeping pace with population growth, which also nearly doubled in the same period. Currently, two-thirds of the total food fish supply is obtained from fishing in marine and

inland waters; the remaining one-third is derived from aquaculture. However, according to FAO, escalating fishing pressure has depleted fishing stocks globally. Among the major marine fish stocks or groups of stocks for which information is available, 47 to 50 per cent are fully exploited. Another 15 - 18 percent are already overexploited and have no potential for further increase in harvest.

## **Making markets work for sustainable livelihoods**

Market-based approaches to environmental protection and poverty reduction are the new conventional wisdom. Pollution taxes and trade liberalisation, to give just two examples, may seem very different but they are in fact part of a standard menu of market-oriented policies, deeply grounded in neo-classical economics.

The arguments for and against market-based approaches to sustainable development are not worth repeating here. What is clear is that most people will continue to be motivated at least in part by a desire to maximise benefits and minimise costs. Hence the practical question is how to channel these energies for both private and public welfare, encouraging investment in equitable and ecologically sustainable activities that create wealth without wasting scarce resources.

## **Perverse markets and unsustainable livelihoods**

The private sector is the most important potential engine of sustainable development, if only because of its vast financial and technical capacity. Unfortunately, the activities of both private firms and consumers are often environmentally destructive and lead to inequitable outcomes. In short, the market often supports unsustainable livelihoods. This applies to both domestic small and medium enterprise as well as the activities of some transnational corporations, which have grown dramatically in recent years.

One reason why private enterprise is often unsustainable is that governments around the world continue to embrace policies that are harmful to the environment, or to the poor, or both. For example, subsidies to water and energy users often lead to wasteful use of scarce resources and typically benefit the rich. Inappropriate forest policies can lead companies to destroy valuable timber stocks while depriving rural communities of access to essential non-timber resources. In some countries agricultural policies stimulate excessive land clearance by ranchers, while in others taxes on farm exports reduce incomes to the rural poor. Reforming such 'perverse' policies can relieve pressure on government finances, in the case of subsidies, or actually increase public revenue, in the case of new or higher user fees, while at the same time reducing environmental damages.

Another area where reform is urgently needed is the domestic and trade policies of rich countries that discriminate against the developing world. Top of the list, and long overdue, is the reduction of subsidies for agriculture, fishing and forestry that distort trade and damage the environment. This should be matched by commitments in the developing world to reduce trade barriers that undermine their own economies and environments, such as ill-conceived log export restrictions that depress timber prices and encourage the waste of valuable wood.

## **Developing pro-poor markets for social and environmental benefits**

Alongside efforts to correct market failures, and to reform wasteful and inequitable policies that damage the environment and hurt the poor, action is also required to develop markets for more sustainable goods and services. There is an urgent need for new measures to finance the conservation of critical ecosystems, and more generally to encourage resource users to provide important environmental services. There is likewise a need for new economic opportunities to sustain and improve livelihoods, especially in hard-pressed rural areas. Market-based mechanisms appear to offer many advantages over conventional approaches to nature conservation, including the possibility of mobilising new funding from consumers of environmental services, a better match of funding to supply and thus more cost-effective provision of environmental services, as well as additional and diversified income for rural development.

Another area of recent innovation has focused on the use of markets to conserve environmental services such as biological diversity, carbon sequestration, watershed protection, and landscape amenity. The Clean Development Mechanism (CDM) resulting from the Kyoto Protocol on climate change is one of several recent initiatives that aim to bring environmental services into the market place, while at the same time contributing – it is hoped – to sustainable development in poor countries. Other examples include debt-for-nature swaps, biochemical prospecting contracts, eco-tourism enterprise, eco-labelling and ‘sustainable’ trade schemes.

Experience with mechanisms for greening markets is still young, and much remains to be learned. What is clear, however, is that realising the potential of “green” markets to contribute to environmental improvement and poverty alleviation requires particular measures in the governance sphere to ensure that the poor are able to benefit. A study carried out by the International Institute for Environment and Development, found that appropriate allocation of property rights may be needed to ensure that relatively deprived groups are not excluded and support to co-operative institutions may be essential to improve the bargaining power of small-scale producers.

## **Managing the trade-offs between livelihoods and ecosystems**

Those who seek a workable marriage between development and conservation must begin by articulating clearly what poverty alleviation means within environmental policy, and vice versa. Decision makers need to develop policies and practices that distinguish between situations where conservation and development goals are compatible and situations where there may be conflicts. As the UK Sustainable Development Commission (2001) put it: “While there is no doubt that environmental protection can often be supportive of economic growth, there will be occasions when environmental protection demands that society foregoes certain types of economic development.” This implies a need for practical approaches to manage environment and development trade-offs.

In IUCN’s view, such trade-offs should be made in an open, fair, negotiated process at the appropriate level (local, national, global) with meaningful involvement of all concerned stakeholder groups. For such negotiations to be fruitful, however, certain preconditions must be fulfilled. First, improvements in governance are needed to enable disenfranchised stakeholder groups such as the rural poor to participate in an equitable manner. Second, information about the role of key ecosystems in supporting people’s livelihoods and safeguarding future development options needs to receive a serious hearing from decision makers. And third, the rich countries need to accept more responsibility in assisting poor countries to conserve globally important ecosystems and prevent species extinctions.

The strong links between poverty and natural resources underscore the urgent need for improved environmental management, especially in the developing world. More sustainable environments can play a key role in reducing the vulnerability of both poor households and poor countries, enhancing their security while increasing productivity and incomes. In this respect, it is especially important that the structural and macroeconomic adjustment programmes of the International Financial Institutions (IFIs), which have major implications for the livelihoods of the poor and the natural resources they depend upon, are aligned with the sustainable development agenda. IFIs will need to assist developing country governments to carry out sustainability assessments prior to implementation of such adjustment programmes.

As we prepare for WSSD in Johannesburg, it is important to remember that poverty reduction will require both global and local efforts. We must not forget the environmental dimension of sustainable development, which is arguably more important to the poor than to any other group. World leaders must give new impetus and renewed support for the sustainable management of local as well as global resources, as a key element in strategies for eliminating global poverty.

# **IUCN and Governance for Sustainable Development**

## **For the Preparatory Committee for the World Summit on Sustainable Development - 4<sup>th</sup> Preparatory Meeting, Bali (Indonesia)**

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Effective governance at global, regional, national and local levels is essential to the implementation of Agenda 21 and to achieving sustainable development.

Governance is the means by which society defines goals and priorities and advances cooperation; be it globally, regionally, nationally or locally. Most fundamentally, governance is the means to an end, not an end in itself.

**“Governance is a means to an ends,  
not an end in itself”**

### **IUCN is working to promote the following WSSD outcomes:**

1. Strengthening the enabling environment for achieving sustainable development at global, regional and national levels through:

Enhancing the role of the Commission for Sustainable Development (CSD), as the principal international institution for addressing the linkages amongst the three pillars of sustainable development – environmental, economic and social.

CSD becoming the engine for advancing these linkages in decisions taken by ECOSOC and the UN General Assembly so that sustainable development becomes *the* sole development agenda of the United Nations.

Strengthening the United Nations Environment Programme, as the principal international institution for the environment pillar of sustainable development.

Replenishing the Global Environment Facility.

Improving the scientific and analytical basis for sustainable development and integrated approaches.

Taking positive steps to build civil society and the private sector into international policy making , including environmental, trade and financial institutions.

Making greater use of regional mechanisms as a means to deliver cost effective, practical and integrated programs that take into account regional circumstances, ecosystems-based approaches and specific interactions among issues and institutions (including interactions with regional economic and trade agreements).

Taking practical steps to build capacity at the national, sub-national and local levels for effective governance for sustainable development.

2. Delivering a ‘*Sustainable Development Capacity Building Initiative 2002-2012*’ - a funded commitment that sets out clear and agreed objectives, targets and timeframes for a coordinated global programmatic approach to capacity building over the next ten years in key thematic areas.

3. Building partnerships within and between governments, intergovernmental organizations, civil society and the private sector for the pragmatic implementation of Agenda 21 at local, national and international levels.

4. Advancing open, transparent, inclusive, responsive and accountable decision making at all levels.
5. Advancing the structured devolution of authority to local and community levels within a framework for sustainable development.
6. Achieving synergies between multilateral environment agreements at the institutional and programmatic levels.
7. Continuing the dialogue on governance improvements that advance sustainable development after Johannesburg, involving multiple stakeholders.

**“In order to most effectively achieve sustainable development, governance at all levels – local, national, regional, and global – should be mutually reinforcing”**

**IUCN is able to contribute to achieving these outcomes through its:**

Extensive experience in facilitating effective governance for sustainable development through global, regional, national and local programmes.

Effective role in international conflict resolution through acting as an intermediary in the resolution of contentious cross border environment and natural resource management issues.

Longstanding ability to provide a neutral forum for engaging all stakeholders in discussion and resolution of contentious issues.

Vast network of members - 79 states, 112 government agencies, and 735 national and international non government organizations, a secretariat presence in over 40 offices across the world, and through its 10,000 voluntary members in six expert commissions, covering science, policy and law.

**A detailed paper on this topic is available on the IUCN WSSD website at <http://iucn.org/wssd>**

