



“BIODIVERSITY IS VITAL FOR HUMAN SURVIVAL AND LIVELIHOODS”

“Biodiversity is vital for human survival and livelihoods; we need to conserve it for future generations. At the same time, the unacceptable scale of hunger and rural poverty in our small planet calls for urgent remedial action,” FAO Deputy Director-General James G. Butler said today. He was addressing the opening session of the Thirteenth Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity (18–22 February 2008).

Ultimately, at the global level, this event – which involves FAO, the Convention on Biological Diversity and their partners – is aimed at meeting the challenges of sustainable agricultural production to ensure food security for all peoples, “especially the rural poor – often the managers and custodians of our biodiversity”, as Mr Butler put it.

The Rome meeting focused on the implementation of the programmes of work on agricultural biodiversity and forest biodiversity; the application of sustainable use principles and guidelines to agricultural biodiversity; the linkages between agricultural biodiversity and climate change; marine, coastal and inland water ecosystems biodiversity; invasive alien species; and other scientific and technical issues.

“Mainstreaming biodiversity into the food and agriculture, livestock, fisheries and forestry sectors will be critical to provide humankind with opportunities for increasing food availability and stability while maintaining a healthy natural capital for future generations,” Mr Butler said. He also stated that “understanding the positive linkages – often forgotten or

underestimated – between the production sectors and biodiversity is essential towards achieving universal right to food and sustainable development”.

Mr Butler stressed the need to foster international cooperation with regard to emerging new complex challenges for food and agriculture, such as climate change. (Source: FAO Newsroom, 18 February 2008.)



COMMUNITY-BASED ECOLOGICAL MONITORING – A PROMISING OPTION TO ENSURE THE SUSTAINABILITY OF NWFP EXTRACTION

Small-scale commercialization of NWFPs is a key livelihoods strategy in many woodland areas in developing countries. However, as discussed in previous articles of *Non-Wood News*, commercialization of NWFPs, even on a small scale, is not necessarily environmentally sustainable. Significant long-term decreases in ecosystem resilience, biodiversity and functional ability of the ecosystems were detected over time in numerous small-scale NWFP extraction systems. In detailed case studies, it became obvious that these are hard to predict because of the complexity of woodlands dynamics and human impacts.

Ecological monitoring can be very helpful to minimize these destructive effects and to increase environmental sustainability. It can be defined as the continuous collection, analysis and interpretation of data related to the environment in order to understand, determine or detect ecological trends in an area.

The development of an ecological monitoring framework adapted to small-scale use of NWFPs in Zimbabwe was started in 2005 and ended in 2007 with the publication of a manual (see Box). The aim was to develop a methodological framework, which had to be easy and cost-efficient to implement and needed to provide the necessary results for decisions on NWFP extraction and natural resource use at the community- and district-level. It had to ensure compliance of the NWFP-extraction activities to ecological criteria, be based on the participation of the collectors and respond to the challenging political, social and economic context in Zimbabwe. The tool was not meant to focus only on the NWFP resource as such, but also on the surrounding ecosystems. Moreover, it was meant to include the impact of climatic factors on the environment in order to support the communities in their adaptation to actual and future climate changes.

Outcomes in Zimbabwe. An example of indicators developed and ecological challenges addressed in the context of ecological monitoring is provided in the Table, which was derived from the ecological monitoring framework developed in the mountainous woodland area of Nyanga in the Eastern Highlands of Zimbabwe. There, leaves from *Fadogia ancylantha* (makoni tea bush) and *Myrothamnus flabellifolius* (resurrection tea bush) are collected by small-scale entrepreneurs for processing and regional sale.

With these indicators, significant effects from changes in land-use practices were already detected in the pilot implementation between 2006 and 2007 and were confirmed with historic information. For these changes, regulatory or corrective means were developed accordingly. Among others,



Extract from Nyanga Ecological Monitoring Plan

Indicator	Specifications	Ecological challenges addressed
Early/late fires per dry season	Number of fires per village, woodland/grassland area burned	Uncontrolled fires
Erosion gullies	Number of gullies wider than 1.5 m and/or longer than 3 m	Erosion
Alien plant populations	Number of <i>Eucalyptus</i> sp., <i>Acacia marnsii</i> and <i>Lantana camara</i> individuals in sampling plots	Alien plants
Number of <i>Fadogia</i> plots	Average estimated distance, time walked	Target species development
Area under tobacco	Area under tobacco cultivation per village	Wood offtake
Trade in <i>Uapaca kirkiana</i> fruits	Amount of <i>Uapaca</i> fruits traded by collectors, distance	<i>Uapaca</i> population development

possible action regarding the sharp increase of wood offtake caused by extended small-scale tobacco farming (which requires small-scale tobacco farming (which requires firewood for tobacco drying), is being discussed by the community and district authorities as it endangers the existence of NWFP-relevant species.

In interviews with community members, changes in the natural systems over longer periods of time also became obvious and are plausibly caused by climatic change. Some populations of the harvested *Fadogia* tea bush in rather dry areas were found to be under strong ecological pressure from

decreasing precipitation. A more rigid regulation for collection had to be introduced at these places in order to ensure the sustainability of NWFP extraction.

The development of this ecological monitoring framework and its results are indicative of a possible way of dealing with the challenges faced by natural resource management and NWFP-related initiatives in developing countries, i.e. the lack of reliable baseline data; the need to define and use highly aggregated core indicators; limited financial, technical and human resources; and difficulties in deducing evidence for long-term trends from locally and temporally limited natural phenomena.

COMMUNITY-BASED ECOLOGICAL MONITORING. A MANUAL FOR PRACTITIONERS

The Zimbabwe-based NGO SAFIRE (Southern Alliance for Indigenous Resources), together with DED (German Development Service), has developed a new approach for community-based ecological monitoring of the extraction of NWFPs. After more than two years of developing a multistakeholder process and testing for feasibility, a publication *Community-based ecological monitoring. A manual for practitioners* has now been brought out.

The manual is aimed at providing backup for staff of governmental or non-governmental institutions working in rural zones of developing countries in the context of rural development and sustainable natural resource use initiatives. In a plain and illustrative manner it explains the rationale and

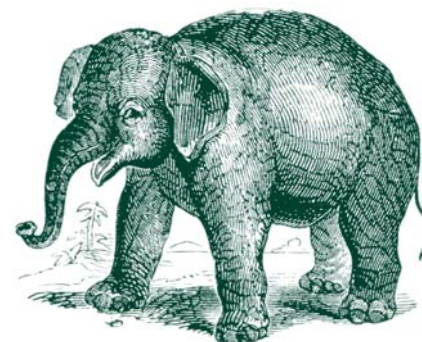
recommended steps of supporting local communities in ecological monitoring and summarizes the lessons learned.

The approach taken for community-based ecological monitoring is based on local governance structures and traditional knowledge systems. It provides a framework for the communities:

- to track *changes in the natural resource base of NWFPs* easily and effectively as a base for decisions for sustainable use;
- to detect *effects of climate change* and negative side effects of resource uses at an early stage and to plan for appropriate action;
- to support long-term maintenance of productivity and yield of NTFP resources and *conservation of biodiversity*.

The manual is available to download from the Readers' Research page of FAO's NWFP home page at: www.fao.org/forestry/site/35667/en

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ELEPHANTS KEEP ANTS IN HARMONY WITH TREE HOSTS

If the African savannah were to lose elephants, giraffes and other large grazing mammals, there would be unexpected ecological effects all the way down to the ants and acacia trees of the plains, suggests a new study. The mutually beneficial relationship between acacia trees of the African savannah and the ants that live on the trees and defend them from harm has an unexpected third partner in the form of these large mammals. In the absence of the grazers, the former cosy relationship between trees and ants breaks down into an every-species-for-itself battle.





The whistling thorn acacia (*Acacia drepanolobium*) and its ants have long been a textbook example of a mutualistic relationship. The tree provides the ants with nectar and hollow thorns to live in. The ants return the favour by aggressively attacking any animal that touches the tree.

Todd Palmer of the University of Florida in Gainesville, United States, and his colleagues compared this relationship in 12 study plots in Kenya. On half of the plots, large herbivorous mammals have been fenced out since 1995. On the other half, herbivores still roam freely. In plots without herbivores, the trees produced less nectar and fewer hollow thorns, presumably because they needed less protection. Sure enough, the most beneficial species of ant, *Crematogaster mimosae*, was 30 percent less common on trees in these plots. Instead, it was replaced by a second ant, *C. sjostedti*, which harms the trees by encouraging attack by a stem-boring beetle. As a result, trees on the herbivore exclusion plots grew more slowly and were more likely to die than trees on control plots. Even *C. mimosae* becomes less "friendly" on the exclusion plots. Left with less food and housing, it stops attacking invaders and begins tending sap-sucking insects, again to the detriment of its host.

The result has sobering implications for conservation. Large mammals are especially vulnerable to habitat loss and encroachment by human settlements, and their numbers are declining over much of Africa. If the decline continues, far more than the mammals themselves could be at risk, the study suggests. "Make a major perturbation and you're likely to see ripple effects that you might not have expected," says Robert Pringle, a member of the study team at Stanford University in California, United States.

Journal reference: *Science* [DOI: 10.1126/science.1151579]. (Source: *New Scientist* [United Kingdom], 10 January 2008.)

INDIGENOUS LANGUAGES AND BIODIVERSITY

Indigenous languages are treasures of vast traditional knowledge concerning ecological systems and processes and how to protect and use some of the most vulnerable and biologically diverse ecosystems in the world.

It is no coincidence that the areas where indigenous peoples live are the areas that contain the greatest biological diversity. In fact, biological, linguistic and cultural diversity are inseparable and mutually reinforcing, so when an indigenous language is lost, so too is the traditional knowledge on how to maintain aspects of the world's biological diversity.

The protection of indigenous languages is therefore not only a cultural and moral imperative, but an important aspect of global efforts to address biodiversity loss, climate change and other environmental challenges. (Source: *Report of the International Expert Group Meeting on Indigenous Languages*. Permanent Forum on Indigenous Issues. Economic and Social Council. E/C.19/2008/3, 21 January 2008.)

UN STRIKES NEW FOREST ACCORD

A new international forest agreement struck at the United Nations is a major step towards controlling deforestation, its sponsors say.

The United Nations General Assembly has adopted the new accord put forward by the UN Forum on Forests which recognizes that measures to produce sustainable forest use around the world must account for the human factor – that poor local communities rely on forest resources for their livelihood.

The United Nations says that 1.6 billion people rely directly on forests for fuel, food, medicine and income.

"Almost all recent success stories of restoring the world's forests are based on better recognition of the needs and actions of local peoples, their ownership and access rights and ancient knowledge of indigenous tribes and communities,"

Pekka Patosaari, Secretariat Director of the UN Forum on Forests, told General Assembly members.

The agreement is not legally binding on governments but will set new standards for forest management aimed at reducing forest clearing and the degrading of native forests in ways that preserve the livelihoods of forest users. Patosaari said the lack of national and international mechanisms to underpin sustainable economic uses of woodland areas have defeated attempts to preserve them. About 3 percent of the world's forest cover has been destroyed in the last 15 years alone and deforestation accounts for around 20 percent of total greenhouse gas emissions.

The UN Climate Conference in Bali kick-started a new trial process to pay local communities not to clear forest. Many hope this Reduced Emissions from Deforestation and Degradation (REDD) will lead to a legally binding worldwide agreement. (Source: *Environment News Service*, 27 December 2007, in *CarbonPositive News*, the Hague, the Netherlands, 2 January 2008.) ♣



Truth can be a dangerous thing. It is quite patient and relentless.

R. Scott Richards