



Contributing to resilience

**Results and experiences from the SwedBio
Collaborative Programme 2003–2008**



THIS IS SWEDBIO

SwedBio was initiated by the Swedish International Development Cooperation Agency (Sida) in collaboration with the Swedish Biodiversity Centre (CBM). The programme was launched in March 2003, and is fully funded by Sida.

The overall aim of SwedBio is to contribute to poverty alleviation and improved livelihoods through equitable, sustainable and productive management of biodiversity resources at all levels – genes, species and ecosystems.

The programme objective is to increase capacity and commitment of Swedish international development cooperation to pro-actively and strategically work towards the overall aim and address biodiversity issues in a perspective of poverty alleviation and sustainable development.

SwedBio's work is organised into three main components:

- **Integration of biodiversity aspects in Swedish development cooperation**, with primary focus is on capacity building at Sida through supporting integration of biodiversity aspects in Sida's policies, programmes and projects. SwedBio also works with other actors involved in Swedish international development cooperation, e.g. the Swedish Government, NGOs, research institutions, consultancy companies etc.

- **Collaborative programme:** SwedBio can provide direct support to capacity building in the South through collaboration with and financial support to strategic initiatives and organisations (primarily NGOs and independent institutions) focusing on different aspects of "biodiversity for local livelihoods and poverty alleviation".

- **International dialogue and policy development:** SwedBio follow – and may be directly involved in dialogue on – relevant international policy and methods development processes.



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Photo front cover: Insitute for Culture and Ecology (ICE), ABN National Partner in Kenya (top left), Frej Wells (top right) and SwedBio (all others).

Contributing to Resilience

**Results and experiences from the SwedBio
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Acronyms

ABN	African Biodiversity Network
ABS	Access- and Benefit Sharing
AIPP	Asia Indigenous Peoples Pact
AIWO	Africa Indigenous Women's Organisation
CBD	Convention on Biological Diversity
CBDC	Community Biodiversity Development and Conservation Programme
CBM	Swedish Biodiversity Centre
CBO	Community Based Organisation
CGIAR	Consultative Group of International Agriculture Research
CIFOR	Center for International Forestry Research
COHAB	Co-operation On Health And Biodiversity
COP	Conference of the Parties
CSO	Civil Society Organisation
EI	Equator Initiative
EIA	Environmental Impact Assessment
EO	Expected Outcome
ETC Group	The Action Group on Erosion, Technology and Concentration
FAO	(UN:s) Food and Agriculture Organization
FERN	Forests and the European Union Resource Network
FLEGT	Forest Law Enforcement, Governance and Trade
FPIC	Free and Prior Informed Consent
FPP	Forest Peoples Programme
FTA	Free Trade Agreements
GEF	Global Environment Facility
GMO	Genetically Modified Organisms
GOB	Governmental Body
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology for Development
IAITPTF	International Alliance for Indigenous and Tribal Peoples of Tropical Forests
ICSF	International Collective in Support of Fishworkers
IGC	Intergovernmental Committee
IIED	International Institute for Environment and Development
IIFB	International Indigenous Forum on Biodiversity
IMO	International Maritime Organisation
IMoSEB	International Mechanism of Scientific Expertise on Biodiversity
IIN	Indigenous Information Network
IPBES	Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services
IPCC	International Panel on Climate Change
IPO	Indigenous Peoples Organisation

IPR	Intellectual Property Rights
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for the Conservation of Nature (formally the World Conservation Union)
IWBN	Indigenous Women's Biodiversity Network
LDC	Least Developed Countries
LPP	League for Pastoral People
MA	Millennium Ecosystem Assessment
MDG	Millennium Development Goals
MDI	Mekong Delta Research and Development Institute
MEA	Multilateral Environmental Agreements
MOP	Meeting of the Parties
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-Governmental Organisation
OECD DAC	Organisation for Economic Cooperation and Development – Development Assistance Committee
PAN AP	Pesticides Action Network, Asia and the Pacific
PES	Payment for Ecosystem Services
PRSP	Poverty Reduction Strategy Paper
REDD	Reduced Emissions from Deforestation and forest Degradation
SEA	Strategic Environmental Assessment
SEARICE	South East Asia Regional Initiatives for Community Empowerment
SGA	Sub-Global Assessment
Sida	Swedish International Development Cooperation Agency
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TWN	Third World Network
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP-WCMC	UNEP- World Conservation Monitoring Centre
UNFF	United Nations Forum on Forestry
UNPFII	United Nations Permanent Forum on Indigenous Issues
VPA	Voluntary Partnership Agreements
WCC	World Conservation Congress (IUCN members' congress)
WIPO	World Intellectual Property Organisation
WHO	(UN:s) World Health Organisation
WRI	World Resources Institute
WTO	World Trade Organization
WWF-MPO	World Wide Fund for Nature – Macroeconomics Program Office

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1. Summary

"To us the seeds, the land, the forests and the water – and we ourselves – are part of one and the same pattern. If this pattern is destroyed I will not eat, I will suffer. I, my children, and also the links to our past will be destroyed."

*Dao woman in Tan Cuc village, Na Hang district,
Tuyen Quang province (in northern Vietnam)*

1.1 Introduction

Ecosystem services, and the biodiversity on which these are based, are the basis for human well-being. The poorest groups, in particular, are often directly dependent on ecosystem services for their livelihoods. Evidence points to a positive correlation between biodiversity and resilience¹. Biodiversity seems to function as insurance, contributing both to adaptation and mitigation of global changes, e.g. climate change. Equitable and sustainable management of biodiversity (to ensure a continued functioning of ecosystems that can provide ecosystem services) are thus prerequisites for sustainable development and poverty alleviation in both local and global perspectives. However, overwhelming evidence, including the recently finalised Millennium Ecosystem Assessment (MA), clearly demonstrates that humans have changed ecosystems more rapidly and extensively during the last 50 years than in any other period. Substantial short-term net gains in human well-being and economic development have been achieved, but at the cost of large and increasing degradation of the majority of ecosystem services. This degradation of ecosystem services is now increasingly jeopardizing human well-being, including possibilities of achieving the Millennium Development Goals (MDGs).

The Swedish International Biodiversity Programme (SwedBio) was initiated in late 2002 by the Swedish International Development Cooperation Agency (Sida) in order to address these kinds of challenges. Its purpose is to allow a pro-active and strategic approach to safeguard biodiversity for local livelihoods within Swedish international development cooperation. It also provides a source of expertise to Sida and, on request, from Sida to the Government offices². SwedBio is a programme of the Swedish Biodiversity Centre (CBM), which is located at the Swedish University of Agricultural Sciences in Uppsala and also part of Uppsala University. Sida and CBM have jointly developed the programme.

SwedBio's work is organised into the following main components:

- 1) Integration of biodiversity aspects in Swedish development cooperation.
- 2) The Collaborative programme.
- 3) International dialogue and policy and methods development.

This report aims to summarise the main results and experiences from the Collaborative Programme from 2003 to 2008³.

1) Resilience – the capacity of a social-ecological system both to withstand perturbations, e.g. from climate or economic shocks, and to rebuild and renew itself afterwards.

2) Swedish Government Offices, an integral authority comprising the Prime Minister's Office, the Ministries and the Office of Administrative Affairs.

3) SwedBio started late 2002 but the Collaborative Programme started 2003.

1.2 Results

Through the Collaborative Programme SwedBio has had the opportunity to contribute to development of practical work, methods, ideas and policies concerning biodiversity, ecosystem services and local livelihoods.

Important results have been achieved in relation to SwedBio's expected results⁴ for the Collaborative Programme, including support to strategically important biodiversity initiatives and projects. The total amount provided through the Collaborative Programme in the period 2003–2008 is 118,0 MSEK and 90 separate agreements were made. Two additional programmes have received support from Sida during the period: the Follow-Up of Millennium Ecosystem Assessment with disbursements from SwedBio on 12.6 MSEK (incl. 2 separate agreements), and the BioNet and Botanical Gardens Conservation International with disbursements from SwedBio on 1.4 MSEK (incl. 2 agreements). Increased space has been created for local voices and for the policy positions of supported partners. Knowledge has been generated on biodiversity, ecosystem services, local livelihoods and poverty alleviation. Supported issues are highlighted on the international agenda – e.g. discussed in relation to processes under the Convention on Biological Diversity, the Climate Convention and other international forum such as the International Treaty on Plant Genetic Resources for Food and Agriculture. Supported issues are also being brought up by other international donors working proactively with biodiversity integration.

SwedBio has introduced and followed adequate and efficient routines for decision making, organisational assessments, follow-up and quality assurance. As a result it has been possible to develop and manage the programme cost-effectively and to assess its alignment with SwedBio's and Sida's objectives. SwedBio has also improved routines for result-based management to reflect those applied in international development cooperation. In-depth discussions with all long-term partners take place regularly, through a combination of regular meetings and field trips, mostly on a yearly basis. SwedBio has also facilitated networking between supported initiatives.

SwedBio has built up its network and contacts through the Collaborative Programme, which has had the effect that SwedBio remains updated on relevant methods- and policy developments, and can contribute to capacity building in Sweden. SwedBio has also provided new contacts and strengthened existing contacts between Swedish and supported organisations. On several occasions the supported organisations have expressed their appreciation of the dialogue with SwedBio and expressed that this is helpful for their continued work. Learning and experiences from the supported initiatives have systematically been brought back to Sweden and used to inform and improve inclusion of biodiversity aspects within Swedish international development cooperation. This has been done through transfer of knowledge through SwedBio's expert and advice function to Sida, through seminars and workshops, and through personal contacts between supported initiatives and Sida staff. The Collaborative Programme has contributed to an increased Swedish contribution to international policy- and methods development on biodiversity management from a development cooperation and livelihoods perspective.

4) Two Expected Outcomes (EOs) were identified for SwedBio's Collaborative Programme:

EO 1 – Strategically important biodiversity initiatives and projects - in line with SwedBio's development objective, points of departure and strategy – have been identified and strengthened.

EO 2 – Learning and experiences from the supported initiatives systematically brought back to Sweden and used to inform and improve inclusion of biodiversity aspects within Swedish international development cooperation.

SwedBio's themes, see below, relate to Sida's objectives, e.g. poverty reduction and food security, human rights and democracy and to gender. The work undertaken with SwedBio's Collaborative Programme has contributed to the fulfilment of Sweden's Policy for Global Development (PGD), both through supported organisations and through SwedBio's advisory role in contributing on behalf of Sida to the Government Offices and the international environmental processes such as CBD. SwedBio's focus has been to influence international environmental politics with a rights and poverty perspective and trade agreements with an environmental, rights and poverty perspective.

1.3 Conclusions and recommendations regarding supported themes

Important achievements have been made in relation to the two emerging issues, the three main dimensions and the nine themes of the Collaborative Programme. These have lead to the following main conclusions and recommendations.

Emerging issues

a. Theme: Ecosystem services and climate change

The effects of climate change do not entail an entirely new set of challenges and problems, but they could severely aggravate existing ones. Accordingly, ecologically, socially and economically sustainable development policies and actions need to be even more emphasized in all international development cooperation. Unrelenting efforts are needed to move towards a carbon-neutral global society. At the same time, biodiversity and ecosystem services have a key role and potential in adaptation to and mitigation of climate change. Healthy functioning ecosystems that can provide ecosystem services essential for human well-being, such as water regulation, pollination and erosion control, etc, are a prerequisite to handle adaptation to climate change. It is important to emphasise pro-poor solutions that consider both social and equity aspects when working with these linkages, and to make all contributions in international development cooperation resilient to climate change.

Bioenergy development to decrease the use of fossil fuels globally could have a potential for development, export earnings, reduced dependency on oil imports, as well as job creation. However, large scale biofuel production has shown to have considerable and multifaceted social and environmental impacts. These impacts include increasing food prices, tenure conflicts and large scale deforestation that in turn will lead to additional release of CO₂. Many of these challenges are not unique to biofuels, but the scale and the high pace of their expansion is challenging. As the threat of global warming escalates, it is likely that arguments will be forward for large geo-engineering approaches that override concerns over resilience and precaution. Resilience research is essential to understand the true implications and risks of such approaches.

b. Theme: Follow-up to the Millennium Ecosystem Assessment, MA

The main conclusion is that the MA findings and ecosystem services analysis is a valid instrument to influence policymakers and link the topics of environment and climate change with poverty alleviation. It should also be acknowledged that for some stakeholders, e.g. some indigenous representatives, the concept of ecosystem services is not culturally accepted. This is due to its anthropocentric emphasis, which is in contrast to their belief that biodiversity in itself has a value that should not be described entirely as

a service to humankind, and that the term “ecosystem services” “hijacks” the perception of nature and reduces it to a mere commodity. It is however our experience that there is an understanding of the need for translating the values of biodiversity to a broader audience, and that the concept of ecosystem services can assist with this, but only if the ecosystem services approach is considered and implemented in society through a rights-based approach. Links between maintaining biodiversity and the ability of an ecosystem to deliver ecosystem services should be further explored.

The main recommendation now is to put emphasis on how to make operational the concept of ecosystem services at a local and national level, and how to integrate it in development strategies and create real cases “on the ground”. The work undertaken with Sub Global Assessments in the follow-up to the MA could, if well designed, lead to both capacity building and policy implementation. It is recommended that work continue on ecosystem service indicators and the integration of the ecosystem services approach in Environmental Impact and Strategic Environmental Assessments. The challenge of continued development of valuation of ecosystem services is also an important task, in order to demonstrate the importance of these services to decision makers. It is also important to create a political attention at a global scale and continuously work with knowledge building. One way to achieve this is through the global platform for biodiversity and ecosystem services, IPBES, similar to the IPCC which presently is under development.

Dimension 1: Sustainable management of biodiversity to ensure continued functioning and delivery of ecosystem services for human well-being and health and to contribute to poverty alleviation

Theme 1a: Biodiversity and food and income

It is crucial not to look at the Earth’s landscapes and ecosystems as divided between productive areas where environment is “sacrificed”, and protected areas, where it is maintained. Rather it is possible, and necessary, to find ways of strengthening the productive capacity of a diversity of essential crops, while supporting ecosystem services

Photo: SwedBio





Indigenous peoples attending CBD COP8 in Curitiba, Brazil in 2006 (Photo: IAITPTF).

and nurturing water flows and a richness of natural resources within the productive areas. There is a high potential for farmers' knowledge about local agrobiodiversity, as well as their skills in maintaining and developing it, to contribute to poverty alleviation and to the capacity to adapt to climate change. In order to fully take advantage of this capacity, the farmers' rights of access to seed is equally essential. Innovative institutional arrangements are key to the successful development of ecologically and socially sustainable production systems, and for strengthening of livelihoods. The efficient participation and active involvement of rural communities and food producers in the creation of new models of production are essential.

Theme 1b: Biodiversity and vulnerability

There is a positive correlation between biodiversity and resilience i.e. the capacity of a social-ecological system both to withstand perturbations, e.g. from climate or economic shocks, and to rebuild and renew itself afterwards. There is a continuous need to put forward the importance of biodiversity for decreased vulnerability in local to global systems. Only by saving a rich biodiversity will we be able to adapt to coming global changes such as climate change. Very few policy and decision makers are aware of the positive links between a high level of biodiversity and high resilience in ecosystems. In these times of global climate change, the pedagogical task of explaining the links between healthy ecosystems and decreased vulnerability is important and crucial.

Theme 1c: Biodiversity and health

There has been an increased international attention to the fact that people (both rural and urban) depend on a rich biodiversity and functioning ecosystem services to maintain and improve human health. There is also increasing evidence for how forest biodiversity – wild plants and animals – contributes towards improved nutrition and resources for medicine. The ecosystem services provided by tropical forests can prevent further expansion of zoonotic diseases (malaria, dengue fever etc), which can increase in distribution due to climate change. However, this knowledge and these linkages need to be better implemented and incorporated into development policies and strategies for poverty alleviation.

Dimension 2: Ensuring equity and human rights in management and use of biodiversity and ecosystem services

Theme 2a: Increasing civil society involvement in international processes related to biodiversity management

With careful and competent coordination it is possible for indigenous and local communities to attend and influence global processes. Through making strong linkages from local up to global levels, their involvement contributes to credible national, regional and global policies. Their presence also demonstrates a successful development in terms of democracy, as it increases the transparency of these negotiations, so that 'local' and national actors are able to hold national governments accountable for their negotiating positions. Through their participation, local actors are able to understand the global commitments their governments have made, and they can contribute to the implementation of these decisions, by implementing them through actions at local level. International bodies and global actors could contribute substantially to the full and efficient participation of civil society by making sure that procedures and facilities are in place for civil society participation.

Theme 2b: Collaborative and community-based management of biodiversity resources

The management of biodiversity has been strengthened through the inclusion of communities and giving them a voice in decision making. Common Property Resources Management approaches for forests, grazing, irrigation and fishery have proven to be more efficient in terms of equity and also in terms of production and sustainability. These production systems can be especially important in responding to changing circumstances in times of climate change.

Theme 2c: Biodiversity and gender

In development work it is often necessary to pay specific attention to gender, particularly as interventions may also affect the balance of power over resources. Gender aspects are important to consider e.g. regarding roles and responsibilities regarding management of biological resources in productive sectors like agriculture and forestry. Men and women contribute to natural resource management in different ways. When specific attention is given to women and gender equity, it pays off: not only in terms of increasing the number of participating women, but also in the implementation of programmes. In addition, new arenas for women can be created when women are engaged, for example within a workshop or a programme.

Dimension 3: Support development of appropriate incentive frameworks and good governance, in order to address root causes of biodiversity loss.

Theme 3a: Biodiversity, macro-policies⁵, trade and international conventions

Many international agreements and processes are crucial to efforts aiming to maintain biodiversity and ecosystem services. Macro-policies and trade regulations, national development planning, and natural resources sector policies need to be cross-cutting and provide incentives to manage ecosystems in a sustainable way. The role of Multilateral

⁵⁾ Macro Policy is policy which affects an entire country or region. It is concerned with monetary, fiscal, trade and exchange rate conditions as well as with economic growth, inflation and national employment levels. It is distinct from micro policy which only affects particular sectors, districts, neighbourhoods or groups. Source: Livelihoods Connect Glossary

Environmental Agreements (MEAs), needs to be made clear and strengthened in relation to other international processes and there is a basic need for a comprehensive analysis of clusters of negotiations. In most negotiations there is a North-South divide, and an urgent need for building mutual confidence. Civil society plays an important role in the international negotiations. Third world countries need both more capacity building and better possibility to attend international negotiations. Regarding pro-poor Payments for Ecosystem Services (PES), there are many challenges, e.g. tenure issues. Commodification of Nature is also alien for some groups in society, e.g. for representatives of indigenous communities. Another conclusion is that the gap between scientific knowledge and policy-making needs to be bridged.

Theme 3b: Integration of biodiversity-livelihoods concerns in development planning and sector frameworks

There is increasing awareness about the importance of linking ecosystem services, development planning and sector frameworks for long-term poverty alleviation. Indicators of the functioning of ecosystem services can both be a pedagogic tool, to show how human well-being depends on biodiversity, and also a monitoring tool, to follow the health status of ecosystems. There is a need for further knowledge-building and for the implementation of biodiversity and ecosystem services perspectives into national policies and strategies.

Theme 3c: Communication and awareness-raising

An important aspect of the SwedBio Collaborative Programme is the exchange of experiences and information between grass-roots level and policy-level decision-making processes. Good contact between reality and policy is required in order to enable successful policy decisions and recommendations and their further implementation at national and local level. This puts emphasis on the continued need for effective communication and awareness raising in order to bridge the gaps between research, policy and action.

1.4 Concluding remarks

The Collaborative Programme has had a focus on poverty and rights issues which through the experience of the Programme has proven to be relevant. Experiences from the supported initiatives clearly affirm that biodiversity is fundamental to human well-being and poverty alleviation and also for mitigation of and adaption to climate change.

Some reflections from this phase of the programme are that SwedBio could:

- put more emphasis on exploring and explaining the link between biodiversity and resilience, and biodiversity and poverty and rights issues;
- continue to support sustainable equitable management of biodiversity in productive sectors such as agriculture and forestry. Emphasis should be given to contributing to resilience to meet climate change challenges;
- continue to support participation of civil society in international meetings of relevance for biodiversity management, and also in processes outside the Convention of Biological Diversity, such as the UNFCCC and trade-related processes;
- consider placing more emphasis on supporting capacity-building, for example through promoting regional preparatory meetings, and also to third world government representatives in international biodiversity-related processes;
- put even more attention on addressing root causes behind biodiversity loss, including implications of trade (e.g. trade agreements and illegal logging) and mecha-

- nisms for market-based incentives (e.g. eco-labelling and certification schemes);
- continue to emphasise gender aspects in supported initiatives;
- continue identification of new initiatives in areas earlier identified as priority areas (marine and coastal zone management, biodiversity and health, assessments and indicators, etc);
- give consideration to the question of whether there is a need to broaden the programme (which does not mean that SwedBio should diminish the civil society and grass root connections) in respect of more research or think tank organisations.

Finally, we would like to recall a quote from a review of SwedBio in 2005:

For all the attention we must pay to policy coherence, to making biodiversity relevant to the politicians, to development objectives, to biodiversity “paying its way”, much of the drive towards biodiversity conservation comes from non-utilitarian considerations. In the end, we should conserve biodiversity because it is the right thing to do. It represents a form of relating to the world that is appropriate – even necessary – if humanity is to survive in anything like its present splendour. In the end, biodiversity concern is deeply value-based, and playing to those values remains an important part of what drives biodiversity action. It is only when this is understood, and when these values are allowed to take a central position in programming and in the relationships build around the shared objectives that the right mix will be found to allow success in preserving what is left of our planet.

(From ‘final words on value’ in Review of the Swedish International Biodiversity programme (SwedBio) – With Special Emphasis on its Collaborative Programme Mark Halle, November 2005.)

2. Introduction

Ecosystem services, and the biodiversity on which these are based, are the basis for both day-to-day survival and for development. The poorest groups, in particular, are often directly dependent on ecosystem services for their livelihoods. Equitable and sustainable management of biodiversity is essential to ensure a continued functioning of ecosystems that can provide ecosystem services and is thus a prerequisite for sustainable development and poverty alleviation in both local and global perspectives.

Overwhelming evidence, including the recently finalised Millennium Ecosystem Assessment (MA), clearly demonstrates that humans have changed ecosystems more rapidly and extensively during the last 50 years than in any other period in history. Substantial net gains in human well-being and economic development have been achieved, but at the cost of large and increasing degradation of the majority of the world's ecosystem services. This degradation of ecosystem services is increasingly jeopardizing human well-being, including possibilities of achieving the Millennium Development Goals (MDGs). The degradation both must and can be reversed. To do so, however, “requires significant changes in policies, institutions, and practices that are not currently under way” (MA), including recognising the importance of involving the people most directly affected and ensuring their rights and responsibilities.

SwedBio was initiated by the Swedish Biodiversity Centre (CBM) and the Swedish International Development Cooperation Agency (Sida) in 2002 to meet these kinds of challenges. SwedBio is part of CBM, which is located at the Swedish University of Agricultural Sciences (SLU) in Uppsala and also part of Uppsala University.

The development objective of SwedBio is to “contribute to poverty alleviation and improved livelihoods through equitable, sustainable and productive management, of biodiversity resources at all levels – genes, species and ecosystems”.

The programme objective is “to increase capacity and commitment of Swedish international development cooperation to pro-actively and strategically work towards the development objective and address biodiversity issues in a perspective of poverty alleviation and sustainable development”.

Box 1. FACTS ON BIODIVERSITY

Biological diversity (biodiversity) is the variation of life in all its forms: from genes to species to ecosystems to landscapes. An ecosystem is a functional unit of interacting animals, plants, micro-organisms and their physical environment, e.g. a lake or forest.

Ecosystem services are the benefits that an ecosystem provides which are essential for our survival e.g. food production, pollination, bioenergy, water purification, climate regulation, soil production, erosion control, adaptation and mitigation of the effects of natural catastrophes. The United Nations' Millennium Ecosystem Assessment, a global study which was completed in 2005, showed that 60% of the 24 studied ecosystem services were in the process of being depleted.

Resilience refers to the capacity of a social-ecological system both to withstand perturbations, e.g. from climate or economic shocks, and to rebuild and renew itself afterwards. There is a strong correlation between biodiversity and an ecosystem's resilience, and its ability to deliver ecosystem services.

The work of SwedBio is further guided by the following strategy:

- Synergy – programme components and activities should be mutually supportive.
- Flexibility and adaptability to respond to emerging opportunities.
- Complementarity with other activities, initiatives and approaches undertaken and/or supported through Swedish international development cooperation.
- Promoting dialogue and exchange between different actors and stakeholders, with specific emphasis on increasing civil society involvement, and enhancing voices of local communities and indigenous groups.
- Keeping up-to-date on development of ideas, knowledge, methods and policies related to “biodiversity and local livelihoods” (including e.g. economic, social and cultural values of biological diversity), and being able to identify and support cutting-edge issues and initiatives.

The Points of departure for SwedBio’s work are:

- Biodiversity is a key resource for poor people.
- Good management and sustainable use of biodiversity resources is critical for human long-term survival.
- Access to biodiversity and its benefits is a human rights issue.
- Good governance and appropriate institutional frameworks, including decentralised approaches to biodiversity management and local participation, are crucial.

SwedBio’s work is organised into three main components:

- 1) Integration of biodiversity aspects in Swedish development cooperation. The primary focus is on capacity building at Sida through supporting integration of biodiversity aspects in Sida’s policies, programmes and projects. SwedBio also works with other actors involved in Swedish international development cooperation (e.g. NGOs, consultancy companies, Swedish Government, research institutions, etc).
- 2) The Collaborative Programme: Direct support to capacity building in the South through collaboration with and financial support to strategic initiatives and organisations (primarily NGOs and independent institutions), focussing on different aspects of “biodiversity for local livelihoods and poverty alleviation”.

Box 2. MAIN DIMENSIONS AND THEMES

1. Sustainable management of biodiversity to ensure continued functioning and delivery of ecosystem services for human well-being and health and contribute to poverty alleviation. This includes three main themes:
 - a. Biodiversity and food and income.
 - b. Biodiversity and vulnerability.
 - c. Biodiversity and health.
2. Ensuring equity and human rights in management and use of biodiversity and ecosystem services. The three themes under this dimension are:
 - a. Increasing civil society involvement in international processes related to biodiversity management.
 - b. Collaborative and community-based management of biodiversity resources.
 - c. Biodiversity and gender.
3. Support development of appropriate incentive frameworks and good governance in order to address root causes of biodiversity loss. This includes the following themes:
 - a. Biodiversity, macro-policies, trade and international conventions.
 - b. Integration of biodiversity-livelihoods concerns in development planning and sector frameworks.
 - c. Communication and awareness raising.

- 3) International dialogue and policy development: Direct involvement of SwedBio staff in relevant international policy and methods development processes.

This report is about the component 2, the Collaborative Programme. However, the other components are interlinked with the Collaborative Programme, since it is a major opportunity for SwedBio to remain up-dated, to continuously learn and capture new experiences and knowledge, and to bring these back to feed into the work with integration of biodiversity-livelihood aspects in Swedish development cooperation and the international dialogue and policy work. SwedBio also facilitates networking between actors, such as staff at government offices and partners in the Collaborative Programme.

2.1. The Collaborative Programme

The Collaborative Programme is a key tool for SwedBio to directly contribute to development of ideas, methods and policies regarding biodiversity and local livelihoods. The two expected outcomes (EOs) for this work component of SwedBio, as identified in the proposals and work plans⁶, are:

E01 Strategically important biodiversity initiatives and projects – in line with SwedBio's development objective, points of departure and strategy – have been identified and strengthened.

E02 Learning and experiences from the supported initiatives systematically brought back to Sweden and used to inform and improve inclusion of biodiversity aspects within Swedish international development cooperation.

Through the Collaborative Programme, SwedBio seeks to directly contribute to capacity building – as well as development of ideas, methods and policies – regarding biodiversity and local livelihoods. Three inter-linked dimensions are addressed, and for each dimension three main themes are identified (see Box 2).

SwedBio collaborates with a diversity of strategic initiatives that addresses these three interlinked dimensions and the associated themes⁷. To this end, it supports capacity building focussing on development of institutional frameworks (policies and strategies, values and attitudes), and also biodiversity-based production and marketing practices. SwedBio contributes in these areas by supporting policy development and advocacy; development of tools and methods; and net-working, exchange, learning and communication.

Broadly speaking, SwedBio enters into two main types of collaborations:

- Long-term collaborations, which take the form of either core support to an organisation or support for specific programmes.
- Short-term project-type support. These collaborations are often much more narrow in scope, and can include e.g. support to civil society participation in a particular meeting, or support for a particular study.

6) "Ansökan till Sida om medel för Finansiellt stöd till aktiviteter och organisationer av strategisk betydelse för arbete med biologisk mångfald i Syd Swedish International Biodiversity Programme, SwedBio, Centrum för biologisk mångfald, CBM" dated 17 mars 2003; "Application to Sida for Extension of the SwedBio Collaborative Programme, 2006–2007, Swedish International Biodiversity Programme, SwedBio, Swedish Biodiversity Centre, CBM" dated April 2006; and "Application to Sida for a one-year extension during 2008 of a) The Sida-support to the SwedBio/CBM Collaborative Programme, and b) Sida-support to SwedBio, phase 2 Work Plan and budget for 2008" dated 30 November 2007.

7) These dimensions, and themes, reflect the critical aspects that SwedBio wishes to see addressed, and should not be regarded as "programme areas".

Box 3. SWEDBIO'S CRITERIA FOR SUPPORT

Supported initiatives should:

- Contribute to the development objective of SwedBio, the objectives of the Collaborative Programme, and be in line with SwedBio's points of departure.
- Be relevant to poor people in local communities in the South and at the same time contribute to learning, communication of results, and policy development of regional and/or global relevance.
- Seek and promote dialogue between different types of stakeholders, disciplines and knowledge systems.
- Strengthen capacity and contribute to organisational development of southern national and regional organisations and NGOs.
- Be managed by recipients with adequate organisational structure and management capacity (transparent, accountable, democratic, and with a balanced representation of relevant parties, including gender).

To ensure complementarity – as well as compatibility – with other biodiversity-related Swedish support, priority will be given to supporting NGOs, networks, independent action-oriented research institutes, and civil society organisations (not Governments) with activities in the South that do not receive substantial support from other Swedish sources.

Regarding support to civil society participation in international meetings of relevance to biodiversity management, SwedBio will only provide grants to organisations coordinating participation from several southern-based groups and countries. SwedBio does not sponsor individuals with e.g. research grants or funding to participate in meetings/workshops.

2.2 The Report

This report aims to summarise the main results and experiences from the Collaborative Programme from 2003 up to 2008, and to disseminate these to a broader audience of people and organisations involved in Swedish international development cooperation. This report partly builds on an earlier report “Lessons learned from the SwedBio Collaborative Programme 2003–2005”. SwedBio's intention with the report is to present results related both to achievements of the organisations and to the dimensions and themes of the SwedBio Collaborative Programme. The report also addresses the special support provided for follow-up of the Millennium Ecosystem Assessment (MA)⁸ and to BioNet/BGCI⁹ to present an overview of SwedBio's work.

The total amount provided through the Collaborative Programme in the period 2003–2008 is 118,0 MSEK and 90 separate agreements were made. Two additional programmes have received support from Sida during the period: the Follow-Up of Millennium Ecosystem Assessment with disbursements from SwedBio on 12.6 MSEK (incl. 2 separate agreements), and the BioNet and Botanical Gardens Conservation International with disbursements from SwedBio on 1.4 MSEK (incl. 2 agreements).

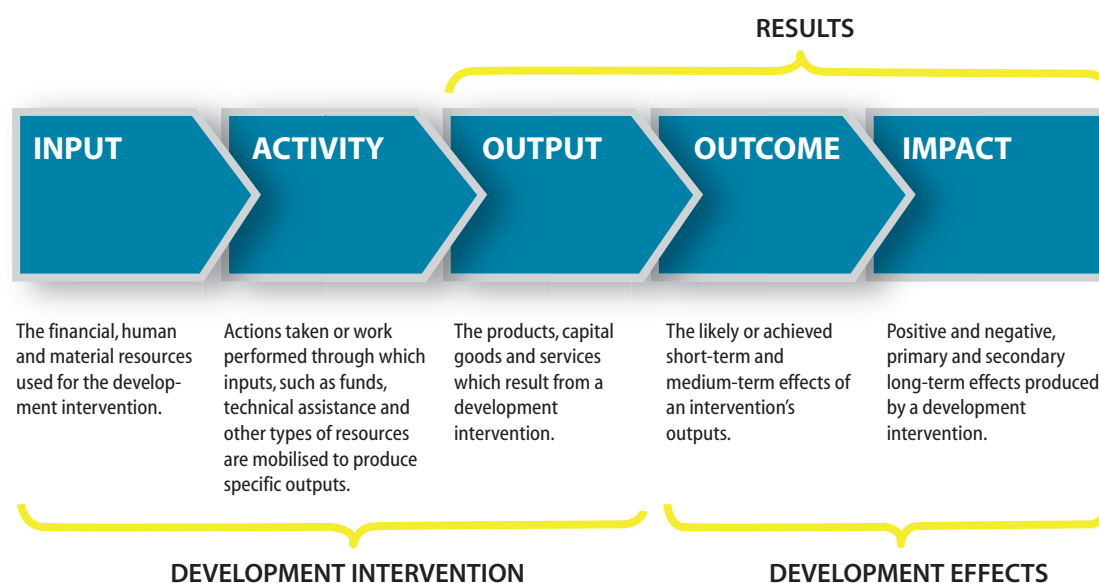
There are many ways of expressing results and experiences in results-based management, see box 4, from the result chain identified in the Sida publication “Strengthening Sida Management for Development Results”¹⁰.

8) A special programme regarding MA has been financed by Sida based on the proposal “Revised application to Sida for A programme in support of global follow-up of the Millennium Ecosystem Assessment (MA), Swedish International Biodiversity Programme, SwedBio, Swedish Biodiversity Centre, CBM” dated 4th December 2006, and an amendment with extra funds to this programme.

9) SwedBio received special support from Sida for implementation of a Global Strategy for Plant Conservation proposed by IUCN, but after discussions with all involved stakeholders these funds were instead allocated to Botanical Gardens Conservation International (BGCI) for “Wild Plants for Food and Medicine” and to BioNet for “Investing in taxonomy in East Africa to improve human wellbeing and alleviate poverty”.

10) From: Strengthening Sida Management for Development Results, Sida, 2007. Definitions according to “Glossary of Key Terms in Evaluation and Results Based Management”, published by Sida in 2007 in cooperation with OECD DAC.

Box 4. RESULTS CHAIN



In this report SwedBio has used the following definitions, adapted from the Sida-publication:

Output – The products, capital goods and services, which result from a development intervention (e.g., a report produced).

Effect – Intended or unintended change due directly or indirectly to an intervention, including positive and negative, primary and secondary short-term, medium term and long-term effects (e.g. improved regulations in a country, that lead to better management of ecosystem services for poverty alleviation).¹¹

This report is mainly based on reports from the supported organisations. In this report SwedBio therefore presents an evidence-based perception of reality of our partner organisations, and from this SwedBio draws its own conclusions. The report is structured along the three dimensions and nine themes described earlier. Included are also two additional themes which SwedBio has identified as “emerging issues” during recent years. These are: a. Ecosystem services and climate change and b. Millennium Ecosystem Assessment (MA). The dimensions and themes are strongly inter-linked, and typically many themes and dimensions are addressed within every supported initiative. In many cases the results under each specific theme can therefore illustrate several other themes and dimensions equally well. This is shown also in the more in-depth examples provided. We have complemented the more descriptive text with cases or stories highlighting what we perceive has brought about a significant change.

SwedBio is seldom the only donor to a particular organisation or initiative. In most cases the information and reports SwedBio receive pertain to the results of a project/ programme funded by several donor organisations with no specific attribution of SwedBio financing to specific activities. This is intentional from SwedBio, as we do not find it relevant – either for the collaborating organisation or ourselves - to obtain specific plans and reports (financial or narrative) tailor-made for SwedBio.

¹¹) Note that impacts seldom can be attributed to a certain development intervention, as produced by that intervention alone. Rather, a normal situation is that it can be argued as probable that a certain intervention has contributed to a registered impact.

For each theme and emerging issue in this report, the following information is provided:

- A brief background to the theme.
- Cases, to which SwedBio has contributed financially, that provide more concrete and in-depth experiences.
- Main results related to the theme.
- Conclusions and recommendations by SwedBio

Main results (outputs and effects) of the programme are presented in Annex 1. Examples of results (outputs and effects) from SwedBio's collaborative partners are found in Annex 2. For a full list of organisations that SwedBio has supported 2003–2008, see Annex 3. More in-depth descriptions of supported initiatives are to be found in SwedBio's yearly reports.

3. Emerging issues

During recent years SwedBio has identified two new themes as emerging issues: Ecosystem services and climate change; and catalysing of a follow-up to the Millennium Ecosystem Assessment (MA).

3.1 Ecosystem services and climate change

3.1.1 Background – Ecosystem services and climate change

The poorest countries and people are most vulnerable to climate change. Changes in the climate also impact on biological diversity and thereby on the ecosystems' ability to deliver goods and services for human well-being. Moreover, ecosystem services play a central role in both adaptation to and mitigation of climate change. Climate change aspects also clearly relate to most of the other aspects of human well-being, e.g. vulnerability, food security, health, etc.

Examples of impacts of climate change on biodiversity and ecosystem services include:

- With climate change, ecosystems become more vulnerable and their long-term capacity to adapt decreases; about 20–30 percent of all species are at risk of extinction if the global average temperature rises by 1.5 to 2.5 degrees.
- A warmer climate with changes in patterns of drought or increased rainfall, affects agricultural production: some agricultural land will no longer be possible to cultivate, growing seasons will change, and crop production will decrease. Loss of biodiversity will result in a disruption of ecosystem services important for agriculture, such as pollination by bees, predation on agricultural pests, etc.
- The rise in temperature will impact marine and freshwater ecosystems, including fish stocks. In addition, increasing levels of carbon dioxide in the atmosphere result in gradual acidification of the ocean with negative consequences for those marine organisms with calcium-based shells (e.g. corals). Coral reefs are also threatened by rising sea temperatures since that causes coral bleaching (loss of algal symbionts). This affects species which are dependent on the coral reefs, through impacts on spawning grounds, for example. This in turn will have negative impacts on food security, especially for communities directly depending on fishing.

3.1.2 Cases – Ecosystem services and climate change

Biodiversity based climate change adaptation strategies among farmers in semi-arid areas

Organisation: CBDC Africa

Project: Community Biodiversity Development and Conservation Programme in Africa (CBDC Africa) implemented by national partners in Burkina Faso, Ethiopia, Mali, Lesotho, Sierra Leone and Zimbabwe

Objectives: Developing community based need-driven appropriate technologies in the areas of agro-biodiversity management, local seed supply systems, participatory plant breeding and variety selection and improving soil fertility management intended to enhance food security.

Community seed banking in its various forms gets more and more attention in the Sahel region of West Africa because of climate change. The national partner organisa-

CASE 1

Inside a seed bank in Mali.
(Photo: SwedBio)



tions of CBDC Africa in Mali and Burkina Faso, USC Canada Mali and Institut de l'Environnement et Recherches Agricoles (INERA), have been promoting these farmer innovations to conserve germplasm. They have improved the seed security status of project farmers to an extent that these now have the capacity to plant more than once in the event that the crop fails to germinate because of the now low and erratic rainfall. The CBDC project in Mali has become very popular and respected after they held seed fairs which showed that farmers in the project areas have high levels of crop diversity which are withstanding the harsh, dry conditions that now prevail in these regions, hence improving household food security.

In Ethiopia the CBDC Africa programme, implemented by Ethio Organic Seed Action (EOSA), promotes restoration and on-farm (*in situ*) conservation of local crop varieties. It enhances these varieties through a participatory varietal development strategy, and encourages the cultivation of legume crops such as grass pea, field pea, fenugreek, chick pea and lentil. Vegetables such as beetroot, carrot, switchyard, onion, cabbage, kale, and pepper are filling the economic and food source gaps created due to shifts in the rainfall patterns in Ethiopia.

The CBDC project is providing seed produced under its seed production initiatives to both direct and indirect beneficiaries in places where seed supply is insecure. These situations result from reduced rainfall and increasing temperature occurring even in the high rainfall mountain areas of Ethiopia, a clear sign of climate change. Farmers' associations and the community seed bank members are facilitating the exchange of planting materials among farmers at village level. The community seed banks serve as germplasm repositories, community level *ex situ* conservation facilities, and as community level seed and grain reserves. They retain seeds as a security for planting materials in case of failure of first planting due to shifts in rainfall or other factors.

The seeds intended for distribution are maintained up until the planted crops have reached the early vegetative stages and are well established. This effort assists farmers

Farmers varieties in Ethiopia
(Photo: SwedBio)



who lose planting materials if the initial plantings fail due to erratic rains. Farmers value the strategy for increasing survival options, as these efforts will increase sources of food at household level, increase sources of income and improve soil fertility, e.g. through enhanced crop rotation, nitrogen fixation crops, conservation farming, composting and more efficient nutrient circulation.

CASE 2

Biofuels, people and biodiversity: a case study by ABN from Uganda

Organisation: African Biodiversity Network/GAIA

Project: *Strengthening the African Biodiversity Network and its International Alliances; Developing and Implementing Biodiversity Related Policy, Legislation and Practice in Africa*

Objective: *Catalysing wider action: to catalyse African civil society and government to take action that will protect and enhance biodiversity, diversity based livelihoods, and ecosystem services.*

The African Biodiversity Network has documented a number of conflicts concerning biofuels from Africa. In Uganda one of the most high-profile cases is the controversial plan to allocate a third of Uganda's prime rainforest reserve, Mabira Forest, for the production of sugar cane (for electricity and ethanol). The initiative was put forward by the Sugar Company of Uganda Ltd, the Ugandan subsidiary of an East African Indian company. Mabira Forest is the watershed for two rivers that contribute to the Nile, it protects Lake Victoria, and it is an important absorber of pollution from a major industrial area. The case study notes that the loss of forest would have a number of negative impacts on both people and the environment:

- **Release of carbon:** The 7,100 hectares of forest have been calculated to hold 3,905,000 tonnes of carbon, which will be released if the forest is cut down.
- **Loss of livelihood for the local communities around the forest:** ABN found that the forest has been a source of livelihood for the surrounding population. It is a source of herbal medicines, grazing land, craft raw material for women, firewood and mushrooms. The resident Baganda tribe also uses certain trees for traditional worship. The communities fear that the give-away will deny people their rights and affect their livelihoods.
- **Reduced water retention:** According to the study, the conversion of natural forests into sugar cane plantations will reduce the water retention capacity of the watershed, resulting in the subsequent reduction of water flows to lakes and rivers in the region. The report further quotes World Bank experts warning that the lower water levels in the Upper Nile and Lake Victoria will have dramatic consequences for livelihoods, agriculture, rainfall, and electricity production.
- **Loss of species:** The study also reports that according to Uganda's National Forest Authority, the plan to deforest such a large part of Mabira threatens local populations of 312 species of trees, 287 species of birds, and 199 species of butterflies. Nine species are endemic to the Mabira region – including a shrub used to treat malaria – and face the risk of extinction.
- **Potential loss of tourism income:** Tourism is the second largest foreign-exchange earner for the country. The ecosystem and biodiversity of the forest has been estimated to have an economic value of 14 Million USD.

Massive public pressure may have served to protect the Mabira forest. A public demonstration in April 2007 sparked off riots that resulted in several deaths and the arrest of a number of the campaign leaders. The ensuing public pressure from both within the country and from abroad induced the cabinet and policy makers to re-visit the plan, at least for the time being.



Geo-engineering and resilience, the example of ocean fertilisation

Organisation: ETC Group

Project: *The Points for Moving on*

Objective: ETC Group will prepare essential primers on the historic, socioeconomic, health, and environmental impact on the South of new technology waves.

For more than three decades, ETC Group has been monitoring how emerging technologies affects both biodiversity and the conditions for life on earth, focussing particularly on the well-being of poor people in the global South. “Geo-engineering”¹², which is being promoted as a technological approach to climate change mitigation, is one of the emerging technologies ETC Group has followed throughout the programme period. One suggested method is ocean fertilisation. The idea is that through “fertilising” the oceans with iron, urea or other nutrients, growth of plankton and algae are radically stimulated. The plankton will absorb CO₂ while they live and will, in theory, sequester the carbon at the depths of the ocean when they die and eventually sink. There are concerns however over potentially vast and damaging alteration of marine ecosystem from ocean fertilisation, e.g. altering the chemistry of the ocean by removing oxygen or changing the natural species composition of phytoplankton, etc. In addition, there is no scientific evidence that carbon is actually taken to the deep ocean or that it remains there. In short, ocean fertilisation could result in severe unforeseen, cumulative and long-term adverse consequences, and is regarded by IPCC as speculative and unproven.

In January 2007 ETC Group released one of the first comprehensive reports from Civil Society on geo-engineering “Gambling with Gaia” which warned that various proposals for geo-engineering were advancing rapidly in the absence of intergovernmental oversight and public debate. ETC identified ocean fertilisation as the most immediate threat because a number of private companies were setting up business schemes intending to profit from carbon credits by dumping tonnes of iron, urea or other nutrients into the ocean. This would mean potentially vast and damaging alterations of marine ecosystems, which could affect livelihoods of indigenous and local communities in coastal areas. The global South has been the first target of ocean fertilisation activities.

Since the release of the report, ETC Group, in strategic partnerships with other civil society organizations (including SEARICE and TWN, both partner organizations to SwedBio) has very clearly prompted international action and raised international awareness about the threat of commercial ocean fertilisation activities.

Two companies have been stopped from carrying out proposed dumps near the Galapagos and the Philippines. The most significant steps and results of this process are presented below.

In October 2007 ETC Group alerted the Philippine-based SEARICE that an Australian company, Ocean Nourishment Corporation (ONC), was proposing to dump urea off the coast of the Philippines. SEARICE quickly learned that one agency in the Philippines government was preparing to allow ONC’s urea dumping in the Sulu Sea – in the absence of public debate or environmental assessment. As it happened, the timing for creating attention was perfect, as a joint SEARICE – ETC Group news release alerted the world to the ocean-dumping scheme on the opening day, in November 2007, of the meeting of the Parties to the London Convention on the Prevention of Marine Pollution and the London Protocol. By the end of the week, the London Convention and the London Protocol unanimously adopted a Statement of Concern,

¹²⁾ Geo-engineering is the intentional, large-scale manipulation of the environment by humans to bring about environmental change, particularly to counteract the undesired side effects of other human activities

warning that the safety and effectiveness of ocean fertilization had not been established, and that regulations are needed to oversee the experiments. The ONC dump was prohibited.

ETC Group also introduced the issue of ocean fertilisation to the scientific advisory body meetings, in 2007 and 2008, to the Convention on Biological Diversity (CBD) and to the Ninth Conference of the Parties (COP9) to the Convention. They conducted side-events, met with concerned governments, and made interventions on the issue. ETC Group worked closely with the CBD Alliance (also a SwedBio-partner) to inform civil society partners. At COP9, ocean fertilisation appeared under two agenda items, including a recommendation for a moratorium. Despite strong support for a de facto moratorium from the EU, Africa, Norway and virtually all of Latin America and Asia–Australia, two countries (China and Brazil) blocked consensus until the final hours of the meeting. Ultimately a decision was taken that requests countries “to ensure that ocean fertilization activities do not take place until there is an adequate scientific basis on which to justify such activities, including assessing associated risks”. Despite the de facto moratorium agreed by all parties to CBD, researchers in January 2009 on board the German vessel RV Polarstern began dumping six tons of iron sulphate over 300 square kilometres of open ocean in the Scotia Sea (east of Argentina) to artificially prompt the growth of a large plankton bloom. ETC Group issued three critical news releases on the issue. The dump was delayed as the research team scrambled to address its critics and produce an environmental impact assessment.



3.1.3 Main results – Ecosystem services and climate change

Awareness has been created about the challenges and opportunities posed by climate change. These include that: the need for sustainable development strategies is greater than ever; good management of ecosystem services is important for adaptation and mitigation to climate change; the biofuels boom brings about both positive and negative effects related to poverty and environment; and geo-engineering brings about problems for a long-term sustainable society. The effect has been that this awareness has been incorporated in development strategies and considered in international policymaking, including under the Convention on Biological Diversity. Good management of ecosystem services in productive sectors has contributed to both adaptation to and mitigation of climate change.

3.1.4 Conclusions and recommendations – Ecosystem services and climate change

“There is no such thing as separate climate adaptation strategies, there are only sustainable development policies.”

Sunita Narain, Director, Centre for Science and Environment, India

Climate change does not pose a whole new set of challenges and problems, but rather aggravates existing ones, e.g. vulnerability. This also means that solutions do not necessarily need to be “new”, but that there is an increased urgency to address the “old” problems.

Oil palms in Borneo
(Photo: CBM)



Unrelenting efforts are needed to move towards a carbon-neutral global society. It is important to acknowledge that industrialised countries have a historical debt for the actual situation in terms of rising quantities of greenhouse gases in the atmosphere, consequently these countries have a responsibility to make strong efforts to minimise their own emissions. At the same time, biodiversity and ecosystem services have a key role and potential in adaptation to and mitigation of climate change, and protection of their continued integrity and function is essential. Healthy functioning ecosystems that can provide ecosystem services essential for human well-being, such as water regulation, pollination and erosion control, etc, are a prerequisite to handle adaptation to climate change. It is important to consider pro-poor solutions that consider both social and equity aspects when working with these linkages.

More than one third of all greenhouse gas emissions are related to agriculture and forestry. The contribution from deforestation alone is approximately 20 percent, which is more than the emissions from the transport sector. Halting the unsustainable use of forests would hence contribute substantively to reducing emissions, but ways and means on how to do this have to be thoroughly screened from an equity viewpoint. A possible REDD-mechanism (financial incentives for Reduced Emissions from Deforestation and forest Degradation) under the post-2012 framework of the Kyoto Protocol should consider effects on local communities and poor people (e.g. patterns of use and management of resources), and strive to ensure a fair sharing of benefits.

Support to the agricultural sector should promote methods which increase the ability of agricultural systems to adapt, reduce the emissions of greenhouse gases, and contribute to risk distribution and decreased vulnerability. Examples of this include maintaining ecosystem services and a diversity of agricultural systems, crops, and local varieties, with a broad spectrum of traits, in order to cope with more extreme and changing weather conditions. Increased levels of organic matter in soil can contribute to increased harvests and improved ecosystem services, such as nutrient cycling and water retention, but is also a way to sequester and store carbon and thus mitigate increased amounts of CO₂ in the atmosphere.

Support to coastal zone management should include maintenance of mangrove forests and coral reefs. Conservation of mangrove forests and coral reefs is an important and cost-efficient measure to protect coastal zones against weather-related catastrophes (storms and typhoons). It also benefits biodiversity and fisheries since spawning grounds for fish are preserved, and it is favourable for tourism. Wetlands have a buffering effect against drought and flooding, and function also as carbon sinks, under certain circumstances, for example peat bogs.

Sound management of biodiversity and ecosystem services seems to be a cost-effective way to address climate change. These conclusions lead to the recommendations that: it is important to make all contributions in international development cooperation resilient to climate change, and to integrate the concept of ecosystem services and the connection to climate change into national Poverty Reduction Strategy Papers (PRSPs), sector programmes and other plans, programmes and projects. Measures taken in support of both adaptation to and mitigation of climate change should include the sustaining of biodiversity and ecosystem services as an important starting point.

Prior to making contribution decisions in international development cooperation, environmental impact assessments should consider the relationship between climate, biodiversity and ecosystem services. This also applies to assessments of projects that initially could be considered climate positive, but where a thorough analysis is needed to understand the full and long term impacts of the projects (e.g. biofuel projects and tree plantations).

There is a rapid expansion of biofuels¹³ production around the globe; the key drivers of which being the outlook of rising prices for fossil fuels and reduction of carbon emissions, primarily in developed nations. Much investment in large scale biofuels production is however focussing on developing countries which have potential through favourable climate and cheap labour.

For developing countries, the production of biofuels could have a potential for development, export earnings, reduced dependency on oil imports – as well as job creation for small-holders and plantation workers. However, large scale biofuels production might have considerable and multifaceted social and environmental impacts. Increasing food prices, land-grabbing and tenure conflicts are among the results of the rapid expansion of biofuels, which often competes with other land uses. Deforestation is increasing (which leads to substantial CO₂ emissions), and multiple-use natural forests (both wet and dry tropical forests) are being replaced with monocultures. Also marginal land is being used, where often poor people uses the scarce natural resources for firewood, grazing etc. Some biofuel crops need plenty of water, and pesticides and fertilizers are often intensively used, causing soil and water pollution. Many ecosystem services are being eroded as well. Many of these challenges are not unique to biofuels, but the scale and the high pace of this expansion is challenging.

The example of the already heated debates around ocean fertilization points to the importance of taking seriously the debates on ‘geo-engineering’. In addition to ocean fertilization, a number of proposals have been made to alter weather and storm patterns, as well as modification of the atmosphere through the creation of shields of either sulphur or metal nano particles to reflect incoming sunlight. From a resilience point of view, most or all of the presently proposed geo-engineering schemes seem unacceptably risky. As the threat and panic over global warming escalates however, large “techno-fix”

13) Biofuels are produced from renewable resources, especially plant biomass, vegetable oils, and treated municipal and industrial wastes, for use in combustion engines directly or blended. The most important first generation biofuels are ethanol (mainly from sugarcane) and biodiesel (palm oil, rape seed).

geo-engineering approaches that trump concerns over resilience and pre-caution will likely be argued for as ‘actions of last resort’, when political action is seen as too slow or difficult. What seemed out of bounds only a few years ago is now becoming less of a taboo. Resilience research and approaches are essential to understand the true implications and risks of such geo-engineering, “techno-fix” approaches. Resilience research and approaches could also help prevent the creation of new, global problems that may even be on par with the global warming problem they are supposed to help solve.

3.2 Millennium Ecosystem Assessment

3.2.1 Background – Millennium Ecosystem Assessment

The world’s natural capital is going down the drain. Approximately 60% (15 out of 24) of the world’s ecosystem services are being degraded or used unsustainably, including fresh water, fish production, air and water purification, and the regulation of climate, natural hazards and pests. The effects include disease emergence, abrupt alterations in water quality, the collapse of fisheries, and shifts in regional climate. This degradation has serious implications for human well-being with the harmful effects being borne disproportionately by the poor. The degradation of ecosystem services is already a significant barrier to achieving the Millennium Development Goals, contributes to growing inequities, and is sometimes the principal factor causing poverty and social conflicts. This is the bleak message from the series of reports published from the largest ever global analysis of the links between ecosystem and human well-being – the Millennium Ecosystem Assessment (MA), commissioned by United Nations Secretary-General Kofi Annan in 2000, and released during 2005.

The MA stresses that there is tremendous scope for action to reduce the severity of these problems in the coming decades. But this requires significant changes in governance and incentive frameworks, including e.g. full accounting of the value of ecosystem services in decision-making. It also requires strengthened democratic rights for the poor, through stronger ownership rights and far greater inclusion in local institutions and decision-making processes regarding local natural assets. The MA framework and findings also provide a powerful and functional tool to integrate environment and ecosystem services in development planning.

Since the release of the MA study, a growing number of countries have sought to make operational and implement the MA’s conceptual framework and the findings it provided. Independent evaluations of the MA, however, concluded that there is little evidence so far that the MA has had a significant direct impact on policy formulation and decision-making, especially in developing countries. They also concluded that there is a need for a coordinated approach in taking the MA findings forward.

Sida has therefore given SwedBio the opportunity to develop a programme with the overall development objectives to reverse the negative trends in ecosystem services, and to ensure the continued provision of essential ecosystem services. In doing so, emphasis is placed on meeting the needs of the world’s poor through promoting development of adequate governance and incentive frameworks at national and global levels, based upon the MA findings. The programme expects to strengthen policy and practical responses to the MA and effectively catalyse and facilitate MA follow-up actions through a direct support to a limited number of strategic global actors e.g. the United Nations Environment Programme (UNEP) and the World Resources Institute (WRI).

3.2.2 Cases – Millennium Ecosystem Assessment

CASE 4

Follow-up of the Millennium Ecosystem Assessment

Organisation: *United Nations Environment Programme (UNEP)*

Project: *Implementing the Millennium Ecosystem Assessment (MA) findings and recommendations*

Objective: *This project aims to promote the implementation of the findings and recommendations of the Millennium Ecosystem Assessment (MA).*

UNEP and SwedBio, together with Sida, organised a workshop at the Ministry of Environment in Stockholm in October 2007 to discuss and develop a follow-up plan of the MA, and to consider a second global assessment. The workshop was attended by nearly 30 participants involved in the MA follow-up initiatives from over 20 institutions, from all around the globe. Based on the discussions, the participants agreed to continue efforts to develop practical tools and methodologies to implement the MA findings at the national and regional levels. They emphasized the need for continuing support to existing Sub-global Assessments and for stimulating the development of new assessments. The MA Follow-up Strategy was discussed, further refined and finalized in February 2008. It is designed to contribute in the following areas: 1) building the knowledge base; 2) integrating the MA ecosystem service approach in decision-making at all levels; 3) outreach and dissemination of the MA; and 4) future ecosystem services assessment. The Strategy provides a road map for the implementation of MA follow-up activities by a wide range of partners, and ensures that the activities are undertaken in a coherent manner. The Stockholm meeting suggested the establishment of a joint secretariat hosted by UNEP and UNDP, which SwedBio now contributes to.

During UNEP's Governing Council in 2008, the global MA-follow-up strategy was launched. This was done during a joint side-event by Sweden and UNEP, co-organised by SwedBio and UNEP. Johan Rockström from the Stockholm Resilience Centre was facilitator of the side-event and the Swedish Minister of Environment Andreas Carlgren gave a presentation where he emphasised the connection between ecosystem services and climate change. Another of the main speakers was the Environment minister from Senegal, Djibo Leity Ka, who focused on poor peoples' dependencies on ecosystem services, and the importance of finding locally acceptable and adapted solutions, such as sustainable tax-systems that reflects ecosystem services.

The outcomes of the Stockholm meeting were presented to the International Mechanism of Scientific Expertise on Biodiversity (IMoSEB) International Steering Committee, held in Montpellier, France, in late 2007. This meeting also highlighted the importance of a dialogue between IMoSEB and the MA follow-up processes. One outcome of this process was the development by UNEP, together with Sweden, and many knowledgeable scientists, of a concept note for the establishment of an inter-governmental science-policy platform on biodiversity and ecosystem services (IPBES), similar to the IPCC for climate. This has been processed at the ninth Conference of the Parties to the Convention on Biological Diversity, and was further discussed in an international intergovernmental multi-stakeholder meeting in late 2008, and during UNEP's Governing Council in 2009. A further meeting is planned to establish the platform.

While preparing the launch of IPBES, UNEP works simultaneously to secure that the MA follow-up strategy proceeds according to the plan. A key activity is to carry out additional Sub Global Assessments (SGAs), in regions that were not so well covered during the MA, for example Sub-Saharan Africa and parts of Latin America. The purpose with these SGAs is to widen the global knowledge base on the state of the world's ecosystem services. For this purpose UNEP has established a network for SGA practitioners from the South during 2008, in order to build up capacity on MA-related research in countries that so far have suffered from a lack of experience.

In 2008, UNEP employed a coordinator for the MA follow-up activities whose main tasks will be to:

- Coordinate MA working groups on SGAs, policy outreach and implementation
- Develop a “business plan” for UNEP’s institutional partners, outlining division of tasks and responsibilities for the implementation work
- Edit a newsletter and manage a new MA follow-up website
- Develop a funding strategy for the various components of MA, especially for future SGAs
- Support the editing and publishing of the planned World Environment and Development Report, to be published in 2011
- Liaising with IPBES and the research community



CASE 5

Mainstreaming Ecosystem Services in Socioeconomic Decisions

Organisation: World Resources Institute (WRI)

Project: Mainstreaming Ecosystem Services in Socioeconomic Decisions

Objective: To improve the way public and private sector decisions are made that affect, or are affected by, ecosystem services.

Corporate Ecosystem Services Review (ESR)

Most opportunities for growth in poor countries are linked to corporate exploitation of natural resources, such as mineral and energy extraction or forest conversion for timber and agriculture. As the Millennium Ecosystem Assessment observed, such degradation disproportionately impacts the poor and exacerbates poverty in the developing world. Consequently, changing corporate behaviour vis-à-vis ecosystem services is vital if these business impacts on the poor are to be reversed. One promising strategy for effecting such change is to help companies recognize that businesses not only impact ecosystem services but also rely on them.



Fig. 1. Steps in a corporate ecosystem services review

For example, the beverage industry depends on nature's ability to filter and provide fresh water, agribusiness relies on grasslands for insect pollinators, nutrient cycling, and erosion control, and the insurance industry benefits from the fact that coastal marshes reduce the damage caused by hurricanes. WRI, with support from the Meridian Institute and the World Business Council for Sustainable Development, developed the Corporate Ecosystem Services Review to help business managers develop proactive strategies to manage the risks and opportunities arising from their company's dependence and impact on ecosystems.

Five large companies "road-tested" the methodology and provided input to its design. For instance, one of the companies factored ecosystem services into its water-use planning processes, resulting in greater regulatory certainty, fewer lawsuits, and improved stakeholder relationships. The road-testers found that the guidelines can strengthen corporate environmental impact assessments, and help companies better manage conflicts over resources, identifying options for better trade-offs between ecosystem services.

WRI launched the ESR methodology in March 2008. The guidelines are available in English, Spanish, Portuguese, and Japanese and have been downloaded over 12,000 times. WRI presented the ESR to over 1,000 corporate executives in various conferences and meetings around the globe, and several media outlets have covered the ESR including the Swedish Dagens Nyheter. In addition, WRI has worked directly with thirty companies to implement the ESR in their firms – these include companies in countries such as South Africa, India, China, Indonesia, Egypt, Thailand, and Argentina. Several of these firms have already altered business practices based on ESR findings. For example, because of impacts and dependencies identified through the ESR, Michelin has taken actions at its plant in Hungary to reduce pressure on freshwater resources. Strong demand for adopting the ESR has emerged among members of the World Business Council for Sustainable Development, national Business Councils for Sustainable Development in a number of developing countries, the Convention on Biological Diversity, and UNEP, among others.

Ecosystem Services: A Guide for Decision Makers

Public sector institutions and decision makers, such as mayors, planning ministries, and international development officials, often overlook the connection between healthy ecosystems and the well-being of people and economies. For example, building a dam may increase power supply to cities and irrigation to croplands, but reduce the river's capacity to support fisheries or provide shoreline protection. Costs and benefits of these tradeoffs are often inequitably distributed, with poor and marginalized groups bearing most of the costs and reaping few of the benefits. WRI and its partners have produced "Ecosystem Services: A Guide for Decision Makers" to support more effective integration of ecosystem services into economic and social policies and strategies. The guide introduces various methods to link ecosystems and development, including an ecosystem services framework, ecosystem service prioritization, trends analyses, ecosystem service mapping, economic valuation, scenario planning, and a portfolio of policy options targeted at sustaining ecosystem services. Included in the report is an illustrative story set in a developing country city, providing examples of ways in which the technical concepts presented in the guide can be applied on the ground.

WRI presented the Guide at the April 2008 meeting of the Millennium Ecosystem Assessment Sub-global Assessments in Kuala Lumpur. The report has also been distributed at in-country capacity-building workshops hosted by the Convention on Biologi-

cal Diversity in Mexico, Brazil, South Africa, the Caribbean region, and Iran and has been translated into French for distribution in Central and West Africa. WRI hosted a side event at the IUCN World Conservation Congress in October 2008 to introduce the guide's main findings and discuss its implications for government. WRI now is focusing on working with local and global partners – such as the UNDP-UNEP Poverty-Environment Initiative – to demonstrate practical examples of mainstreaming ecosystem service concepts in public decision-making as a basis for establishing and disseminating good practices.

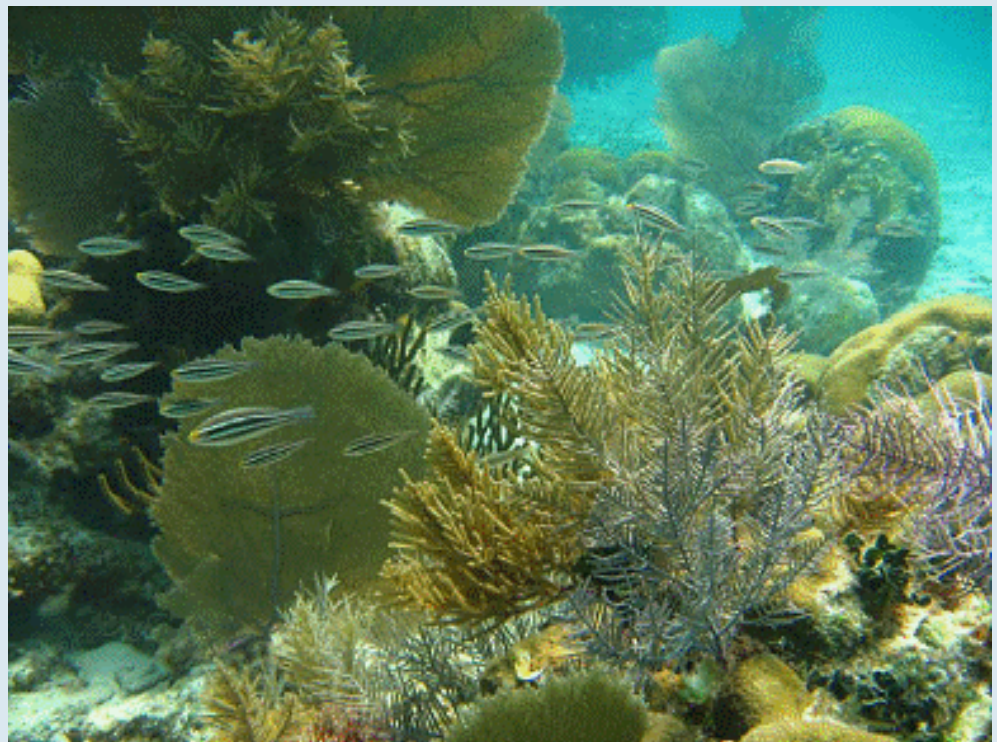
Ecosystem services valuation for coastal zone management – the Tobago case

Coral reefs are integral to the economy of Tobago – they are a magnet for tourism and recreation, they provide food and livelihood to Tobago's residents through coastal fisheries, and shelter its shorelines from ravaging storms. Tobago's reefs are beautiful and highly diverse, and possess yet unknown bio-pharmaceutical values. The economic values that coral reefs support are often overlooked or underappreciated in coastal development, management and policy evaluations, resulting in decisions that do not maximize the long-term economic potential of coastal areas.

WRI led an economic valuation of Tobago's coral reefs, in collaboration with many in-country partners, that estimated that in 2006 coral reef-associated tourism and recreation contributed US\$100 to US\$130 million to the national economy, fisheries had annual economic benefits between US\$0.8 – 1.3 million and provided shoreline protection services (i.e. reduced erosion and wave damage) valued between US\$18 and \$33 million per year. These economic contributions are significant compared to Tobago's GDP, which was \$286 million in 2006. Along with the country-level valuation, WRI created a policy application for Buccoo Reef Marine Park in Tobago, highlighting the large value of that particular reef compared to the small cost of proposed policy interventions.

The valuations support several policy recommendations for Tobago, including improving coastal water quality through sewage treatment and integrated watershed manage-

Photo: WRI



ment and better monitoring reef condition to have timely information on degradation or improvement. WRI has conducted trainings on the use of this economic valuation tool in country so that local partners can now explore ways to apply the valuation method to new policy questions.



3.2.3 Main results – Millennium Ecosystem Assessment

Clear and tangible results of the MA programme are already visible, and relate to the four expected results in the MA follow-up programme. These include: 1. Relevant information has been made available to public and private decision-makers about the connection between healthy ecosystems and the attainment of social and economic goals, and relevant information systems have been developed and strengthened; 2. There has been promotion of appropriate incentive frameworks that encourage poor people (both women and men), as well as business, to invest in sustaining ecosystem services; 3. Tools and methodologies have been further developed for integrating consideration of ecosystem services in decision-making; and 4. A global focal point for catalyzing MA follow-up has been identified and strengthened at UNEP.

It is a bit early to report on effects regarding implementation and integration of ecosystem services concept into developing countries national plans and programmes, which is the focus of SwedBio's concern regarding the MA follow-up. Nevertheless, the MA follow-up activities have been catalysed. Tools like guidelines for decision makers and business have already informed the work of decision makers and helped companies make the connection between ecosystem health and managing emerging risks, and opportunities. Work conducted under the MA follow-up strategy regarding Sub Global Assessments, could already have a capacity-building effect in developing countries. Some key global actors have been able to contribute to further use of MA concepts and findings to highlight relationships between environment and poverty in development cooperation and international environment politics. This is a step on the way to better recognition of the importance of ecosystem services for poverty alleviation and human well-being.

One unforeseen effect, that the MA-programme has contributed to, is the development of the platform or panel for biodiversity and ecosystem services (IPBES, see above), which potentially could have a very big impact on communication of the importance of ecosystem services for human well-being and be an “eye-opener” for developing (as well as developed) countries.

The SwedBio MA programme has lead to the MA and the ecosystem services concept being further integrated into Swedish development cooperation and international environment and development politics. SwedBio, together with Sida and the Stockholm Resilience Centre, has also contributed to Sweden's external profile. As a result of this work, Sweden is perceived to be one of the leading countries in ecosystem services management and integration, and the links to climate change.

3.2.4 Conclusions and recommendations – Millennium Ecosystem Assessment

The MA findings and ecosystem services analysis has proven to be a valid pedagogic instrument to convince policymakers that degradation of ecosystems have negative impacts on human well-being, and that an ecosystem services approach is a good tool

Eco-mapping workshop in the Sheka Forest, southern Ethiopia. (Photo: ABN.)



for integrating environment and poverty issues, including in the context of climate change. Analysing and mapping of ecosystem services can provide a baseline, e.g. for climate change adaptation and mitigation strategies. The identification of different stakeholders and how they depend on ecosystem services could also contribute to rights-based development.

It should be acknowledged that for some stakeholders, especially some indigenous and civil society representatives, the concept of ecosystem services itself is anthropocentric. Other cultural perspectives see biodiversity as having intrinsic value that should not be described as a service to humankind, and that the language in itself “hijacks” the perception of nature and reduces it to instrumental values. SwedBio’s view is that this is important to consider. However, the experience in the MA process highlights a need for translating the values of biodiversity to policymakers and the “modern” world that might not be so connected to nature and who might not share these values. If the ecosystem services approach is implemented in society in a rights-based manner, it could also benefit those with other values and perceptions of nature. At the local level it will be important to have an open dialogue regarding the concept of ecosystem services and to be sensitive to other value systems¹⁴.

It should also be added that there should be further exploration of the links between biodiversity and the possibility for an ecosystem to deliver ecosystem services.

The experiences so far show that there are a number of important challenges remaining, including how to make operational the concept of ecosystem services at a local and national level. This includes further development and dissemination of practical (and not too complex) tools and methods for valuing ecosystem services, see box 5 below. There is also a need to promote good governance of ecosystem services by realigning economic incentive frameworks, such as accounting for ecosystem services values in national budgeting and design of taxing systems.

14) To learn more about indigenous views on ecosystem services, SwedBio helped initiate and provided support to a project in the Peruvian Andes with this focus. The project has generated valuable lessons on the concept of ecosystem services and indigenous values which can be used in a future dialogue between different cultures.

Box 5. ECONOMIC VALUATION OF ECOSYSTEM SERVICES¹⁵

Economic valuation can serve a number of purposes:

- Communicating the value of ecosystem services by highlighting their economic contributions to societal goal.
- Comparing the cost-effectiveness of investments.
- Evaluating the impacts of policies.
- Building markets for ecosystem services.

Economic valuation involves assigning quantitative economic values to ecosystem services, including those not currently valued in the marketplace (for instance, regulating services such as coastal protection and erosion control). Methods that can be used to quantify the values associated with ecosystems are: Effect on productivity that trace impact of change in environmental condition on the produced goods; Cost of illness, human capital that trace impact of change in environmental services on morbidity and mortality; Replacement cost that use cost of replacing the lost good or service; Travel cost that derive demand curve from data on actual travel costs to estimate recreational use value; Hedonic prices that extract effect of environmental factors on price of goods that include those factors; Avoided damages that model comparison of the damages avoided by having protection against natural disaster events such as earthquakes, hurricanes, and flooding; Contingent valuation that ask respondents directly about their willingness to pay for a

specified service; Choice modelling that ask respondents to choose their preferred option from a set of alternatives with particular attributes; and Benefits transfer that use results obtained in one context in a different context (e.g., estimating the value of one forest using the calculated economic value of a different forest of a similar size and type).

When valuing ecosystem services it is important to e.g. engage local stakeholders in the process, conduct the analysis using a clear and fully disclosed method, develop estimates based on existing data and information systems whenever possible and strive for realistic and accurate results.

It is important to acknowledge that valuing of ecosystem services have ethical aspects about the extent to which some life-supporting functions of biodiversity can be fully addressed by economic valuation. Similarly economic valuation may not be considered appropriate to address spiritual values. Regarding Payments for Ecosystem Services see 6.1 Biodiversity, macro-policies, trade and international conventions.

15) Adapted from text by WRI in Advisory note on Strategic Environmental Assessment and Ecosystem Services, OECD DAC 2009; and the The Economics of Ecosystems and Biodiversity, the TEEB report, European Communities, 2008.

There could be more pro-active application of the ecosystem services concept in planning through its use in EIA and SEAs, for example. With experience from the Collaborative Programme, SwedBio has contributed to international methods development, including the development of an Advisory note on Strategic Environmental Assessment and Ecosystem Services as a supplement to the OECD DAC Good Practice Guidance on strategic environmental assessment. This was conducted with partners such as the World Resources Institute, Sida's Helpdesk for Environmental Assessment (the Swedish EIA Centre at SLU), Sida Helpdesk for Environmental Economics (Environmental Economics Unit at Gothenburg University), and the Netherlands Commission for Environmental Assessment. Nevertheless, there is an absence of real case studies and practical examples of mainstreaming ecosystem service concepts in public decision making, and a need for more real-life examples.

The expected results for the MA-programme are well on the way of achievement. During the next phase of the MA-programme the results to-date need to be further developed and additional emphasis given to implementation at a national level in third world countries. SwedBio has already initiated collaboration with the Poverty Environment Initiative (PEI, a joint initiative by UNDP and UNEP). PEI works towards implementing environment and poverty considerations in national level PRSPs and towards fulfilling the Millennium Development Goals. PEI also works closely with UNEP and the work conducted there regarding MA, and with other MA stakeholders.

4. Sustainable management of biodiversity to ensure continued functioning and delivery of ecosystem services for human well-being and health and contribute to poverty alleviation

From the portfolio of projects/organisational support by SwedBio, it has become clear how important ecosystem services are for human well-being and poverty alleviation. Diseases, malnutrition and un-employment, generally increases among poor groups when ecosystem services are being degraded and biodiversity depleted.

4.1 Biodiversity and food and income

4.1.1 Background – Biodiversity and food and income

The right to safe, nutritious, culturally appropriate foods and sustainable food production systems, as well as the right of the communities to involvement in decisions on policies that affect their food production system and connected livelihoods are the starting point for SwedBio work in this area. However, these rights are far from the reality for millions of people in the world today. Biodiversity is the basis of food for us all. Today over 50 percent of the global requirement for proteins and calories from plants are met by just three species: maize, wheat and rice. An additional 50 plants are commonly used. However, around the world there are still thousands of other species that play important roles in local livelihoods, including both wild and semi-domesticated biodiversity, small-scale livestock and aquatic resources not to forget.

SwedBio supports a broad range of initiatives working with both improved food and income at local level linked with methods and policy development and advocacy at national, regional and international levels.

4.1.2 Cases – Biodiversity and food and income

CASE 6

Participatory rice breeding and local seed networks in Vietnam

Organisation: SEARICE (*Southeast Asia Regional Initiatives for Community Empowerment*)

Project: CBDC BUCAP; *Biodiversity Development and Conservation (CBDC) and Biodiversity Use and Conservation in Asia Programme (BUCAP)*

Objectives: *To strengthen farmers' rights to plant genetic resources conservation, development and use towards farmer empowerment for sustainable agriculture and livelihood systems.*

Rice is the most important crop in the Mekong delta, a region which is often called “the rice bowl” of Vietnam. In order to utilize this potential, international and national projects have strongly supported rice breeding programmes. As a result, early-maturing and high-yielding varieties were released, which greatly contributed to the increase of

rice production. However, this has also led to the erosion of rice genetic resources and threatened stability of agricultural production.

The CBDC Vietnam National Project phase II has been implemented by Cantho University. One of the main activities is to establish and strengthen a network of Participatory Plant Breeding /Participatory Varietal Selection activities in the Mekong Delta Region. This work is carried out in collaboration with Cantho University's Mekong Delta Research and Development Institute (MDI). Another area of work has been to enhance farmers' skills in producing good quality seeds and to strengthen the seed production network. The participation of women in Participatory Plant Breeding/Participatory Varietal Selection is also a specific objective of the project.

The project has had high involvement and interest of farmers and local communities. During the project, 335 communities have participated. 579 farmer-trainers have been trained to assist other farmers in techniques for sowing, selection, production and knowledge of genetic resource conservation, and about 8 000 farmers have been trained in breeding and selection. In the Mekong Delta, the farmer-developed rice varieties covered a total land area of 100 000 hectares in 2008. Thus, the farmer-led development of rice varieties has been successful and the capacity of farmer communities in rice breeding is demonstrated by 53 varieties developed in Mekong Delta from farmers' own cross-breeding, and selection from early and late generation rice populations. Of those, 14 farmer-developed varieties were in the process of national testing in 2008. Farmer-developed rice varieties contributed significantly to food security when there was an outbreak of brown plant-hopper (BPH) in Vietnam. Seeds of two of the developed varieties, both resistant to the infections following BPH, were multiplied by farmers and successfully distributed to areas affected by BPH.

The farmer-developed varieties have also been adapted by local seed centres for multiplication and distribution to other farmers. In effect, farmer-developed varieties are finding their way through the formal seed distribution system as the government agencies recognise the potential of the materials. Institutionally, MDI (which also undertakes plant breeding) has adapted Participatory Plant Breeding as its plant breeding method along with the conventional way of crop improvement. The project is thereby a bridge linking informal and formal systems by developing participatory rice breeding.

Deliberate efforts to use traditional varieties for breeding and selection are made with the intention of broadening the genetic diversity on-farm. This effort is supported by the continuous rehabilitation of rice varieties, especially traditional varieties. In the Mekong Delta, 202 local rice varieties have undergone rehabilitation.

Highly successful local seed supply systems have also been developed. CBDC farmer partners formed a seed network that successfully supplied 16 % of the total seed requirement of the Mekong Delta Region, amounting to 83 000 tons of seeds in 2008. The seeds developed and multiplied by CBDC farmer partners in the Mekong Delta are sold under a farmer guarantee system and are cheaper than government developed seeds.

The experiences are now starting to be mainstreamed in the province agricultural extension work. The success of CBDC Vietnam in developing the capacity of farmers to improve their seed system, while the country is in the process of opening up the market for seeds and reducing agricultural subsidies (as part of the condition for WTO adaptation), prompted some local officials to adapt the CBDC way of seed development. At the policy level, seed certification is an important area. The project is in the

process of developing a system in An Giang Province, which will allow for a provincial farmer certification system with a farmer guarantee and exchange provision.

As an effect of the project, both on-farm rice genetic diversity and household benefits have increased. In Mekong Delta, farmers reported a mean net income of US\$ 645 per hectare resulting from the combined improvement of the farming system and use of good quality seeds from their own varieties. This is highly significant in comparison with the US\$ 257 per hectare income from conventional farming system using improved varieties.

The decentralization of institutional plant breeding under CBDC programme, and the local seed networks, have provided significant results in terms of on-farm rice genetic resource diversity. This has decreased the risks for farmers and increased household benefits from rice production in the rural areas, through adoption of farmers' selected varieties and improved access for farmers.



CASE 7

ICSF workshop “Asserting rights, defining responsibilities: Perspectives from small scale fishing communities”

Organisation: *International Collective in Support of Fishworkers (ICSF). Since 1984, ICSF has been working to support fishing communities and fishworker organizations to participate in fisheries from a perspective of decent work, equity, gender-justice, self-reliance and sustainability*

Project: *Coastal and fisheries resource management*

Objective: *Livelihood rights and sustainable access to fisheries and other coastal resources.*

Millions of people in Asia depend on fisheries for a living and the majority of them are small-scale and artisanal fishers. At the same time, there is growing global concern about declining fishery resources, and recognition of the need to manage these resources. It has been stressed that recognizing rights of communities to resources, within the framework of sustainable use, is necessary if fishing communities are to progressively share the responsibility for managing coastal and fisheries resources. It was against this background that ICSF organised a Workshop and Symposium on “Asserting Rights, Defining Responsibilities: Perspectives from Small-scale Fishing Communities”, in Siem Reap, Cambodia, in May 2007.

A total of 56 participants from ten countries in South and Southeast Asia participated in the workshop. These represented fishworkers and non-governmental organizations, researchers, activists and representatives of regional and multilateral organizations (SEAFDEC, WorldFish Centre and FAO). The aims of the workshop were to review the experiences of traditional and modern rights-based approaches to fisheries management, and discuss their relevance and scope in the Asian context; to contribute to improving the effectiveness of fisheries management, by promoting the rights and responsibilities of small-scale fishing communities; and to advocate policies that recognize the rights of fishing communities to the coastal lands and resources customarily used by them. A symposium followed the Workshop and attracted an additional 16 participants, representing the fisheries departments of 11 countries from the region.

The Symposium provided a platform for an active interaction and exchange of views between different stakeholders.

In preparation for the workshop, case studies were undertaken in Bangladesh, Cambodia, India, Indonesia, Philippines and Thailand in order to document and explore the understanding that fishing communities have about their rights to fisheries and coastal resources, as well as the responsibilities associated with these rights. Most of the studies agreed that small-scale fishing communities perceive the following as legitimate rights:

- Fishing for a livelihood
- Equitable and sustainable use of resources
- Participation in management and decision-making
- Living in the vicinity of the fishing grounds
- Basic social services

Fishing communities also saw a corresponding responsibility towards resources, and have taken several initiatives to protect and manage resources. The case studies also identified the main threats to these rights as perceived by small-scale fishing communities, such as degradation of resources, destructive fishing, expansion of aquaculture, centralized conservation programmes, tourism, pollution and threats from external sources, and global trade arrangements causing inequitable sharing of resources.



Photo: SwedBio

The case studies and the workshop provided a bottom-up perspective on how rights are understood, and what rights are seen as important by small-scale fishing communities. The perspective of a common-property regime was emphasized. –This is particularly relevant at a time when rights-based approaches to fisheries management, with an emphasis on private property rights, are being argued as the way to achieve sustainable fisheries. The consensus from the workshop was unequivocal: the transfer of the sea from a common-pool resource into private ownership will be seen by the region's small-scale fishers and fishing communities as a violation of their rights. Recognizing the rights of communities to collectively use and manage resources is essential. The need is for non-transferable community rights—not only to use resources, but to decide on how they are to be used. With this comes the responsibility of stewardship, of equity of access and allocation.

Overall, the workshop and symposium contributed towards enhancing the capacity of fishworkers and related organisations to advocate for protection of rights and livelihoods in policy negotiations. They also enabled greater awareness among policy makers about the kind of policies needed to support small-scale fisheries and fishing communities.



4.1.3 Main results – Biodiversity and food and income

The Collaborative Programme has shown that farmer-led technology development, such as participatory plant breeding and innovative farmer field schools, are strong measures contributing to poverty alleviation, agrobiodiversity conservation and development, and sustainable use of ecosystems.

Another experience of the Collaborative Programme is that it is possible for civil society, with valuable on-the-ground experiences, to impact agricultural policies at national level in support of the development of farmer's rights and biodiversity and ecosystem services based agriculture.

4.1.4 Conclusions and recommendations – Biodiversity and food and income

Business as usual is not an option if we want to feed a growing global population in a way that maintains the long-term sustainability in the productive ecosystems. An important conclusion is that we cannot continue to have land divided between production entities where we “sacrifice” environment, and protected areas where we maintain it. We need to find ways of producing food while at the same time maintaining ecosystem services.

Ecosystem services underpin all food production. Essential functions, such as nutrient cycling, decomposition of organic matter, soil rehabilitation, water quality and pollination, are all maintained by a wide range of biologically diverse populations in natural ecosystems. However, the reality in many agricultural ecosystems today is degradation, such as erosion, increased salinity and biodiversity depletion. Whereas the explicit visible reasons are linked to high land pressure and harmful agricultural practices, the underlying root causes are often to be found in inappropriate policy frameworks and incentive systems, sometimes even promoted by international institutions. Other threats to human health and biodiversity include the lack of regulatory systems for chemicals such as pesticides, and their unrestricted promotion by companies.

Until now global agriculture has contributed to substantial increases in production over time, contributing to food security. However, people have benefited unevenly from these yield-increases across regions, in part because of different organizational capacities, sociocultural factors, and institutional and policy environments. According to the Millennium Ecosystem Assessment, the emphasis on increasing yields and productivity has had negative consequences on the capacity of agricultural ecosystems to deliver the broad range of ecosystem services that underpin environmental sustainability, and which are necessary in the long-term to maintain high productivity. Agroecology has shown to be a tool for development of new methods for small-holder development. There is a strong need for the development of farmers' own organizations and their capacity to take part in the development of productive and sustainable agricultural methods based on ecosystem services. Innovative institutional arrangements are

essential to the successful development of ecologically and socially sustainable agricultural systems. The efficient participation and active involvement of rural communities and food producers in the creation of new models is essential. Food sovereignty¹⁶ is a concept that may contribute to understanding the multiple dimensions of food production, and to articulate those dimensions in a rights-based perspective.

Today climate change is putting increased pressure on productive ecosystems. Effects are already visible in some of the poorest and most vulnerable parts of Africa. Interestingly, the most feasible adaptations to climate change coincide with priorities for building a robust resilient agricultural system which supports ecosystem functions and is based on biodiversity and ecosystem services. Examples include measures to develop a diversity of drought resistant species and to keep a variability of varieties within species. The farmers' rights of access to seeds are essential to fully take advantage of this capacity. This contributes to risk distribution, by preserving traits that could be useful for future local adaptation to climate change. Other examples include: increased importance given to water harvesting and water resource management; measures to improve soil quality (increased organic content of soils); regulating grazing to prevent over-grazing; prevention of erosion by planting trees; measures to promote reductions in deforestation; and to preserve and acknowledge local knowledge related to coping strategies, etc. Land tenure and policies that promote and strengthen small farmers and rural development are critical to the feasibility and success of all these kinds of initiatives.

Improving the productive performance and marketing opportunities of small-scale and low-income producers, based on sustainable land use practices in agriculture, forestry and fisheries, is therefore critical to poverty alleviation and enhanced well-being in rural areas. This includes encouraging practices such as integrated pest management, organic farming, local seed supply systems, participatory varietal selection, and biodiversity-based forest management and sustainable harvesting of non-timber forests products. It also includes supporting the marketing of sustainably-managed and produced biodiversity-based goods and ecosystem services.

4.2 Biodiversity and vulnerability

4.2.1 Background – Biodiversity and vulnerability

Recent research shows a positive correlation between an ecosystem's biodiversity and resilience¹⁷, its ability to cope with a changing environment, and to deliver ecosystem services. Ecosystems are subject to numerous disturbances of different types and varying intensities. Some of these are natural, but an increasing proportion is induced by human activities. Some human activities have immediate effects on one ecosystem which later extend to others, and can therefore be considered both disturbances per se and also a driver of other disturbances. An example is human-accelerated climate change. This can cause drought in a region, which itself constitutes a disturbance, but the drought can also make the ecosystem more vulnerable to erosion, intense fires, or other disturbances. Another example is the threat of invasive species, i.e. plants, animals or micro-organisms newly introduced into an ecosystem. Invasive species threaten biodiversity, food security (as a result of invasive pests and diseases of agricultural crops and livestock), human health (for example, the growing threat of avian influenza, "birdflu"), trade, transport and economic development. Invasive species

16) Food sovereignty is defined as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems."

17) Resilience refers to the capacity of a social-ecological system both to withstand perturbations, e.g. from climate or economic shocks, and to rebuild and renew itself afterwards.

pose the second biggest threat to biodiversity globally and in many ecosystems, such as those found in Small Island Developing States (SIDS), they pose the greatest threat to biodiversity. As a consequence, these ecosystems may become more vulnerable to a changing climate. Ecosystem disturbances include (1) habitat destruction, fragmentation, simplification, or conversion; (2) changes in the local temperature regime; (3) changes in the water cycle – in the timing, intensity, and spatial distribution of rain; (4) changes in the distribution and availability of surface waters, through impoundments, e.g. dam construction or irrigation; (5) agricultural land uses – impacts from livestock and cultivation; (6) changes resulting from the deposition of chemical pollutants, including pesticides and excessive nutrients; and (7) the effects of urbanization and road construction.

4.2.2 Cases – Biodiversity and vulnerability

CASE 8

Food sovereignty as a concept towards local and global resilience

Organisation: REDES

Project: Nyéléni Forum on Food Sovereignty

Objectives: *Reaffirm food sovereignty; Strengthen the position in the balance of power for attaining food sovereignty and create meeting space with governments who are in favour of food sovereignty; Attain the recognition of the right to food sovereignty.*

The primary focus of the Nyéléni Forum was to bring together and recognize the leading role that food producing people from local communities have in the struggle for food sovereignty, and to strengthen the further development, recognition and mainstreaming of the concept of “food sovereignty” internationally and nationally. The Nyéléni 2007 World Forum on Food Sovereignty was held in February 2007 in a village in Mali, where simple huts were constructed to host all the participants. The Forum brought together more than 600 delegates (44 % women, 56 % men) representing fisherfolks, farmers, consumers, environmentalists, workers and pastoralists from over 100 countries and seven regions of the world.

Referring to the Nyeleni Declaration from the conference, Food Sovereignty is “the right of people to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems”. Thus, the concept of food sovereignty is explicitly linked to strengthening of local livelihood and local peoples rights related to natural resources. Sustainable use of biodiversity forms an integrated part of the concept of food sovereignty, however, this has not always before been explicitly expressed. The role of biodiversity in this context has however been clearer over time, and one of the results of the Nyeleni Forum is that the principle of sustainable use of biodiversity, including local people’s rights related to traditional knowledge and biodiversity has been clarified and strengthened in the concept of food sovereignty.

Workshop discussions were held at the Forum around seven themes: 1. Trade policies and local markets; 2. Local knowledge and technology; 3. Access and control over natural resources for food sovereignty; 4. Sharing territories and land, water, fishing rights, aquaculture and forest use between sectors; 5. Conflict and disaster; responding at local and international level; 6. Migration; 7. Production models, impact on food sovereignty, people, livelihoods and environment. The sustainable use of biodiversity has relevance for all the themes discussed.

To evaluate the meeting, the results of the Nyéléni Forum were compared with the results from the World Forum on Food Sovereignty which took place in Havana, Cuba in 2001. The analysis confirms an enhanced understanding of biodiversity's role in the struggle for sustainable livelihood within food sovereignty. Results related to sustainable use of biodiversity and livelihoods are:

- Environmental concerns and dimensions of food sovereignty are taken increasingly into consideration as core components of the policy framework of food sovereignty. Environmental concerns were clearly spelled-out in Nyéléni as a cross-cutting issue (along with gender and youth);
- Biodiversity conservation and ecosystem protection are treated as environment-related concepts that are incorporated as core elements of food sovereignty at Nyéléni 2007;
- The critique of monocultures as a direct threat to biodiversity and thus food sovereignty is also asserted at Nyéléni 2007, and agroecology is asserted as the way forward;
- Nyéléni 2007 stresses the difference of food sovereignty from the analytical policy framework of 'food-security'. Food sovereignty gives clearer expression of the right not only to eat, but also to control our own production systems, and the political context of how our food is produced and consumed;
- Additionally, the documentation from the Nyéléni Forum established as important emerging issues both climate change and the actual and potential impacts of agrofuels on local peoples' livelihoods.

The Nyéléni 2007 Declaration was agreed on the last day of the Forum. Another result from the Forum was a food sovereignty action agenda, which includes strategies and actions to realize food sovereignty all over the world. An indicator of the wider acceptance of the food sovereignty concept in the global arena after the Nyéléni Forum is that the concept is mentioned and used in the official documents from International Assessment of Agricultural Science and Technology for Development (IAASTD), adopted in Johannesburg in April 2008.

The Nyéléni 2007 website (see www.nyeleni2007.org) was set up in advance of the Forum, and is still running. The website contains all the information about the Nyéléni 2007 Forum, and articles written about it continue to be added.



Bird flu, poultry diversity and poor people's livelihood

Organisation: GRAIN

Project: *Harnessing Diversity*

Objective: *Stimulate activities and policies that lead to a better conservation and use of genetic diversity, with a special focus on the interests of the poor in developing countries. Increase knowledge and understanding about structural causes behind the destruction of biological diversity and the implications of this destruction for the poor.*

The external evaluation of GRAIN information work (from 2007) notes that there is clear evidence that GRAIN's information work has made contribution to support policy changes, and provides a number of examples to this effect. One example is GRAIN's work on bird flu and the impact that current efforts to stop the disease have had on small farmers and local biodiversity.

CASE 9



Small-scale poultry farming provides food and livelihoods to hundreds of millions of families across the world. The birds are critical to their diversified farming methods. In addition, the genetic diversity of poultry on small farms is critical to the long-term survival of poultry farming in general.

GRAIN's February 2006 briefing, 'Fowl play', offered a critical analysis of the prevalent conventional view of bird flu, the causes, and the way of combating it. The briefing was one of the most used and cited analytical document that GRAIN has produced in the past 4 years. Subsequently, GRAIN published a number of analytical and opinion pieces that followed-up on the original briefing.

While the discussion so far mainly had focused on the role of wild migratory birds and backyard poultry in the spread of the disease, GRAIN materials provided compelling evidence that the bird flu outbreak had clear links to the industrial poultry system, which sends the products and waste of its farms around the world, through a multitude of channels. Over the years, large concentrations of (presumably stressed) birds in industrial production units have facilitated an increased affinity of the virus to chickens and other domestic poultry, with an increase in pathogenicity.

GRAIN information and analysis contributed to change FAO policy and informed a wide range of audiences about this aspect of the pandemic. The medical journal 'The Lancet' used the GRAIN briefing as the basis for an editorial in which they quoted GRAIN's work at length. GRAIN also published a peer-reviewed article in the newsletter of the International Network for Family Poultry Development, to which the FAO wrote a response. Later, GRAIN participated in a conference on the matter hosted by the German government and with participation by FAO. FAO then agreed that, contrary to its earlier assertions, international trade – not backyard poultry farming or migratory birds – was likely to be the major cause behind the spread of the disease and changed its policy. Today, and in part because of GRAIN's constant monitoring and analysis, this has become common knowledge - even though still much more could be done to control the industrial source of the problem.

4.2.3 Main results – Biodiversity and vulnerability

There is a positive correlation between biodiversity and resilience. SwedBio support of productive and sustainable management of biodiversity-rich natural resource systems has contributed to people at local level becoming less vulnerable to drivers of environmental change. Biodiversity-rich production systems also give a greater variety of products and are more likely to produce outputs also during extreme events. The support of such systems have thus also led to better food security and lowered vulnerability.

4.2.4 Conclusions and recommendations – Biodiversity and vulnerability

Biological diversity has an important role in maintaining functioning resilient ecosystems and hence the possibility of the system to produce essential ecosystem services. For example, forest ecosystems absorb carbon dioxide and regulate water flows, mangrove forests protect terrestrial land areas against erosion of shores and against storm waves, a broad variety of wild and cultivated plants enhances the capacity for future adaptation that may be needed in cases of climate change and natural disasters. Maintaining biodiversity is important also to reduce human vulnerability in times of insecurity. Rather than relying on a single crop variety, farmers in developing countries are more likely to benefit from an assortment of different crops and varieties within them. This can be of crucial importance in the future for genetic enrichment or to use as substitutes and complement to the four main food crops we use now and it also spreads the risks of e.g. unfavourable weather, changing market prices or shortage of labour in the face of illnesses like AIDS. For the poorest farmers, the diversity of life - both wild and domesticated - may be their best insurance and protection against starvation. Another aspect of the linkage between biodiversity and vulnerability is the issue of genetically modified organisms (GMOs) and the concern over their potential adverse effects on biological diversity, including effects on Centres of Origin. Further, the cost and impact of invasive species is widely predicted to increase as a direct result of climate change, resulting inevitably in greater negative impacts on biodiversity and food security and an increased vulnerability of local communities. This is an important aspect to take into consideration when adaptation to and mitigation of the impacts of climate change at a local and community level is considered.

There is a continued need to communicate to almost all stakeholders the importance of biodiversity for the resilience of ecosystems and thus for the continuation and restoration of the production of ecosystem services. Most stakeholders are aware of this (such as vegetation protecting against erosion, land slides and for facilitating infiltration of water, transforming surface water to sub-surface water), but few are aware that it is of utmost importance also for post-disaster rehabilitation. In most cases a biodiversity-rich ecosystem will more quickly resume ecosystem functions after disturbances, a feature insufficiently understood by most stakeholders. In this context, it is especially important to stress biodiversity's importance for adaptation to climate change.

The global "conservation community" also seems not to put enough emphasis on the importance of biodiversity for the production of ecosystem services and resilience. There is a tendency to motivate the protection of nature mainly from an aesthetic or moral viewpoint, an aspect that SwedBio believes will be relatively less important politically in the future in relation to the resilience aspect. SwedBio believes that global policy-making would be more successful if the vulnerability and resilience aspects of biodiversity conservation were stressed more strongly.

There is a continued need to show that many poor people depend directly on a wide variety of wild and cultivated plants in their household economy and for their healthy nourishment, and that they will continue to do so, at least until viable alternatives are at hand. The importance of collection of products from the wild is sometimes denied using motivations that this is in-efficient and constitutes a “poverty trap”. However, studies show that wild foods are highly important for the health and well-being of poor people on all continents. Should - against all odds - modernisation and “modern” agriculture reach many or most of these people within a short interval, then measures would still have to be taken to maintain and protect the biodiversity (wild and cultivated) that is used in these livelihoods-systems and the culture in which this use is developed, as an insurance for the future and to reduce vulnerability.

4.3 Biodiversity and health

4.3.1 Background – Biodiversity and health

There has been an increased international attention to the fact that people (both rural and urban) depend on a rich biodiversity and functioning ecosystem services to maintain and improve human health.

Ecosystem services: Today poor people are increasingly affected by natural catastrophes. The impact of droughts, flooding, tidal waves and insect epidemics are more severe when biodiversity is depleted, and an ecosystem’s ability to buffer natural catastrophes decreases. Ecosystem services, such as wetland water purification, counteract the spread of diseases. The forests and their tree canopies function as particulate filters and chemical reaction sites, to regulate the composition of the atmosphere and purify air. These services are crucial for human health both in urban and rural environments.

Nutrition: A large diversity of plants and animals is essential for a healthy diet. Intact ecosystems and biological diversity in coastal ecosystems are crucial for the supply of proteins for approximately two billion people in the world, of whom a large proportion is poor. Traditional farming systems have typically included a rich diversity of crops and livestock, many of which are today lost or threatened. Wild and semi-domesticated plants provide essential minerals and vitamins in starch-rich diets of hundreds of millions of resource poor people. Forest products, such as honey, wild fruits and herbs, contribute to a more varied nutritional intake.

Medicines: Products from thousands of plant and animal species provide basic material for medicines as well as genetic material for pharmaceutical research. It is estimated that 80 % of people living in the South are primarily dependent on traditional medicines. Protection of forest ecosystem diversity is crucial for the continued collection of medicinal plants. Half of the ca. 20 000 medicinal plants used today are threatened with extinction because of habitat loss and over-harvesting. It is important to recognise traditional healers as knowledge holders of use of traditional medicine, as well as to continue studying the effectiveness of these medicines.

Controlling toxic substances and diseases: Agricultural ecosystems that actively use natural predators of pests in so-called integrated pest management can substantially reduce the use of insecticides and fungicides and hence reduce health hazards linked to the use of these chemicals. The increased risk of emergence and spread of zoonotic vector borne diseases like malaria, dengue, rabies and yellow fever (transmitted between animals and humans) is primarily caused by climate change and deforestation.

A number of initiatives within the Collaborative Programme address health and biodiversity linkages in different ways (nutritional aspects, medicinal aspects, etc).

4.3.2 Cases – Biodiversity and health

Nutrition and medicines in Mali

CASE 10

Organisation: USC Canada, Mali (CBDC Africa Partner in Mali)

Project: Community Biodiversity Development and Conservation Network, phase II, the thematic work on “Non Cultivated and Semi-Domesticated Biodiversity”

Objectives: To reverse the trend toward genetic erosion by conserving and increasing biodiversity.

The district of Douentza, Mali, lies entirely within the well-known dry Sahelian region. This region has annual rainfall ranging from 300 to 400 mm, which is usually unevenly distributed over time and space. It is in this area where USC Canada Mali, the CBDC Africa regional programme partner, is implementing the CBDC programme in Mali. The USC Canada Mali CBDC programme has been part of the thematic work on “Non Cultivated and Semi-Domesticated Biodiversity” of CBDC. Within this component, specific results related to biodiversity and health have been obtained.

USC Canada has worked for the promotion of wild food plants for nutrition and cultivation of local plants that survive in harsh conditions. The downhill trend of agricultural production and productivity in the project areas and its consequent structural food insecurity, set in motion by successive drought years, have meant that the people in Douentza permanently face a diminishing plant cover, an unpredictable rainfall, soil and water erosion, and soil degradation. To cope with these negative trends, the local population has developed survival strategies based on the use of promising wild plants, chiefly those having multiple uses. *Boscia senegalensis* is one of these prominent plants that has been extensively studied and systematized by the project in order to know more about its biology, its geographical distribution, the different local uses – particularly for food – and its potential for natural re-generation. *B. senegalensis* is a commonly occurring tree species throughout the entire circle of Douentza. It thrives in many types of soils including those which are sandy, loamy, lateritic, gravelly and clayey. In nutrition, *B. senegalensis* can be consumed with meaty sauce. Popular recipes also include *Boscia* mixed with oil or butter, sugared *Boscia* dough, *Boscia* with milk, *Boscia* mixed with cereal crops, cooked, steamed, and marmalade of *Boscia*.

B. senegalensis has multiple uses in addition to human nutrition. When mixed with some local oils, the green leaves can be used to store cereal grain in granaries. In addition, the dried and ground buds and young leaves are mixed with seeds for pest control. It is widely used in traditional medicine. All parts of the plant are used, including roots, leaves, barks and resins.

USC Canada also promotes medical plants by linking local healers with each other, national healers’ organisations and local health units. Work has started with organizing traditional healers, who would then promote useful wild plants, and healers have gathered in a new healer organization. Liaison with the national healers’ organization and herbalists of Mali has started, as well as cooperation and dialogue between the sick and the healer, and between the healers and local health units in specific areas of compe-

tence. Another important part of the work to promote medicinal plants is to identify useful plants, as well as threats to these. 70 plants, used in nearly 50 health recipes to treat more than a couple of dozen ailments, have been inventoried. The plant species are from 36 different families and 57 genera. The conservation status in relation to the human pressure on their exploitation of some species in the region has been clearly established. Among the plants that are threatened, vulnerable or near extinction are *Euphorbia convolvuloide* and, *Euphorbia hirta*. Plants with bulbs which are intensively harvested are *Urgina indic* and *Allium sativum*. Others plants are threatened owing to a recurrent harvesting of their roots, leaves and bark. Activities have been initiated to raise awareness on the threat to different plant genetic resources used in traditional healing and to start action for their conservation.

Plans and recommendations for the future

- Participative research needs to be initiated in order to determine traditional knowledge systems on the plant properties in various medicinal uses.
- It is also possible to locally manufacture medicinal drugs based on plants, under medical guidance.
- In order to promote the use of efficient drugs from wild or domesticated plant genetic resources in daily systems of health care, the current work to develop liaison and effective collaboration between traditional healers and modern medical practitioners needs to be strengthened.



CASE 11

Linkages between the forest and health sector – example from a national seminar in Brazil

Organisation: Centre for International Forestry Research (CIFOR)

Project: Changing the health worker's paradigm – riches from the forests

Objective: The current project focuses on a) improving understanding of the public health contributions of forests and their biodiversity, b) the impact of forest cover change on health (i.e., the positive and negative links between land use change and vector borne diseases), c) and the potential for integrating environmental and population/health.

A national workshop to increase understanding of the links between forest biodiversity and human health was organised in Brazil, in August 2007. The participants included high level policy makers from the state and national levels, and professionals from the health and forestry sectors. Civil society was also represented, including the National Council of Rubber Tappers – one of the largest social movement groups in Amazonia.

Three themes were addressed: Public Health and the Environment; Nutrition and Phyto-therapy; and Public Policies. Presentations by both researchers and governmental representatives generated lively discussions. All emphasized the urgent need for communication and collaboration between these two important sectors. Furthermore, the critical link to education was identified as one of the most important actions necessary to directly improve human health and forest management. The participants articulated their needs and the demand for relevant educational materials and decision-making tools regarding forest species (fruits, fibres, medicines, game and timber).

This workshop led to follow-up meetings in Brasilia with the National Land Entitlement Agency and the Ministry of the Environment. In April, 2008, these agencies jointly agreed to support the printing of two widely requested CIFOR publications:

a 300 page reference work on wild foods and medicines (ecology, use, management of species which directly benefit rural and urban livelihoods), and a medicinal plant booklet.

Media coverage of these events included television programs, radio recording, and articles in the two leading newspapers in Belem. In addition to information sharing, the meeting also resulted in improved collaboration between CIFOR, the State Forestry Institute and the Brazilian Forest Service. Representatives of the Ministry of Health also indicated interest in collaborating with CIFOR.



4.3.3 Main results – Biodiversity and health

Support to partners under the Collaborative Programme has contributed to increased awareness about linkages between forests, biodiversity and health. Linkages on biodiversity and health have also been further highlighted on the international agenda. Experiences from the Collaborative Programme also demonstrate how local communities are dependent on biodiversity to improve and maintain their health. This knowledge has also been used in developing indicators for these links for the 2010 target¹⁸.

Experiences up to now are generally positive, since SwedBio can notice an increased international interest of these issues. Examples include the development of health and biodiversity indicators for the 2010-target within CBD, the expansion of the COHAB network, the engagement from WHO/UNEP, and the Libreville declaration on health and environment in Africa, which was signed by African health and environmental ministers in August 2008.

4.3.4 Conclusions and recommendations – Biodiversity and health

Sustaining ecosystem services are crucial to human health. Biodiversity is necessary to reach the three health-related United Nations Millennium Development Goals. The links between climate change, health and ecosystem services are direct and are gaining increasing international attention. There is increasing evidence for how forest biodiversity - wild plants and animals - contributes to improve nutrition. The increase of malaria outbreaks when forests are logged has been verified by science. The importance of biodiversity for disaster risk reduction, and hence for humanitarian and environmental organisations to increase collaboration in post-catastrophic areas, has been highlighted internationally.

However, there are several rivers to cross before the health and biodiversity sectors understand and can help each other. Even though as many as 96 out of 141 WHO member countries have a policy on traditional medicine (or are in the process of developing one), in certain countries, particularly in the North, the role of traditional medicines is partly questioned by the health sector. The fact that many poor people both in rural and urban areas use traditional medicines shows that an increasing dialogue and understanding between experts in these sectors is needed. There are some good examples where modern and traditional medicines and practitioners are collaborating in order to combine the best practices from both systems (e.g. in Uganda).

¹⁸ In April 2002, the Parties to the Convention committed themselves to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth.

5. Ensuring equity and human rights in management and use of biodiversity and ecosystem services

One of the most apparent dimensions of poverty is the lack of influence and asserting of certain rights. The right to their land generally is the highest of all priorities for indigenous people and local communities. However, in a process of empowerment, other rights also are recognised, such as the right to food, the right to a good environment, the right to sound working conditions, the right to know, and the right to Free Prior Informed Consent, for example in the use of knowledge related to biodiversity. There is a wide scope of concepts related to a rights-based perspective on sustainable use of biodiversity. In this chapter, SwedBio's reflections related to the topics of rights and equity focus on the results obtained from civil society involvement in international processes. This includes those projects SwedBio are supporting concerning biodiversity management, aspects of collaborative management of biodiversity, and also gender, which is a mainstreamed aspect in all SwedBio collaborations.

5.1 Increasing civil society involvement in international processes regarding biodiversity management

5.1.1 Background – Increasing civil society involvement in international processes regarding biodiversity management

In many cases local communities and indigenous peoples are ultimately heavily affected by decisions taken in the major policy arenas where international and regional decision-making are made. Despite this fact, they have comparably fewer possibilities and resources to make their voices heard and influence these processes and decisions.

SwedBio gives high priority to supporting increased involvement and engagement of local actors in international policy processes related to biodiversity management. One main reason is that experiences from the ground are essential for developing credible national, regional and global policies. An equally important reason for civil society participation in international processes is that, from a rights and democracy perspective, it is necessary that all stakeholders can follow the developments of the negotiations, in order that all relevant information is taken into account when governments take their decisions. Additionally, the civil society participation when international decisions are taken creates stronger engagement and improves options for a smooth implementation on the ground.

There is a cluster of overlapping international processes linked to biodiversity. At its heart is the Convention on Biological Diversity, CBD, with its three pillars of conservation, sustainable use and fair and equitable sharing of the benefits from the use of biodiversity. However, many of the core issues for the civil society are also negotiated in other fora, such as the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA), the WIPO Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore (WIPO IGC), and the process for a Global Plan of Action on animal genetic resources. Thus the scope for SwedBio support to international processes goes beyond the CBD.

SwedBio support is twofold, and takes place through:

- direct and specific support to participation in international meetings, and
- the policy development component that forms an integral and important part of more long-term project collaborations, according to SwedBio's criteria

The former type of support has been primarily financed from the so called “multi-vote” allocation to SwedBio from Sida. This is specifically used to support a fuller and more meaningful participation and engagement from civil society in key international meetings, events and processes of relevance to biodiversity management. In most cases the support has included preparatory work of the supported stakeholder group prior to the meeting in question, participation in the meeting, and in some cases follow-up activities. Support has been given only to organisations that can coordinate inputs and participation from a large number of national and local CBOs and NGOs, and have the mandate from their constituency to do so.

5.1.2 Cases – Increasing civil society involvement in international processes regarding biodiversity management

CBD Alliance “Giving voice to local actors”

CASE 12

Organisation: *CBD Alliance through Kalpavriksh*

Project: *Democracy, Civil Society and the Convention on Biological Diversity*

Objectives: *To ensure the diverse and effective participation of civil society in the Convention on Biological Diversity.*

The CBD Alliance's core goal is to facilitate diverse, coordinated, and effective civil society input into policy-making concerning the Convention on Biological Diversity, CBD. The Alliance focuses on broadening the scope of civil society groups involved in the CBD process, especially on increasing the informed and effective participation of southern NGOs, Indigenous Peoples, small NGOs, Community Based Organizations and social movements. In practice, this means that the central coordinating body for civil society mobilizing around the CBD attempts to prioritize the participation of those constituencies most often excluded from international decision-making. CBD Alliance works to democratize the CBD process and also democratize civil society itself. Both of these tasks involve bridging cultural and political differences through internet discussions and strategy meetings, including capacity-building for participants.

Example: achievements at the ninth Conference of the Parties (COP 9)

Over 100 people, largely from the South, attended the CBD Alliance capacity building session prior to the start of COP 9 in Bonn. Translation was provided for these sessions, so that English, French, Spanish and German speakers could participate. The CBD Alliance also coordinated short, easy-to-read, briefing papers on key topics to be negotiated. These were intended to bring new participants up to speed and to be circulated to media outlets in Germany and Internationally (the briefing papers were in English, French, Spanish and German). These papers were created through a participatory process across a broad range of civil society, from North and South. The CBD Alliance also co-ordinated several press conferences which included a balanced set of viewpoints from North, South, indigenous and community groups. These highlighted the key issues for debate during COP 9. Further, the Alliance produced 10 eagerly read editions of ECO, the daily civil society newsletter, and which was used as references for newspapers in Canada.

The CBD Alliance was central in ensuring that speaking spaces for civil society and farmers were included in the opening program at COP 9. It facilitated a process of developing the statement read in plenary, so it reflected the political desires of many groups present, but especially those from the South. For example, the high-level segment initially failed to meet civil society expectations for participation. The CBD Alliance then wrote a letter to the German government explaining the concerns. Based on these letters, the German government responded by offering more spaces for civil society participation, which were then distributed amongst small, southern organizations.

The CBD Alliance also collaborates with the CBD Secretariat in various ways. For example, the CBD Alliance makes opportunities to participate in expert groups available to civil society, an important site of influence in the negotiation process. The Alliance also monitors Secretariat and Bureau decisions on who gets to participate in inter-cessional processes. In late 2008, the Alliance found that no civil society actors were selected to be part of an Access and Benefit Sharing working group, but yet that five industry people were. They successfully lobbied the Secretariat and Bureau to ensure that both southern and northern civil society experts were included. The Alliance is also collaborating with the CBD Secretariat on a newsletter, and has ensured that this newsletter will highlight the work and viewpoints of local and Indigenous organizations, in addition to that of large NGOs (who also have a space). The inaugural edition of the newsletter at COP 9 included statements from Via Campesina, the International Indian Treaty Council, and the Indigenous Peoples Council on Bio-colonialism.

Southern representatives are increasingly bringing their perspectives to the fore of the policy negotiations, albeit with varying levels of influence and success. At COP 9 the German government prioritized funding for protected areas in its Lifeweb initiative. While that perspective is supported by some large conservation organizations, the CBD Alliance helped to facilitate a response prior to this priority setting from several southern organizations, including the International Indigenous Forum on Biodiversity. A letter was sent to the Minister of the Environment, and several meetings were organized with high-level officials in the German government about the initiative to ensure that these differences of opinion were heard, and to ensure that the Lifeweb initiative would have at its core a poverty and rights perspective and the interests of local people.



CASE 13

Advocating the rights of livestock keepers

Organisation: *League for Pastoral People (LPP)*

Project: *Strengthening the Movement for Livestock Keepers' Rights Proposal for Preparatory Activities to the International Technical Conference on Animal Genetic Resources in 2007*

Objective: *To make "Livestock Keepers' Rights" a widely known and accepted concept and to convince a critical mass of decision and policy makers of the need for enshrining these rights within the context of an International Treaty on Animal Genetic Resources or another appropriate legal framework.*

The League for Pastoral Peoples and Endogenous Livestock Development (LPP) is an advocacy and support group for pastoralists who depend on common property resources. LPP work to improve the image of pastoralists among governments and development organizations by emphasizing their role in sustainable food production in



Photo: SwedBio

arid areas, in preserving indigenous livestock breeds, and as stewards of an intricate indigenous knowledge system on survival in the arid zone. LPP has consistently emphasized the connection between livestock biodiversity and small-scale livestock keepers. They stress that a loss of rights – for instance of customary grazing rights - often is the cause for the extinction of a breed. They argue that the best way of conserving breeds is by creating an enabling environment for livestock keepers, rather than by focusing on an ex-situ conservation approach. Out of this rationale, the concept of “Livestock Keepers’ Rights” was born.

In order to gain momentum and acceptance for the concept of “Livestock Keepers’ Rights” (LKR) and to enshrine it in the context of an international legal framework, LPP coordinated lobbying activities by NGOs and livestock keepers during the two year period leading up to the First International Technical Conference on Animal Genetic Resources, organised by FAO and the Government of Switzerland in Interlaken, from 1–7 September 2007. LPP and its partners convened several national, regional and international meetings on the issue of animal genetic resources and LKR, in 2006 and 2007.

During the run-up to the Interlaken Conference, LKR gradually gained credence among developing country governments. By the end of 2006, LKR was still deemed as an “NGO-concept” and therefore not included in the State-of-the-World Report on Animal Genetic Resources published by FAO. However, an international workshop in India managed to bring several Asian governments into a favourable frame of mind. A subsequent workshop in Ethiopia built on this event, and even led to the inclusion of LKR into the official agenda of the African region. In Interlaken itself, LKR were one of the three most critical subjects which the African governments made into their own and lobbied for among the G77. Because of resistance by western countries, LKR are only mentioned but not elaborated upon in the Global Plan of Action. Yet this seems to be enough of a toehold to gradually gain further acceptance, since FAO itself is now looking into the issue at the formal request of the government of Brazil.

Pastoralists and Livestock Keepers are normally disadvantaged groups in terms of getting their voices heard in international policy processes. Through the work of LPP and their network it has been possible to put the issue of “Livestock Keepers’ Rights” (parallel to Farmers Rights) on the international agenda. During the run-up to the Interlaken Conference, LKR gradually gained credence among developing country governments and was finally included in Interlaken.



5.1.3 Main results – Increasing civil society involvement in international processes regarding biodiversity management

Explicit results from the participation of Civil Society Organisations' (CSOs) are not easily measured, because so many circumstances influence the results of a negotiation. However, the list of contributions that SwedBio partners have done through their tireless work on certain conventions and processes through the programme support, is impressive.

The International Indigenous Forum on Biodiversity, IIFB, (represented several times through AIPP, IAITPTF and IIN) and other indigenous groups have made substantial progress in getting their full and efficient participation accepted in the CBD working groups on 8j¹⁹, access and benefit sharing²⁰ and protected areas. The CSOs working on CBD 10 c²¹, such as FPP and Tebtebba, have been successful in the integration of their concepts in the CBD. The concept of Free Prior and Informed Consent of indigenous peoples and local communities has likewise successfully been integrated in the discussion. At CBD COP8, the moratorium on "terminator technology" (seeds genetically modified to not grow in the second generation) was upheld, through a massive and well coordinated CSO campaign. In the CBD COP9, a moratorium was decided upon for ocean fertilization, with CSO awareness raising before and under the meeting as one of the main triggers for the decision (see case 3).

A carefully prepared CSO process was one of the important factors behind the adoption of a resolution on Farmers Rights²² at the 2nd Governing Body meeting of the ITPGRFA. This resolution has also been followed up by national inventory processes on how farmers' rights are asserted in different countries. CSO has succeeded in getting the livestock keepers' rights to be accepted as a concept in the process for a global plan of action on animal genetic resources.

Many of these decisions have further inspired groups to take national and local action on these issues, something that could also be looked upon as effects from the SwedBio programme.

SwedBio stresses that the support to CSOs should not only be measured by substantial results in terms of changes in wordings in the negotiated text. The integration of civil society organizations in the processes also demonstrates a successful development in terms of the democratic transparency and accountability of such processes. Many indigenous groups (and other civil society groups) have also stated that, as a bonus, they sometimes get access to decision makers through the international negotiations that they would never reach in their home countries.

19) In Article 8(j) of the Convention on Biological Diversity, Parties have undertaken to respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities relevant for the conservation of biological diversity and to promote their wider application with the approval of knowledge holders and to encourage equitable sharing of benefits arising out of the use of biological diversity.

20) Access and Benefit Sharing issues - access to and fair distribution of the benefits arising from the use of genetic resources

21) Article 10 c of the Convention on Biological Diversity (CBD) requires countries that are party to the Convention to 'protect and encourage the customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements'

22) Farmers' Rights, according to the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA), consist of the customary rights of farmers to save, use, exchange and sell farm-saved seed and propagating material, their rights to be recognized, rewarded and supported for their contribution to the global pool of genetic resources as well as to the development of commercial varieties of plants, and to participate in decision making on issues related to crop genetic resources.



Opening ceremony at CBD
COP8-MOP3 in Curitiba
Brazil. (Photo: IAITPTF)

5.1.4 Conclusions and recommendations – Increasing civil society involvement in international processes regarding biodiversity management

There has been increased involvement and efficient participation of indigenous peoples and local communities in the processes of the Convention on Biological Diversity. Organisations and networks supported from SwedBio's Collaborative Programme have made substantial impacts on an impressive amount of recommendations and decisions in these forums. Many of these decisions have further inspired groups to take national and local action on these issues, something that could also be looked upon as effects from the SwedBio programme.

The effects show that it is indeed possible for local actors to be visible and influence global processes. People who understand both the local context and the language of high level international negotiations are key resources for success as they can translate the local views into words that apply to the conventions. However, a strong linkage from local to global levels is needed in order to be vital and credible. Visibility and influence thus require not only participation on the international level, but also careful and sensitive preparation processes, that include local people. This requires well-organised capacity building, mentoring (between experienced civil society groups and new participants), and ideally longer-term engagement with the process (so that local actors can become familiar with the key actors, and understand processes). An important experience is that the value of the negotiations is strengthened when local actors can bring back information from the global level to the national level for feed back and follow-up activities. This emphasises the need for democratic grassroots organisations in place, which act as watch dogs and strengthen the probability that what is decided at global level will be implemented at national and local levels. Networking and collaboration between different civil society actors, and creation of platforms and forums for information-sharing, tends to create a stronger base for influencing negotiations, and may contribute to an international forum's capacity to make use of civil society inputs. It is equally important to create meeting space between governments and civil society within international processes. International bodies and global actors could

contribute substantially to the full and efficient participation of civil society by ensuring that procedures and facilities are in place for civil society participation.

Additional experiences include that there are some international negotiations which are easier for civil society to approach and make their voices heard in than others. This is due to the level of ambition in the set-up of the convention or process itself, and the space stakeholders are given in which to talk. CBD is a positive example in this respect, and maybe it is also therefore that it enjoys a high level of participation from civil society. But even so, securing civil society participation in the CBD processes – particularly fair and balanced participation – is an ongoing task for civil society groups.

During the period of implementation of the programme, the UN Declaration on Rights of Indigenous Peoples was finally adopted. The declaration has been a significant step forward for indigenous peoples in international forums, as some of the core issues they are fighting for generally are defined and confirmed here.

5.2 Collaborative and community-based management of biodiversity resources

5.2.1 Background – Collaborative and community-based management of biodiversity resources

Some natural resources have traditionally been managed mainly by communities, or groups of people, while others usually have been managed on a household basis. Agricultural land, home gardens and livestock are examples of resources that have been managed mostly on a family basis - albeit often with reciprocal arrangements between households regarding labour exchange. Resources more commonly managed collectively are grazing areas, forests, fisheries and water (irrigation). In addition, local collaborative mechanisms often exist for exchanging and supplying seeds. Traditional knowledge is another example of a joint, or common, asset, with its own mechanisms for knowledge transfer etc.

There are reasons for these systematic differences in choice of management structure. Over time, people have discovered that some resources managed jointly simply can produce more and for more people, that benefits may be better distributed, and that reciprocity may lead to greater security. One example is that a given area of grazing land will feed more cattle if the whole herd can be moved to the place that is best suited for being grazed at that particular time. As a result, rainwater can be used better, and more time for recovery after grazing can be given for those areas needing this, etc. Many of the traditional systems of community-based management systems are very sophisticated and take into consideration the fair appropriation (use) of the resource within the group, as well as the sustainability of the use of the resource. The group decides on the rules within the management system, but they also need support from other stakeholders.

5.2.2 Cases – Collaborative and community-based management of biodiversity resources

Collaborative and community based management in the Caura river region, Venezuela

CASE 14

Organisation: Forest Peoples Programme (FPP)

Project: Forest Peoples, Biodiversity Conservation and Sustainable Livelihoods - Achieving Biodiversity Conservation and Sustainable Use through Forest Peoples' Rights

Objectives: The overall goal of the project is the sustainable management and conservation of forest resources by indigenous peoples and other local communities based on respect for their rights.

Article 10(c) of the Convention on Biological Diversity (CBD) requires countries that are party to the Convention to 'protect and encourage the customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements'. In order to contribute to a better understanding on the meaning and implications of this article, and thus its more effective implementation, FPP carried out six case studies in different continents. These studies were conducted in close collaboration with indigenous peoples and local traditional resource users' partners, and aimed to map the customary sustainable use of biological resources by indigenous and local communities and examined the requirements for Parties for fulfilling the obligations under Article 10(c).

For example, in Venezuela FPP supported the Ye'kwana and Sanema peoples of the Upper Caura river to carry out participatory mapping, a community-based research to document their customary sustainable resource uses and traditional practices, and to examine the national policy and legal context in relation to Article 10(c). The project was developed in collaboration with the indigenous peoples organisation, Kuyujani (representing Ye'kwana and Sanema indigenous peoples) and the Centro de Investigaciones Antropológicas de Guayana of the Universidad Nacional Experimental de Guayana (CIAG). This study assessed the extent to which the Venezuelan government is in compliance with its obligations under the CBD to protect and encourage customary practices. It highlighted the major efforts that the Ye'kwana and Sanema have undertaken to strengthen their customary systems of natural resource management.

Moreover, legal claims of indigenous communities drawing on the developed community resource use maps were supported (see below). FPP worked with Kuyujani and CIAG to support the Ye'kwana and Sanema to gain collective legal title and control over the Upper Caura river basin, in order to achieve their natural resource management and community development objectives. Indigenous cartographers were trained to produce a map of indigenous land and resource use in the Upper Caura. The map, registered as the intellectual property of Kuyujani, backed up a legal claim for 36,000 sq. km. in the Upper Caura, including three protected areas, to be held as a collective multiethnic land title vested in the Öyaamö, the paramount indigenous institution for the Caura basin.

A management plan for the area was developed in collaboration with local communities, and endorsed by the Government. This involved training of community members to evaluate their customary institutions, traditional land use systems and norms for

regulating resource use. In addition, Kuyujani 'parabiologists' (persons knowledgeable about wildlife, but with no formal training) were trained in western systems of biodiversity management. The management plan was endorsed by national government agencies, academic institutions and NGOs. Kuyujani started implementing the management plan during 2004. This included collective decision making and planning on the movement and location of their mobile settlements in order to spread out the pressure on the environment, and setting up a hunting monitoring station manned by indigenous parabiologists.

Kuyujani's experience gained through the project has resulted in it becoming one of the most respected and highly qualified indigenous organizations in the country. One of its remarkable achievements has been to build the organisation as an inter-ethnic association representing both Ye'kwana and the Sanema communities, and to address the historically unequal relations between the two peoples. It also carried out community workshops to explore how women can be involved equitably in decision-making, and how these ideas mesh with customary notions of gender roles.

The Venezuelan legal framework on indigenous people and land has been influenced significantly. The project's achievements strongly influenced the revision of the Venezuelan constitution and a law on demarcation of land, creating a more favourable legal framework for the eventual land claim.

During 2007–2008 some progress has been achieved, despite difficult circumstances, such as the lack of support from the new Ministry of Public Power for Indigenous Peoples. The Ministry openly opposes the titling of indigenous peoples' 'habitats' (in contravention of the content of the new Constitution and newly adopted laws), and the unfortunate situation is that the Upper Caura has been subjected to repeated invasions by illegal miners. Through engagement with the national administration, Kuyujani was successful in getting the area of the land claim registered in the regional land use plan of the Ministry of the Environment as an 'indigenous multiple use zone'. Active interventions by Kuyujani with the local administration and armed forces have led to eviction of the illegal miners from the Upper Caura. Given the lack of political space and the absence of fair judicial process at the national level, however, the General Assembly of the Caura decided in January 2008 not to pursue a legal challenge of the Government for its failure to recognise their indigenous territorial rights.



CASE 15

Community-based management of a protected area in Sabah, Malaysia

Organisation: *Asia Indigenous Peoples Act (AIPP)*

Project: *Collaborative Management Learning Network in Southeast Asia (CMLN)*

Objective: *To create win-win situations for conservation agencies and indigenous communities in and near protected areas – to conserve Southeast Asia's rich biodiversity while safeguarding the rights and concerns of the indigenous peoples.*

The AIPP network builds dialogue between local indigenous groups and protected area authorities in several countries in Asia on the issue of community management. The development of different types of collaborative management of natural resources systems are considered to be of utmost importance for the conservation and sustain-

able use of biodiversity throughout the world. The issue is, for example, topping the agenda for the Ad Hoc Working Group on Protected Areas linked to CBD and for major conservation NGOs such as WWF and IUCN.

The countries participating in this project are at very different levels in the inclusion of local people in the management of protected areas. Three regional workshops have been held where the stakeholders in the different sites have participated and learnt from each others' situations.

Around 20 communities technically became illegal residents in Crocker Range Park in the State of Sabah in Malaysia following the Government's decision to gazette the area as a national park. The concept of a Community Use Zone has evolved through a process of community mapping, and a dialogue between stakeholders was started. These negotiations with Crocker Range Park have largely been carried out by representatives from two local communities. After this pilot process, Crocker Range Park is supportive of these activities as they see this as a way to implement their international CBD commitments and the communities can assist to monitor and protect this area of the park. Communities can continue their traditional livelihood activities within the Community Use Zone and, being officially recognised, they may also receive government funds for the development of their villages.

This model has now been used in Sabah State legislation and Sabah Parks will now implement it in the 20 other communities living inside the 139,000 ha. Crocker Range Park. In an article in the New Sabah Times (9/6/08) it was reported that the concept is also now being applied to other areas such as Marine Parks, Forest Production areas, etc.

In several of the different national pilot areas it is reported that cooperation and dialogue at the local level is possible and has significantly reduced tensions and serious long standing conflicts. Local government authorities are often positive towards these approaches but, in many of the countries the national level policy is not conducive to cooperation. The network will now continue with its work and with the successful cooperation at local level as a base to advocate in national forum for changes in policy that will actually support what is already going on at the local level in a fruitful way.



Ecotourism and conservation for local livelihoods improvement, Nata Bird Sanctuary, Botswana

Organisation: *Birdlife International Africa*

Project: *Sustainable Livelihoods project- case from Botswana*

Objective: *The project is aimed at demonstrating the causal link between the sustainable use of biodiversity and the maintenance and enhancement of livelihoods and reduction of poverty amongst rural people in the developing countries of Sub-Saharan Africa.*


Nata River delta in the northern part of Sua Pan is a key part of the Makgadikgadi Important Bird Area. One of the Nata Sanctuary Trust's objectives is to serve as custodians of this biodiversity-rich area. Members from four villages comprise the Trust. Through the project they have received support to develop income generation activities that are directly linked with conservation of the Makgadikgadi pans. An advocacy and communication strategy has been developed and the Trust improved management

CASE 16

of the sanctuary. To do so, it made efforts to tap into the tourist industry by working closely with Botswana Tourism Board, Wildlife and Parks department and others such as BirdLife Botswana. A number of possibilities for tourists have been created, including: camping, bird watching, a viewing platform, and development of crafts for sale to tourists. The entrance charges range between Euros 3.4 to 9.5 per person.

The local people have been capacitated to manage the tourists, with eleven local young people trained as bird guides for two weeks. The Sanctuary is in the process of enhancing a bar and restaurant for refreshments to visitors, they have a curio shop, an office and a camp site. In addition, a web site and information brochures have been developed. This has led to an increasing number of visitors and better management and collaboration with the surrounding villages.

Quote from Ms Ramontsho (the Trust Park Manager): “The BirdLife-SwedBio project has assisted the Trust to move another step forward in our quest to become self-sustaining. We have benefited from the capacity-building aspect of the project, as well as the provision of some of our basic infrastructure needs, and this will stand us in good stead in the future. We intend to maintain the good working relationship with BirdLife Botswana that has developed as a result of this project, and ensure that the Trust fulfils its dual objectives of protecting the rich birdlife of the Nata area while benefiting the participating communities”.



5.2.3 Main results – Collaborative and community-based management of biodiversity resources

Projects such as the ones described above have contributed to increased opportunities for indigenous and local communities to effectively participate in decisions and policies affecting the use and management of the areas on which they depend. Their rights and concerns are receiving increasing consideration.

Communities’ traditional knowledge, practices, and skills in terms of sustainable management of biological resources also are receiving greater acknowledgement by governments and other stakeholders. The increased international and national awareness about Article 10(c) of the CBD, a direct consequence of some of the projects described above, certainly plays a role in this trend.

Moreover, increased understanding and advocacy for application of the concept of Free, Prior and Informed Consent (FPIC), has led to a stronger position of indigenous and local communities to influence the way that natural resources are managed, on various levels. According to international law, indigenous peoples have the right to make well-informed decisions and must give their consent before any actions related to conservation or use of biodiversity are carried out in their territories. Through application of this concept, communities can halt unsustainable initiatives and engage in an effective dialogue and collaboration with other stakeholders.

Putting light on paragraph 10(c) of CBD and the concept of Free Prior and Informed Consent (FPIC), both in global policy processes and also in national contexts, has led to increased influence of indigenous and other local people on how natural resources can be managed in a sustainable way through collaboration within the managing groups, and between different stakeholders.

5.2.4 Conclusions and recommendations – Collaborative and community-based management of biodiversity resources

Governments need to make a legal framework that protects the rights (ownership or users' rights) for communities, and they also need to have resources to enforce the legal system. However, collaborative management systems run a risk of not being able to adjust to modernization and changes in society, and may therefore switch to open-access systems. In several cases legal and policy provisions (e.g. forest law, land law, agricultural policies, etc) may not recognize the existence, role and relevance of community-based systems. At worst they may even try to counteract them.

It seems that even where national policies and laws are adverse to collaborative management, government bodies can be pragmatic and cooperate with local groups on a local level. Successful examples of collaborative management should continue to be showcased on national level in order to influence policy makers.

For many of the local and indigenous NGOs working with collaborative management, the rights aspect is probably more important than the biodiversity conservation aspects. The concept of “biodiversity conservation”, as used by the global conservation community, is alien to many local people. They may manage the biodiversity in a sustainable way but they do not think of it as “biodiversity conservation”. Many groups also have concern over their rights to land. Local land rights do not always mean sustainable use of biodiversity. However, without respect for local peoples, their knowledge, experiences and realities, it will not be possible to obtain sustainable use.

There is a need to continue a dialogue – both locally and in policy debate – on the concept of community. Communities in different places and cultural settings are not a homogenous group or concept. Communities have different degree of democracy and equity and this must increasingly be addressed in all aspects of sustainable and equitable use of biodiversity.



Signing of the Land Use demarcation map for Khun-Pea village in the Mae-Pae Watershed in Ob Luang National Park in Chiang Mai, Thailand. (Photo: AIPP)

5.3 Biodiversity and gender

5.3.1 Background – Biodiversity and gender

Men and women have different roles and responsibilities in communities and societies, and there are differences among cultures in practice and power balance related to gender. Therefore attention to equity and gender issues plays a critical role in a livelihood perspective related to sustainable use of biodiversity, and needs to be carefully considered in order to make sure the full potential will be achieved in programme work.

Women occupy a central role in food production and food and livelihood security. They produce 50 to 90 percent of domestic food crops in Asia and 80 to 90 percent in many Sub-Saharan Africa countries. Women may often have a more highly specialized knowledge of wild plants used for food, fodder and medicine than men. Women are

thus often direct custodians of biological resources, and rural women's roles as food providers and food producers link them directly to the conservation and sustainable utilization of biodiversity. Through their daily work, rural women have accumulated intimate knowledge of their ecosystems, including the management of pests, the conservation of soil and the development and use of plant and animal genetic resources. Centuries of practical experience have given women a unique role as keeper of knowledge about local crop and farm animal management, ecosystems and their use.

Nevertheless, they often have less influence and access to the resources, and are often not the owners of the land. Strengthening access to land for women is critical as they are major contributors to the local food supply and family nutrition in most countries. Yet, they frequently lack secure access to the land where food is produced, often lose access to their husband's land at the time of his death, rarely have the same rights to inherit land as men, and are forgotten when land is distributed through land reform.

Gender and equity is dealt with in different ways in SwedBio's Collaborative Programme; however it is always addressed. Several programmes have presented studies and analyses related to gender and biodiversity in a livelihoods perspective. Gender aspects are analyzed in all assessments of proposals. These may address the respective connections men and women in the project have to biodiversity, such as whether, for example, is it men or women who collect and carry the knowledge on seeds. It could also be in the form of securing active participation of both women and men in a certain process; or providing specific workshops for women needs; or by facilitating organizations' work at grassroots level, that consider gender issues.

5.3.2 Cases – Biodiversity and gender

CASE 17

PAN AP and the birth of Vikalpani - a strong women-led grassroots-based organization for women's rights as human rights, peace, and ecological alternatives to pesticides in Sri Lanka

Organisation: *Pesticide Action Network Asia and the Pacific (PAN AP)*

Project: *Ending the Cycle of Poison: Community Empowerment and Action for Eliminating Pesticide Hazards*


Objective: *Empower communities to tackle the pesticide problem, monitor and take action.*

At the request of PAN AP, Dr Helen Murphy, a consultant with FAO, trained 22 organisers (16 of whom were women) from community level NGOs/CSOs from three farming districts, on signs and symptoms of pesticide poisoning. A total of 296 farmers who were heavy pesticide users from the three districts were selected after the workshop. They were educated on the signs and symptoms of poisoning and asked to complete a questionnaire. Every week the organisers would collect and compile the information and every month meetings were held to discuss the results. Field experiments were also conducted on the use of organic fertilisers in women's home gardens, on rice cultivation using the system of rice intensification, or on the Madagascar method without the use of pesticides. PAN AP provided some seed grants to help in the training of local farmers.

The national coordinator of the Community Organization Centre, Chandra Hewagallage, was a resource person in many of the programmes conducted by other organisations on sustainable agriculture and on the pesticide issue. Chandra has been involved in a number of training workshops and strategy meetings organised by PAN AP.

Inspired by the training, support and capacity building activities the women, led by Chandra Hewagallage, discussed and promulgated the establishment of the Vikalpani Women's Federation. This federation emerged out of the PAN AP interaction, awareness raising and mobilisation with the Community Education Centre, especially on the issue of pesticides. Vikalpani has been actively mobilising their rural members throughout Sri Lanka on the issue of pesticides. In particular they have been: monitoring health effects; undertaking strong campaigns and advocacy on problem pesticides identified via their monitoring process (paraquat); and linking their local women's groups with practitioners of organic and sustainable agriculture. In 2007 Vikalpani felt the fruit of their labour when the Pesticides registrar announced a three year phase-out period for paraquat.

Vikalpani has emerged as a strong women-led grassroots-based federation. In 2006 they established an office independent of the Community Education Center, and organised a Strategy Meeting with a special gender training session. They requested the help and involvement of PAN AP Executive Director, Sarojeni Rengam, to plan and run the Strategy and Gender training. The training workshop involved Vikalpani leaders from all their member organisations and it was a participatory, hands-on training and strategy building session. It involved small-group work to develop their vision, mission and objectives as well as to collectively develop key strategies for the federation. The final session focused on action planning and was facilitated by the leadership. As part of their overall Strategy building and focus, Vikalpani aim to continue strengthening their work and grassroots outreach on gender issues (women's rights as human rights), peace, as well as pesticides and ecological alternatives.



Awareness-raising and capacity-building for indigenous women on the CBD

CASE 18

Organisation: *Tebtebba (Indigenous Peoples' International Centre for Policy Research and Education)*

Project: *Indigenous Peoples' Capacity Building and Advocacy Project for Implementation of the Convention of Biological Diversity (CBD)*

Objective: *Awareness-raising and capacity-building for indigenous women and to promote gender mainstreaming within the CBD programmes of work.*

Tebtebba is an indigenous peoples' organization which advocates for the rights of indigenous peoples to be recognized, respected and protected worldwide. Tebtebba, a word used by the indigenous Kankana-ey Igorots of Northern Philippines, refers to a process of collectively discussing issues and presenting diverse views with the aim of reaching agreements, common positions, and concerted actions.

In this project, Tebtebba collaborates closely with the Indigenous Women's Biodiversity Network (IWBN), and a strong feature of the project has been the capacity-building for IWBN members and joint advocacy on gender and biodiversity.

The IWBN was initiated in 1998 during the fourth Conference of the Parties to the Convention on Biological Diversity (CBD), with the main goal to promote and ensure the active participation of indigenous women at all levels in international environmental forums and to promote the vital role that indigenous people play in the protection of the environment. Some of the recommendations from this meeting were:

- To ensure the visibility of indigenous women and that their recommendations are reflected in all COP meetings;
- To work at community level to ensure that international processes reach out to them and that they can also contribute to the national, regional and international processes;
- To advocate around property ownership for indigenous women, especially since most of the land is not accessible to, or owned by, indigenous women.

The issues of indigenous women were reflected for the first time within the CBD with the formation of the IWBN. They meet before important CBD meetings and it is then that the main training activities for indigenous women take place. However, these activities were limited to women already active in the CBD, and Tebtebba identified a need to conduct specific workshops for indigenous women in Africa and Asia. The goals were to broaden the base of women knowledgeable about the CBD, strengthen women's participation in the CBD, and to activate existing regional indigenous women's networks.

The Asian workshop was organised by Tebtebba and the Asian Indigenous Women's Network (AIWN) in August 2007. It enabled the participants to build their capacities on where and how indigenous women could participate in the CBD processes. They also agreed that they achieved a certain level of confidence in helping make operational and popularise at national and grassroots levels all CBD-related programs for indigenous people, particularly women. Capacity-building training on indigenous women and the CBD, with a special focus on training methodologies, was identified as a high priority in the further work. Education on environmental issues such as climate change, women and forests, resource management, invasive alien species, and biopiracy were also identified, to complement the knowledge that the women participants already had on indigenous women's rights.

The African indigenous women's training workshop was held in July 2007. It was organised by Tebtebba, together with the Indigenous Information Network, International Indigenous Women's Forum (FIMI) and Indigenous People's Network for Change (IPNC). It had the key objective to raise the awareness of indigenous women in Africa on their rights, environmental conservation, biodiversity and traditional knowledge. Recommendations related to their status and human rights as indigenous women were identified. These included: increasing and encouraging women's participation in sustainable use of nature's resources; creating awareness for property ownership issues and legal rights; capacity-building activities to enhance women's advancement and their rights as women; awareness on negative cultural practices such as female genital mutilation; and the importance of education of girls to fight early marriages. The workshop also resulted in a comprehensive publication, "Africa Indigenous Women's Regional Workshop on Biodiversity, Traditional Knowledge and Women's Rights in Africa", with country reports on the situations of indigenous women in eleven African countries.

These workshops for indigenous women in Asia and Africa empowered the women and promoted network building, by bringing them together and allowing them to strategise regional priorities for their networks. The capacity building also gave con-

crete results in the form of activities at community level, such as tree planting with native tree species in Kenya and Uganda, and a radio programme for community outreach in Uganda.



5.3.3 Main results – Biodiversity and gender

Capacity and awareness on gender issues related to sustainable use of biodiversity has been strengthened. Women have been empowered through network building, and spaces have been created for women to interact and put their views forward, in the context of local management of biodiversity as well as in the international processes, where participation of indigenous people and local communities has been supported by the programme. Gender perspectives regarding different roles in biodiversity management have been highlighted. This has also been a mainstreaming issue in all SwedBio-supported programmes.

5.3.4 Conclusions and recommendations – Biodiversity and gender

Participatory approaches include ambitions to empower and integrate marginalized people in decision-making over their own lives, as well as at community and other levels in society. The assumption is that participatory approaches empower people with the skills and confidence to analyse their situation, reach consensus, make decisions and take action, with the ultimate goal of more equitable and sustainable development. Yet it is clear that, if initiatives do not specifically deal with the complexity of differences, including age, caste, ethnicity, and in particular gender, there is a risk that many existing opportunities might not be fully utilized. A gender analysis is necessary when working with people and biodiversity, to understand men and women, boys and girls and their different roles and knowledge regarding the resource management.

Women's rights to resources are a critical factor in social status, economic well-being and empowerment. Resource tenure policy thus should ensure that women have full and equal access to, and control over land, including the right to inherit and own land and other productive resources.

Another experience from SwedBio programme is that when specific attention is paid to women and gender equity, it pays off. This is not only in terms of an increasing number of participating women, but also in the subsequent steps of implementation of programmes, and thus result in a positive influence on the outputs per se.

Through the programmes it has been clear that it is possible to provide space for women's independent and active participation, but only if you pay specific attention to the issue. A further positive experience has been that, when women start engaging in often very hands-on and practical matters in workshops within a programme,



Millet processing, CBDC
Africa national partner in
Mali (USC Canada)
(Photo: SwedBio)

Women's market gardens,
CBDC Africa national partner in Mali (USC Canada)
(Photo: SwedBio)



there is at the same time the creation of a new space for women to share other important, but maybe more sensitive aspects, of their lives related to roles and rights. It would never have been possible to deal with these sensitive aspects (e.g. violence, abandonment, HIV/AIDS, etc) in a mixed group. It is important to have due respect for different cultures and ways of living, but still to continue to discuss gender- and rights-aspects on all possible occasions.

It is sometimes seen as if the unique skills and knowledge of biodiversity such as seeds and animals, should give women a stronger role and more control in these areas. However this should not be taken for granted. Although there are large differences between cultures, many times it is necessary to pay specific attention to women's roles, particularly in development work. This is because changes in customs may also affect the balance of power over resources – e.g. a focus on commercial crops without a carefully gender analysis before implementation, means a risk of strengthen the men's control and income, as it's normally their area. Equally, a stronger focus on the areas of women's sphere of crops and animals for home consumption, contributes to women's options for the families' broader needs, and could serve as a means of empowerment.

6. Support development of appropriate incentive frameworks and good governance in order to address root causes of biodiversity loss

There is an increasing awareness of the need to secure a global joint effort to halt the destruction of our environment. This is even more alarming now because of the rapidity of the current global change taking place. This relates to climate change but also other global change like the growing risk of crossing critical thresholds in many marine ecosystems and fisheries, and rapid changes in terrestrial biodiversity induced, for example, by deforestation.

Whilst the intermediary and direct causes behind biodiversity loss very often are linked to unsustainable natural resource use practices, the underlying root causes are largely structural, and include inappropriate incentive systems and policy frameworks.

One root cause of biodiversity loss is governance failures, including corruption and the lack of transparency and accountability of government and private-sector performance and decision-making. This includes also the lack of access to the decision processes of those people whose livelihoods are dependent on access to and sustainable use of biodiversity and ecosystem services. Lack of resources knowledge, awareness and understanding, among decision-makers, is also an important factor.

SwedBio's Collaborative Programme therefore pays close attention to developments in international macro-policy frameworks and international conventions, aiming at promoting stakeholder involvement and democratic development (see above), integrating ecosystem management goals in development and sector planning, as well as communication and awareness-raising.

6.1 Biodiversity, macro-policies, international conventions and trade

6.1.1 Background – Biodiversity, macro-policies, international conventions and trade

SwedBio consequently gives strong attention to the development and implementation of adequate international frameworks and regimes for sustainable and equitable management of biodiversity and ecosystem services. The direct support to increased civil society participation and presence in international and regional meetings is critical in this context, but equally important is support to more long-term and regular monitoring of, and policy input to different regional and international processes. It is also important to support capacity building among both NGOs and national governments on biodiversity-livelihoods implications of these international and regional policy frameworks.

Some of the international policy frameworks that are of relevance to biodiversity and ecosystem services are: The Convention on Climate Change (UNFCCC) with e.g. the negotiation regarding mitigation as REDD (Reduced Emission from Deforestation and forest Degradation) and adaptation issues. The World Trade Organisation (WTO)

Logging trucks in Borneo
(Photo: CBM)



and also Free Trade Agreements have significant impacts on biodiversity and ecosystem services. The TRIPS²³ and also WIPO²⁴ processes relates to intellectual property rights and traditional knowledge, which also have interfaces and overlaps with CBDs Access and Benefit Sharing process. Other important forums with strong links to biodiversity and livelihood issues include the Food and Agriculture Organisation (FAO), the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), United Nations Forum on Forests (UNFF), the International Maritime Organisation (IMO), and the Consultative Group on International Agricultural Research (CGIAR). As sustainable use of biodiversity also is a rights-issue, processes that address human rights and indigenous peoples are also critical, such as the United Nations Permanent Forum on Indigenous Issues (UNPFII), and International Labour Organisation (ILO). The UN General Assembly adopted, in September 2007, the Declaration on the Rights of Indigenous Peoples. This is seen as a significant step forward and strengthens the case for indigenous peoples in many of the above mentioned forums. The Biosafety Protocol under the Convention of Biological Diversity entered into force in September 2003. This provided the legal and regulatory framework for international and national discussions on biosafety, including risks, vulnerability and socioeconomic impacts. It has created a framework for debate and democratic processes related to biosafety, however with the limitation that a few of the countries with most significant producers of genetically modified crops are not parties of the protocol.

23) Trade Related Intellectual Property Rights

24) In particular the WIPO Intergovernmental Committee on Intellectual Property, Traditional Knowledge and Folklore (IGC)

6.1.2 Cases – Biodiversity, macro-policies, international conventions and trade

CASE 19

FERN “International frameworks and context”

Organisation: *Forests and the European Union Resource Network (FERN)*

Project: *Promoting Good Governance in the Forest Sector*

Objective: *To improve knowledge and analysis of existing legal frameworks and rules primarily in countries that want to negotiate Voluntary Partnership Agreements (VPA) and to campaign and advocate for policy changes that enhances local peoples’ rights and improved livelihoods.*

FERN participated actively in the debate on illegal logging at EU level in 1999, leading to the adoption of the EU FLEGT (Forest Law Enforcement, Governance and Trade) Action Plan in 2003. This action plan calls upon the EU to develop Voluntary Partnership Agreements (VPAs) to create a caucus of the main wood producing and importing countries. The producing countries have to define legality, develop a verification system, a timber licensing system and an independent monitoring system. There are currently formal negotiations towards a VPA with Cameroon, Congo, Ghana, Malaysia and Indonesia.

FERN works closely with NGOs and community based organisation platforms in all these countries to ensure that these VPAs will improve forest governance by fully recognizing tenure rights of local communities, increasing transparency and reducing corruption. The NGO coalitions now have a seat at the table of these negotiations.

Most countries have forestry laws that aim to regulate the management and protection of forests. However, rights of ownership, use and access to forests by local communities are often not recognized. In many cases, local people’s use of the forest is deemed as illegal. Hence, simple law enforcement may increase poverty and conflict. The FLEGT process, however, provides a good approach to encourage governments to revise their laws and develop a definition of “legality” (i.e. legal use) in close co-operation with civil society actors, including local communities. Once a legality definition has been approved, the verification system and independent monitoring system allows civil society actors sufficient input into the process to ensure its credible implementation.

The effectiveness of the FLEGT process varies per country, depending on the strength of civil society actors, the timber industry and the political will of the government and the EU. In all countries currently negotiating a VPA, community tenure rights have been a major topic of discussion.

In Ghana, the first country to sign a VPA (2008), written consent is now required from communities before any logging can take place. Additionally, a forest law reform process leading to Free Prior and Informed Consent will be concluded within one year after signing a VPA. This process will also lead to regulation of the timber industry and force it to pay all its taxes. Currently Ghana loses millions a year in lost tax revenues.

In Liberia, NGOs are working on the passing of a community rights law. This would fully recognize customary ownership by all forest communities and establish a commitment to demarcate and register 40% of community forests within the next five years.



Access and benefit sharing of the sustainable use of genetic resources

Organisation: *Third World Network (TWN)*

Project: *Biosafety and Biodiversity Programme of the Third World Network*

Objective: *To consolidate and strengthen the capacity of TWN, NGOs, scientists and policy makers, particularly of developing countries, to further their understanding and policies in the areas of biosafety and biodiversity.*

TWN's basic achievement under the biodiversity component of the Biosafety and Biodiversity programme over the past five years has been related to capacity-building in a number of developing countries – among civil society actors and government policy makers, policy implementers and diplomats – to enhance their understanding of the interface among the three objectives²⁵ of the Convention on Biological Diversity (CBD) and of the relationship between the CBD and other agreements such as World Trade Organisation's (WTO's) Trade-Related Intellectual Property Rights (TRIPs) Agreement.

The Programme has main results from monitoring, research and documentation of biopiracy²⁶ and work on access to and fair distribution of the benefits arising from the use of genetic resources; the so-called Access and Benefit Sharing (ABS) issues. They include, for example, research and analysis of issues and options for an international ABS regime (which will define the international action needed for ABS); advocacy at the Conference of the Parties to the CBD to adopt a decision to negotiate an international ABS regime; continuously supporting a core group of negotiators from developing countries to better prepare for the ABS negotiations; providing regular information and analysis on the interface between developments at the CBD, the WTO TRIPS Council, the World Intellectual Property Organisation (WIPO) and the World Health Organisation (WHO); and supporting national efforts to formulate ABS policies and laws in some countries.

TWN has been working together with partners to document cases of biopiracy. One example is the African Centre for Biosafety, who held a training of African partners to trace, document and monitor biopiracy in Africa. As a direct output of the training, legal action was taken to address a biopiracy case from South Africa. This case concerned two traditionally-used species of local indigenous and endemic plant species, *Pelargonium sidoides* and *Pelargonium reniforme*. These had been patented by a German company, Schwabe Pharmaceuticals, without the knowledge or the consent of the local communities and holders of the knowledge. After uncovering the pelargonium biopiracy case, the African Centre for Biosafety, together with a community holding the knowledge and in collaboration with the Berne Declaration, Switzerland, challenged three patents at the European Patent Office.

Moreover, this case has proved to be a useful illustration of the complexity and urgency of ABS. TWN and African Centre for Biosafety presented the case in a side event in one of the CBD working group meetings on ABS. The side event opened up rich and fruitful discussions regarding the problems with on-going biopiracy in the developing world, and the overburdened responsibility that governments in developing countries have to bear in addressing the complexities of the issues involved. The side event

25) The conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

26) Defined as "bioprospecting, regarded as a form of exploitation of developing countries" in the Oxford Dictionary.

revealed that whilst some developed nations are intent on avoiding the environmental debt they owe to the developing world as a result of biopiracy, indigenous peoples in developing countries continue to suffer politically, economically and environmentally. Nevertheless, they continue to remain the custodians over the world's biodiversity and indigenous knowledge. The need for the research community to acknowledge the rights of indigenous peoples and local communities was stressed. A number of participants called for better understanding of ABS regulation by researchers, and stressed that compliance with ABS regulation will not hamper genuine research. The experience and other documented biopiracy cases should be disseminated worldwide to prevent biopiracy at the international level.



Impacts on people and environment of a proposed PES-law in Paraguay

CASE 21

Organisation: *Global Forest Coalition (GFC),*

Project: *Life as Commerce Phase 2, Building the capacity of Local Communities and Social Movements to Analyze and Address the Impact of Market-based Conservation Schemes on Women, Indigenous Peoples, and the Poor*

Objective: *To further analyze the social and environmental impacts of market-based conservation schemes*

The Global Forest Coalition is an alliance of NGOs and Indigenous Peoples' Organisations from all over the world that are working together on awareness raising and advocacy campaigns to promote rights-based, effective forest policies. Between 2006 and 2008 the Global Forest Coalition implemented an awareness-raising and advocacy campaign called "Life as Commerce". The project aimed to analyze the possible social impacts of market-based conservation mechanisms like markets in environmental services. The project included national awareness-raising campaigns by national partner groups in Costa Rica, India, Colombia, South Africa, Paraguay and Ecuador. The campaign's focused on different markets for environmental services, such as carbon offsets²⁷, gene trade and ecotourism.

The project in **Paraguay** focuses specifically on the new Paraguayan Payments for Environmental Services (PES) law, which will be partly financed through biodiversity offsets²⁸. In December 2006 a first two-day workshop was held in Los Altos, in the central department in Paraguay. This brought together a number of key stakeholders from farmer's movements, Indigenous Peoples' support groups, women's groups, NGOs and scientific institutions. The meeting discussed different aspects of the PES law, including concerns that:

- The PES law will mainly benefit large landholders, corporations and large conservation NGOs, to the detriment of communities, indigenous peoples, women and monetarily poor groups, who:

27) A carbon offset is a financial instrument representing a reduction in greenhouse gas emissions. Although there are six primary categories of greenhouse gases,[1] carbon offsets are measured in metric tons of carbon dioxide-equivalent (CO₂e). One carbon offset represents the reduction of one metric ton of carbon dioxide, or its equivalent in other greenhouse gases.

28) Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate prevention and mitigation measures have been implemented.

- ◊ Do not have money to buy “environmental services”,
- ◊ Do not have the legal and marketing skills to sell “environmental services”, and
- ◊ Suffer disproportionably from the impacts of the environmental problems biodiversity offsets are to compensate for, especially soy expansion and related water contamination;
- The PES law would frustrate the land reform, which is a major social issue in Paraguay;
- The PES law would include compensation for forests on lands that were illegally acquired during the dictatorship (so-called “tierras malhabidas”);
- Small farmers and indigenous peoples’ communities would probably not be able to benefit from any payments as first they would have to invest in an environmental impact assessment, which is too expensive for them;
- Moreover, the persistent problem of corruption in Paraguay would probably cause most payments to end up in the wrong hands.

A second major event took place in April 2007 in the capital Asunción. Some 60 representatives of the largest farmers’ movements of the country, indigenous peoples’ organizations, and NGOs listened to an in-depth analysis of the PES law by the Global Forest Coalition and its national partner group Sobrevivencia. The analysis pointed out that:

- By establishing a right to compensation for all landowners for the environmental services provided by their forests and other ecosystems, the law implicitly establishes a right to claim compensation for complying with environmental regulations;
- The law facilitates the privatization and expropriation of Paraguayan nature to foreign entities, as any foreign entity is able to buy environmental services certificates;
- the law undermines democratic decision-making, as the funds will come from the National Environmental Fund without taking into account the financial priorities established by the legitimate administrative bodies of the Fund.

Other meetings focused especially on the possible impact of the Paraguayan PES law on the rights of indigenous peoples as enshrined in the new UN Declaration on the Rights of Indigenous Peoples. Participants in the meetings revealed that there have already been several cases in which private protected areas have been established on indigenous territories, triggered by the possible financial flows that might come from the new PES law.

Meanwhile, Sobrevivencia succeeded in raising the awareness about the possible impacts of the PES law among parliamentarians, senators, and some key people in the Environmental Secretariat. As a result, the further development of the regulations through which the law has to be implemented was put on hold, until the social and environmental impacts of the PES law are better understood.

The GFC project also includes an important international awareness-raising component. In 2007 alone, eight international workshops and side events on markets for environmental services were organized, involving more than 900 NGOs, IPOs and governmental policy-makers. Partly as a result of these and other awareness-raising activities, the Conference of the Parties of the Convention on Biodiversity has asked for more analysis on the potential social impacts of markets in environmental services.



6.1.3 Main results – Biodiversity, macro-policies, international conventions and trade

The Collaborative Programme has contributed to bring perspectives in support of sustainable and equitable use of biodiversity to the fore, thereby influencing outcomes of a number of policy negotiations, including:

- Issues such as access and benefit sharing of genetic resources, highlighting the follow-up to the Millennium Ecosystem Assessment, and a rights' perspective concerning Protected Areas at the Convention on Biological Diversity (CBD);
- Bringing social issues into the negotiations on Reduced Emissions from Deforestation and forest Degradation (REDD) necessary for long term sustainability of the results of the negotiations at the climate convention (UNFCCC);
- Dissemination of information on impact of trade on biodiversity (including through the creation of the webpage www.bilaterals.org), influencing the FLEGT (forest, law enforcement, governance and trade) regarding illegal logging;
- Contributing to the possibility for indigenous and local communities to raise their issue about their rights concerning genetic resources and related knowledge at the World Intellectual Property Organisation (WIPO);
- Enhancing the understanding of government policy makers, policy implementers and diplomats concerning clusters of policy frameworks, such as the relationship between the CBD and the World Trade Organisation's (WTOs) Trade-Related Aspects of Intellectual Property Rights (TRIPs) Agreement.

6.1.4 Conclusions and recommendations – Biodiversity, macro-policies, international conventions and trade

The environment has no borders. There is an increasing awareness of the need to secure a global joint effort to halt the destruction of our environment. Many international agreements and processes are crucial for the possibility to maintain biodiversity and ecosystem services. The Convention on Biological Diversity (CBD) naturally has high priority in this respect, as well as processes related to the CBD, including e.g. the follow-up of Millennium Ecosystem Assessment. The importance of resilient ecosystems for adaptation and mitigation to climate change is more and more evident. The role of multilateral environmental agreements, e.g. the CBD, need to be made clear and stronger in relation to other international processes such as trade agreements. The CBD and the climate convention (UNFCCC) need to be more co-ordinated. As there are so many overlapping processes, there is a basic need for a comprehensive analysis of clusters of negotiations, in order to be able to achieve results. Developing countries and civil society organisations, with limited resources, need to make difficult strategic decisions on what to follow, and where to be present.

Resource use, welfare as well as power are unevenly distributed. There is a gap and tension between the North and the South in most negotiations, and there is an urgent need for mutual building of confidence and understanding. There are differences within countries between rich and poor, as well as between countries, thus making it even more important to obtain more equity between people. Civil society all over the world plays an important role in this context. To be able to contribute to improving equity, a diversity of voices needs to be heard in the international negotiations. There is also an imbalance in the participation in the negotiations, as the industrialised countries have larger delegations. For example, LDC countries often have the possibility of sending just one representative to a CBD-meeting, while most European countries are represented with 10-30 participants each. While the Swedish Ministry of Environment contributes economic resources for delegations from LDC countries, SwedBio

Box 6. SOME OF THE CHALLENGES FOR PRO-POOR PES²⁹

- Tenure and formal titles. Secure property rights are one of the foundations of a PES programme. Land ownership is almost always used to identify who should rightfully receive payments. That leaves those without secure tenure—particularly the landless—unable to benefit unless some special provision is made, or unless benefits are distributed to larger community associations that can then attempt an equitable distribution.
- Restrictions on land uses. PES guidelines may bar grazing or other traditional forest uses that seem to conflict with the environmental services for which the program is paying. Without access to these or other replacement activities, poor families will not be able to afford to participate in PES programs.
- High transaction costs. The costs of applying for a PES programme, drawing up a contract, and monitoring performance can become a considerable burden on poor families.
- Lack of credit and start-up funds. Changing farming and other land-use practices, or reforesting pastures to comply with PES requirements, often requires a significant investment in new material, training, and lost income during the transition period. Covering these costs is difficult for poor families, who typically lack credit and cash savings.

29) Adapted from WRI www.wri.org

can contribute with targeted capacity building efforts, support to analysis of negotiations and implementation, and also continued support to NGO participation in these international forums.

Macro-policies and trade regulations need to provide incentives to manage ecosystems in a sustainable manner. To this end, perverse incentives that have unintended and undesirable effects need to be identified and eliminated. Macro-policies and trade regulations are often subsidising excessive use of ecosystem services. One key explanation for this is the way ecosystem services are undervalued or, in most cases, not valued. The often large costs of degradation seldom appear in the calculations. We have built our economies and growth to a large extent on depletion of natural resources, and we should now allocate sufficient resources to make sure we create a resilient social and ecological society and sustainable development for the future. This requires green incentives and governance structures that take into account both poor people's needs and good management of ecosystem services. Stakeholders who are dependent on biodiversity and ecosystem services need to have the possibility to participate and be considered in policy development and decision making processes.

Payments for ecosystem services (PES) can create demand, a necessary market force to correct an existing imbalance which harms biodiversity and halts sustainable development. It should be borne in mind that the conditions for PES are given by many different parameters, including whether it is market- or fund-based. In the fund-based case, payments are made through public or development-support funds. In the case of market-based PES, the payment is shaped by the market conditions on an often imperfect market. Despite the theoretical potential for PES programmes to benefit the rural poor, many current programmes present serious obstacles from a pro-poor perspective (see box 6). In spite of these obstacles, there is considerable hope that PES programmes can be modified to make them work for the poor. The policy attention around PES programmes in many nations has shifted to identifying reforms needed to increase their potential for poverty reduction. At their best, PES schemes offer a way to maintain ecosystem services while they add to the income profile of poor families and build social capital in poor communities.

There is a need to continuously build the knowledge regarding biodiversity, resilience and ecosystem services and the linkages between these. But there is also a gap between scientific knowledge and policy-making from local, national to global level. There is a need for an interface between science and policy making, a translation of the knowledge into something that is possible to implement. This is also applicable for business, to enable it to be more environmentally sound. There is a need for an action learning phase, where biodiversity and production concerns are mainstreamed, and lessons can be learned from these stories.

6.2 Integration of biodiversity-livelihood concerns in development planning and sector frameworks

6.2.1 Background – Integration of biodiversity-livelihood concerns in development planning and sector frameworks

Integration of ecosystem management goals in e.g. national development planning, such as Poverty Reduction Strategy Papers (PRSP), is important. Equally important is integration of biodiversity-livelihood concerns within the sectors guiding land and natural resources use (agricultural, forestry and fisheries policies and strategies) and within extractive and infrastructure sectors (such as mining, roads, hydropower etc).

SwedBio therefore supports development and dissemination of tools and methods for mainstreaming sector integration. These include policy analysis, valuation of ecosystem services, including biodiversity and ecosystem services concerns within Environmental Impact Assessment (EIAs) and Strategic Environmental Assessments (SEAs), and developing biodiversity and ecosystem services indicators for different sectors. Section 2.2 on the Millennium Ecosystem Assessment describes additional experiences relating to SwedBio's efforts in this area.

6.2.2 Cases – Integration of biodiversity-livelihood concerns in development planning and sector frameworks

Indicator for the 2010 biodiversity target in Millennium Development Goals

Organisation: *United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)*

Project: *Indicators, Capacity Building and Connecting to the MDGs*

Objective: *To contribute to the 2010-target by furthering the development and implementation of a set of approved biodiversity head-line indicators.*

In April 2002, the Parties to the Convention on Biodiversity committed themselves to achieve, by 2010, a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth. UNEP-WCMC has under a component “Connecting the 2010 biodiversity target to the MDGs” developed a biodiversity target for the Millennium Development Goals (MDG). The indicator for the 2010- biodiversity target has been included into the final list of MDG indicators, under MDG 7. In order to maximise the success of this project, the ‘launching’ of this work was timed to coincide

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with the meeting of UN Statistics Division and National Statistics Offices in March 2008. The new target and indicator are:

Target	Indicators
7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	7.5 Proportion of terrestrial and marine areas protected
	7.6 Proportion of species threatened with extinction



CASE 23

Biodiversity governance in sector planning in India

Organisation: Equator Initiative/UNDP, implemented by the International Institute for Environment and Development (IIED)

Project: Policy That Works For Biodiversity and Poverty Reduction

Objectives: To provide insights on how various economic, social, policy and other factors affect the success of community initiatives of managing biodiversity for poverty alleviation, and how to scale up community initiatives and move beyond the specific context in order to generate change at the national and international level.

A study on biodiversity governance in India³⁰ reviewed the linkages between biodiversity and livelihood objectives in different policy contexts. It focussed, in particular, on how these linkages are addressed through processes of policy making and implementation, including stakeholder involvement, coordination between sectors, institutionalisation, etc.

The study noted that India is one of the most biodiverse countries in the world, and that it also has high levels of rural poverty. Many of the poorest rural and tribal people are heavily dependant on biodiversity resources for income, goods and services essential for livelihoods. Consequently, when access to or availability of these resources is restricted, poverty is perpetuated. Biodiversity management and poverty reduction are therefore strongly interlinked.

The study found that, in spite of the clear relevance and need, biodiversity issues are very marginal in the state and federal poverty reduction policies. Rural development policies generally do not address the fundamental role of natural resources, or do so only to a limited extent.

Integration of biodiversity-livelihoods concerns in agriculture policy is also extremely weak. The dominant model is to uncritically promote intensification, although recently a bit more attention has been given to organic agriculture. Agriculture policy is even more top down and closed than conservation policy (see below), with industry and richer farmers having strong influence.

Another finding was that the central thrust of nature conservation policy in India is one of strict protection (through protected areas), which in many cases undermines the livelihoods of the poor. Efforts to support livelihoods around protected areas focus primarily on providing alternative income, rather than on devolving resource manage-

30) Undertaken in September 2004, together with the Indian NGO Kalpavriksh.

ment to communities. Wildlife policy is closely controlled by the wildlife conservation lobby, and the more development-oriented NGOs and Community Based Organisations have less influence. Much of the focus has been on wild as opposed to agricultural biodiversity – the latter is poorly addressed in wildlife policies and vice versa.

Regarding the institutional framework, the study noted that laws are often contradictory and are variously applied to suit the interests of more powerful actors. Low priority is given to assessing the impacts of policy, exploring alternatives, or responding to different needs of society. Mechanisms for policy coordination, institutionalisation, evaluation, feedback and improvement are generally weak. The study also found that there is limited involvement of tribal and local communities in biodiversity decisions – from policy to local levels. Land and natural resource tenure rights of poor and tribal communities are frequently violated by more powerful groups (e.g. government and industry). Decentralisation of disbursements to district levels has in most cases not increased support to community priorities, and decisions are often top-down. Most states have not devolved power to Panchayat³¹ level or helped build Panchayat institutions, and existing provisions on tribal rights to natural resources and self-governance are largely ignored. The new provisions of the Wildlife Protection Act do offer some scope for community management. Outside protected areas, Joint Forest Management and the new NBSAP give possibilities for improving community engagement. However, with the exception of the NBSAP process, NGO and CBO participation in biodiversity policy is limited. The new “biodiversity management committees” (established under the Biodiversity Act) have very limited powers.

The study ends with a set of recommendations that include stressing that biodiversity-livelihood concerns need to be better addressed within PRSPs and rural development and agriculture programmes, as well as within large infrastructure projects. The dependence of the poorest groups on biodiversity and ecosystem services must be taken into account. For example, big donor-funded development projects (e.g. hydropower, roads, etc) often have huge negative impacts on biodiversity and related livelihoods, and this need to be much more comprehensively addressed than through the existing EIA and SEA-requirements.

Coordination and coherence of policies also need to be supported. This should include establishing a cross-ministerial process, which also would involve civil society, in order to develop sustainable development priorities and criteria. These would be used to screen sectoral policy and planning, and thereby integrate sustainable development priorities, including biodiversity. This would provide greater funding to environment departments to increase their status and enable them to start a dialogue with other departments to mainstream biodiversity and environment considerations.

Enhancing community-based management and involvement is equally important. Through involvement in policy dialogue and through supporting projects/programmes that demonstrate new approaches, donors can have a very important role in shifting conservation policies towards a stronger community focus.

Finally, the study recommends that more funding be provided to development-oriented conservation NGOs. A key reason for the dominance of “protectionist” agendas is that conservation-oriented NGOs receive far more funding – and are therefore more

31) Panchayat is a South Asian political system mainly in India, Pakistan and Nepal. ‘Panchayat’ literally means assembly of five elders chosen by the village community. Traditionally, these assemblies settled disputes between individuals and villages. Modern Indian government has decentralised several administrative functions to the village level, empowering elected ‘gram panchayats’. This decentralisation is defined in an amendment to the Indian constitution of 1992.

influential – than development-focused conservation NGOs which support or represent marginalised biodiversity managers. Thus, more funding is needed to the latter to bring balanced participation at policy level and help to shift away from protectionist agendas and towards support for community-based management.



6.2.3 Main results – Integration of biodiversity-livelihood concerns in development planning and sector frameworks

Studies were conducted concerning the integration of biodiversity and ecosystem services in Poverty Reduction Strategies and also on how policy affects community initiatives aimed at managing biodiversity for poverty alleviation. The results showed: that poverty-environment linkages are not adequately covered; that development projects can have significant negative impacts on biodiversity and related livelihood; the need for addressing Environmental Impact and Strategic Environmental Assessment; the need for cross-ministerial processes, policy coherence, importance of community based and other stakeholder involvement; the importance of acknowledging tenure rights; and that conservation policies can exclude poor people from livelihood opportunities.

Important results and effects also concern the development and use of indicators of biodiversity and ecosystem services. Highlights are the identification of indicators relevant for indigenous peoples, international interest has increased for ecosystem services indicators, and an indicator for the 2010 biodiversity target is included in the list of Millennium Development Goals indicators.

6.2.4 Conclusions and recommendations – Integration of biodiversity-livelihood concerns in development planning and sector frameworks

Development projects can have large negative impacts on biodiversity and peoples' livelihoods derived from that biodiversity. There is increasing awareness about the importance of linking ecosystem services and development planning for long-term poverty alleviation in order to reduce negative impacts on the people who depend on and live of these resources. However, there is a need for further knowledge building and implementation of a biodiversity and ecosystem services perspective into national policies and strategies. Mapping of ecosystem services (including identification of the users), valuation of ecosystem services and using ecosystem services as indicators, are all interesting tools for integrating awareness of biodiversity in developing planning (see also section 2.2 on the Millennium Ecosystem Assessment). Many good manuals have been developed on ecosystem services and biodiversity integration in development programmes and policy making. One experience from this work is that there is a lack of stories to be told where biodiversity and ecosystem services are integrated on national level in planning. The important outstanding part is to actually get into practice the knowledge we have already today.

Governance and institutional capacity building are key to international development cooperation. It is important to strengthen the policy framework and institutions concerning biodiversity and ecosystem services, and to work with regulation and implementation and follow-up of regulations, for example, those regarding Environmental Assessment. It is also important to put efforts into understanding who are the

Box 7. GUIDING PRINCIPLES FOR BIODIVERSITY IN DEVELOPMENT

- a) Adopt an ecosystem perspective and multisectoral approach to development cooperation programmes (taking into account the impacts on adjacent and downstream areas).
- b) Promote fair and equitable sharing of costs and benefits from biodiversity conservation and sustainable use at all levels: local, national, regional and international.
- c) Encourage full stakeholder participation, including partnerships between civil society, government and private sector.
- d) Ensure that institutional arrangements are effective, transparent, accountable, inclusive and responsive.

e) Ensure that development cooperation projects and programmes are consistent with the wider policy framework, and/or that changes are made for supportive policies and laws.

f) Provide and use accurate, appropriate, multi-disciplinary information, accessible to, and understood by, all stakeholders.

g) Development cooperation investments should be sensitive to, and complement, local and national structures, processes and capacities.

From: Biodiversity in Development Project (2001), by the European Commission, DFID and IUCN.

real change agents in processes, to identify the institutions and in some cases even the individuals who have the capacity to play key roles in targeted processes, and who can also have a coaching role in the processes, e.g. Poverty Reduction Strategy Papers.

Stakeholder involvement in decision-making processes is important in all natural resources management; facilitating the informed decisions needed to reach the best outcome. This is especially important where tenure rights are weak. Communities rights to manage local natural resources can be a critical catalyst for improving well-being. Support for fair and equitable sharing of costs and benefits from biodiversity and ecosystem services from local, national and international level is also of key importance in developing planning for poverty alleviation.

The experiences from supported initiatives show that the guiding principles from the Biodiversity in Development Project (BDP)³², are still valid (see box 7), and also experiences from a synthesis report regarding biodiversity integration at Sida.³³ However, lately there has been an increased focus on ecosystem services in development cooperation as an effect of the findings from the Millennium Ecosystem Assessment. Additionally, it is important to take into account that new methods for aid through the Paris Declaration has changed aid, and more and more funds are channeled through budget and sector support and less for earmarked funds. This increases the need for national capacity within all stakeholder groups to take ecosystem services and biodiversity into account in development activities.

6.3 Communication and awareness-raising

6.3.1 Background – Communication and awareness-raising

Communication and awareness-raising are key components of all the above-mentioned themes. Work on awareness-raising and education is called for in CBD Article 13, and Article 17 states that “the Parties shall facilitate exchange of information, from all

32) BDP was a collaborative initiative of the European Commission, the UK Department for International Development (DFID), and IUCN – the World Conservation Union, and many EU Member States' development agencies, among them Sida.

33) Integration of biological diversity – the beginning of a learning process, March 2004, Environment Policy Division, Sida.

publicly available sources, relevant to the conservation and sustainable use of biological diversity”. SwedBio’s support to and work on communication and awareness-raising is one of the Swedish contributions in this area.

Work on communication and awareness-raising, as described in the selected examples and cases below, include examples from different levels and in different forums, such as targeted lobbying and advocacy work, policy development at an international policy level, dissemination of reports and papers, “classical” outreach information campaigns, and collaboration with schools and the education system. Other examples are more internal (between the involved groups and stakeholders) and can include learning and exchange workshops, training workshops with local communities, and strengthening local partners.

6.3.2 Cases – Communication and awareness-raising

CASE 24

Analysing and disseminating information on seed laws and their impact on agricultural diversity: Examples from Venezuela and Iraq

Organisation: GRAIN

Project: *Harnessing Biodiversity*

Objective: *Stimulate public awareness about the importance of genetic resources for society and about developments and factors that threaten this genetic diversity. Increase knowledge and understanding about structural causes behind the destruction of biological diversity and the implications of this destruction for the poor.*

GRAIN aims to improve the livelihoods of rural communities by stimulating better policies and concrete activities for the sustainable use and conservation of agricultural biodiversity. GRAIN produces analytical and information materials and is also actively involved in policy debates to encourage discussion and debate in policymaking environments. In addition, GRAIN’s efforts to catalyse action and cooperation amongst civil society organisations and networks result in better and more coordinated action at national levels, and prepare these organisations to better influence policy themselves.

One of the areas where there is evidence in place that GRAIN has substantially contributed to the analysis and awareness-raising, according to the external evaluation of GRAIN’s information work conducted in 2007, is the implications for agrobiodiversity and the food security of poor farmers from new seed laws, adapted to the requirement of TRIPS agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights) and FTAs (Free Trade Agreements).

The Venezuela case: In 2005, GRAIN published a special edition of Seedling magazine dedicated to an analysis of Seed laws from all over the world. The material was also used in the Latin American Biodiversidad magazine. The special edition on seed laws included analysis of Latin American Seed laws already in force and those that were still being negotiated at different administrative levels. The Venezuelan Seed Law, passed in 2002, was given meticulous analysis, because of the serious contradictions it presented when compared with official positions about, for example, “the defence of native seeds”. When the international movement Via Campesina visited Venezuela in August 2005, as a part of its Seeds Campaign, GRAIN was invited to participate as a member of the official delegation. Several meetings were arranged with authorities in the Department of Agriculture. As a result of the interview with the Agriculture Secretary, it

was agreed to create a joint Working Group, comprising Via Campesina and Venezuelan officials that would discuss the Seed Law. The Working Group prepared a proposal to revoke the existing national seed law and to formulate a new one in accordance with current national realities and ALBA (the Bolivarian Alternative for the Americas, an alternative to FTAs proposed by the government of Venezuela) principles and agreements. The proposed new seed law should also have a focus on farmers and the protection of indigenous resources and against the privatisation of these resources and peoples' rights. Even if the agreed proposals are still not implemented, they provided an important frame of reference for Via Campesina's ongoing monitoring of government actions on these issues.

The Iraq case: In 2004 GRAIN published an article in the "Against the Grain" series on "Iraq's new patent law: a declaration of war against farmers". Whereas historically the Iraqi constitution prohibited private ownership of biological resources, the new US-imposed patent law introduced a system of monopoly rights over seeds. Inserted into Iraq's previous patent law was a whole new chapter on Plant Variety Protection (PVP) that provides for the "protection of new varieties of plants." The article is GRAIN's most cited and referenced article in the past 4 years, according to the 2007 year external GRAIN evaluation. It has some 10,000 references on Google. It is also one of the most cited articles that interviewees in the external evaluation could recall. It has been used in newspaper articles in many countries, including being translated into Farsi for Iranian papers. Even detractors of GRAIN recognized this as an important exposure of the use of power to limit farmers' rights. It was an important exposure of the dangers to farmers of unjust laws.



Climate change and ecosystem services – legislator awareness

Organisation: *The e-Parliament*

Project: *International parliamentary hearing on climate and ecosystems*

Objective: *Strengthening the motivation and ability of legislators to take action to improve the management and sustainable uses of ecosystems and thereby limit the degradation of ecosystem services and loss of biodiversity, especially as caused by climate change.*

The e-Parliament is intended to be a global forum in which democratic legislators work together to exchange and implement good policy ideas. The e-Parliament reports that this was one of the most successful hearings in the organisation's short history. Experts concentrated, as requested, on specific examples of good practice – to inspire the Member of Parliaments, MPs. The presentations covered a wide range of case stories, including: Namibia's success in protecting its dry-lands; the Kiribati success in defending its marine ecosystem; Indonesia's attempts to save its rainforests; and Costa Rica's work in halting and reversing deforestation. All legislators understood the importance of new initiatives to protect threatened ecosystems, and many of them expressed their intention to pursue legislation when they returned to their home parliaments. The first legislative initiative resulting from the hearing is already underway. Inspired by the discussion in Mabula, George Nangale MP of Tanzania, Chair of the Environment Committee in the East African Legislative Assembly, is drawing up new legislation re-

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quiring cross-boundary environmental impact assessments within ecosystems that cross borders among the five member states of the East African Community.

As a result of the hearing, a legislative toolkit was commissioned to inform legislators about the Payment for Ecosystem Services (PES) system work being undertaken in Costa Rica. This has the intention to reverse deforestation, through an innovative set of laws and policies on payment for ecosystem services. It includes information on how legislators could implement similar programmes in their national contexts. The toolkit was prepared by the World Resources Institute (WRI).

Below are two voices from the hearing:

“I’ve learnt a lot. Most importantly I’ve realised the need for the East African community to take seriously the issue of climate change. We have not given it as much attention as it deserves.”

Dora Byamukama MP, Ugandan member of the East African Legislative Assembly.

“The single most important issue that I’m taking back with me is the issue of green accounting. I think it has to be legislated that accounting should be done using this methodology.”

Dr. Kwame Ampofo, MP from Ghana.



6.3.3 Main results – Communication and awareness-raising

Communication and awareness-raising are important components of all the supported initiatives under the Collaborative Programme, but to different degrees. They range from pure communication projects, such as TV documentaries, to more indirect awareness raising via spread of project documents. They are conducted at different levels, from local and grass roots level to national, regional and global high-level forums. One example of its effectiveness is the involvement and influence of civil society in international processes, where most of the achieved results can be attributed to awareness-raising. These collaborations have contributed to increased awareness of crucial biodiversity-related issues to new audiences, and there are also examples where raised awareness has led to concrete action.

Field visit at CBDC
BUCAP site in Vietnam
(Photo: SwedBio)



6.3.4 Conclusions and recommendations – Communication and awareness-raising

Sustainable and equitable management of biodiversity and ecosystems is constrained by lack of adequate knowledge, and by the failure to adequately use available information in decision-making and field implementation. A lack of information and implementation of that knowledge can for example impede adaptation to climate change among rural households. Communication and awareness-raising on issues regarding biodiversity, ecosystem services and livelihoods is



Field visit to CBDC Africa site in Zimbabwe (Photo: SwedBio)

therefore very important to inform decision-makers and specific actors, as well as the broader public, to create awareness and support more informed consumption choices. Communication and raising awareness is also important to build and strengthen networks on these issues to enable people to learn from each other's experiences, build bridges and link different viewpoints among all involved stakeholders, such as between grass root movements and policy makers, or between scientists and local communities.

A success factor for local capacity building is that the outreach activities are participatory, such as the agricultural extension method of "farmer field schools", which is based on experiential learning. A further result of such activities is empowerment of farmers through education and capacity building. However, here it is important to emphasize that the focus should not be only on capacity building with a unidirectional mode of communication, but rather to have a focus on capacity sharing and communication in several directions.

In general, there is a continued strong need for information dissemination in order to bridge the gap between research, policy and action. In the case of SwedBio's Collaborative Programme, support is mainly directed towards regional or global networks which further emphasize the importance of effective communication between stakeholders at different levels. It is crucial to keep up with the reality at the grass roots level and use this information to promote policy recommendations that benefit the poor. SwedBio, through its Collaborative Programme, also has an important role as translator of viewpoints and information between the grass roots and international policy levels. SwedBio's work on and support to communication and awareness-raising is one of the significant contributions towards Sweden's fulfilment of our obligations in CBD's Articles 13 and 17.

New creative ways of using information and working with awareness-raising, such as the interactive web pages that are used by some partners of the Collaborative Programme, may in the future contribute to lowered emissions of CO₂ by reducing the need for travelling to physical meetings, which is often the case today.

Annex 1. Main results (outputs and effects) in relation to Expected Outcomes of the Collaborative Programme

Main results in relation to Expected Outcomes 1: Strategically important biodiversity initiatives and projects – in line with SwedBio's development objective, points of departure and strategy – have been identified and strengthened.	
Outputs	Effects
<ul style="list-style-type: none"> • The programme portfolio covers all SwedBio's priority areas and support is granted in line with SwedBio directives. • The total amount provided through the Collaborative Programme in the period 2003–2008 is 118,0 MSEK and 90 separate agreements were made. Two additional programmes have received support from Sida during the period: the Follow-Up of Millennium Ecosystem Assessment with disbursements from SwedBio on 12.6 MSEK (incl. 2 separate agreements), and the BioNet and Botanical Gardens Conservation International with disbursements from SwedBio on 1.4 MSEK (incl. 2 agreements). • SwedBio has managed the programme well and has introduced and followed adequate routines for decision making, organisational assessments, follow-up and quality assurance, e.g. assessments of narrative, financial and audit reports; evaluations take place for long term support before considering continued support (6 evaluations have been conducted); cross cutting issues such as gender analysis have been considered, analysed and integrated; procedures for registration and filing of documents have been developed; project assessment meetings have regularly been held; and discussions/analysis of completed projects is a standing point at these meetings. • SwedBio has improved routines for result based management to live up to routines in international development cooperation. • In-depth discussions through regular meetings with and/or field trips, with all long-term partners, mostly on a yearly basis. • SwedBio has facilitated networking between supported initiatives. 	<ul style="list-style-type: none"> • SwedBio has supported strategically important biodiversity initiatives and projects. • SwedBio's management routines, incl. standards on development of results based management, has had the effect that the programme has been able to be efficient and relevant to SwedBio's and Sida's objectives. • Supported organisations play an active role in international/regional meetings • Increased space for local voices and policy positions from local to regional and global partners has been created. • Supported issues are highlighted on the international agenda – e.g. discussed in relation to processes under the Convention on Biological Diversity, the Climate Convention and other international forums, such as the International Treaty on Plant Genetic Resources for Food and Agriculture, and brought up by other international donors working pro-actively with biodiversity integration (UNDP, etc.). • Knowledge has been generated on biodiversity, ecosystem services, local livelihoods and poverty alleviation. The programme has contributed to development of practical work, methods, ideas and policies regarding biodiversity, ecosystem services and local livelihoods. • As a whole it can be concluded that important achievements have been made regarding the two emerging issues, the three main dimensions, and nine themes of the Collaborative Programme; see conclusions and recommendations regarding the themes of the programme.

Main results in relation to Expected Outcomes 2:

Learning and experiences from the supported initiatives systematically brought back to Sweden and used to inform and improve inclusion of biodiversity aspects within Swedish international development cooperation.

Outputs	Effects
<ul style="list-style-type: none">• Approximately 156 meetings, as estimated from SwedBio's annual reports 2003–2008, have taken place between SwedBio and recipient organisations.• Annual reports on Collaborative Programme with good content and quality have been produced and disseminated. In addition, two “lessons learned” reports have been produced.• More than 20 seminars and workshops in Sweden have been held with representatives from SwedBio's partner organisations.• Many contacts between supported organisations and Sida have taken place during 2003–2008. These include seminars, workshops and more informal meetings.	<ul style="list-style-type: none">• Experiences from the supported initiatives have been brought back to Sweden systematically and used to inform and improve inclusion of biodiversity aspects within Swedish international development cooperation.• Experiences from the Collaborative Programme have also lead to increased Swedish contribution to international policy-and methods development on biodiversity management from development cooperation and livelihoods perspectives.• Through the supported organisations, SwedBio has built up its network and contacts, and has thereby also contributed to capacity building in Sweden; it also has provided new contacts or strengthened contacts between Swedish and supported organisations.• The contacts with the supported organisations and initiatives have also proved to be an important means to ensure that SwedBio remains updated on relevant methods- and policy development (regarding different aspects of biodiversity – e.g. poverty alleviation linkages). These experiences are also highly relevant for SwedBios's helpdesk function to Sida. The supported organisations have also expressed their appreciation of the dialogue with SwedBio on several occasions and noted that this is helpful for their continued work.

Annex 2. Examples of results (outputs and effects) of supported initiatives by Swed-Bio during 2003–2008

In this annex, examples of results achieved through the SwedBio Collaborative Programme are given by selected initiatives of relevance for each of the identified dimensions and themes under the Collaborative Programme. Numbers in brackets refer to the corresponding supported projects, as listed in Annex 3.

1. Emerging issues

1.1 Ecosystem services and climate change

Global Forest Coalition (GFC) is studying and analysing in the project “Life as commerce” how new markets for Ecosystems Services affect the people living in the areas studied. They work with case studies in several countries and cover market-based conservation mechanisms such as bio-prospecting, ecotourism, timber certification and carbon sinks. Two of the studies deal with carbon sinks; private protected areas in Paraguay and land leased or bought as carbon sinks in Colombia. During the last years the issue of climate change has received considerably increased attention and different mechanisms for payment for carbon sinks are explored. A possible post-Kyoto protocol will probably contain a mechanism for payments for maintenance of forests as carbon sinks; Reduced Emissions from Deforestation and forest Degradation (REDD). The carbon sink studies in the project are not finalised but the following outputs and effects have already been achieved

Outputs (selected): A preliminary legal analysis of carbon sinks projects in Colombia and a profound analysis of the role of International Financial Institutions in promoting carbon sinks in Colombia. A comprehensive briefing paper on the role of International Financial Institutions in promoting market-based conservation mechanisms has been produced. Information material for building the capacity of the International Forum of Indigenous Peoples on Climate Change has been made. Increased communication between Indigenous leaders, government officials and policy makers has been achieved, and there has been increased civil society collaboration.

Effects: Increased awareness of the local communities living in or near the areas where these schemes

are being implemented concerning the potential impacts, and their rights in relation to these schemes.

Contribution to the awareness of key biodiversity policy makers about the possible negative impacts Payment for Environmental Services' schemes and other market-based conservation mechanisms might have on Indigenous Peoples. This has been indicated through expressions of increased caution about such systems by key policy-makers from governments and institutions such as IUCN and UNDP. (43)

GRAIN has worked with biofuels issues.

Outputs: Publications and material, in particular GRAIN Seedling, Agrofuels' special issue, July 2007. With this publication, GRAIN described 'the agrofuels craze', referring to the rapidly increasing number of agrofuels projects and policies. With the special issue, GRAIN showed how agrofuels production is causing environmental and social damage in particular in developing countries.

Effects: GRAIN special issue of Seedling on agrofuels, published in July 2007, has been quoted and used all over the world. An article was dedicated to it on the BBC World Service website. It was discussed on the BBC's domestic news broadcast, The Today Programme. It was mentioned several times in the British newspaper The Guardian, and was quoted in the Mexican newspaper La Jornada. It was also picked up by various Argentine newspapers, a press agency in West Africa, newspapers in India, radio stations in several countries and a magazine in the UK. A number of “blogs” and

1) GRAIN and other civil society organizations means a more adequate term for biofuel is agrofuel

e-mailing lists referred to it. It has also been used by a large number of small farmer and activist organisations, as a reference for their own publications. Groups in India and Greece decided on their own initiative to translate it into Hindi and Greek. With reference to the outreach, it is likely to have played a part in contributing to increased awareness about the complexity of large-scale biofuels plantations, and the associated environmental and social impacts. (47)

Community Biodiversity Development and Conservation Programme - Biodiversity Use and Conservation in Asia Program (CBDC BUCAP)

Outputs: Farmers work has been strengthened, in Vietnam, Laos, The Philippines, Bhutan and Thailand, on developing rice varieties that are adapted to specific ecological conditions and can perform well under extreme environmental conditions brought about by climate change. Through the years farmer partners managed to develop 771 rice varieties, which are comparable, if not better, than formal-released varieties thus providing the efficiency and effectiveness of farmers' breeding. Numbers of farmer-developed varieties in the countries respectively were: Bhutan 11; Laos 83; Philippines 253; Thailand 71; Vietnam 353 varieties

Effects: Farmers were able to develop rice varieties that are better adapted to specific ecological conditions such as drought tolerant varieties (farmer-developed varieties in Thailand and the Philippines) or pest and disease-resistant (reportedly resistant to brown plant hopper and yellow dwarf disease) varieties (Vietnam). The farmer-developed variety HD1 together with the variety MTL384, both resistant to the infections commonly following brown plant hopper attacks due to feeding on the rice crops, were multiplied by farmers and distributed to areas affected by brown plant hopper. A total of 2072 ton seeds of the HD1-variety and 189 ton seeds of the MTL384-variety were produced and met the demands of farmers and the Ministry of Agriculture and Rural Development (MARD) in Mekong Delta during the outbreak of Brown Plant Hopper in 2007. At the same time, farmer's access to high quality and locally adapted seed has been improved. Food security is enhanced due to safer sources to seed, and access to seed resistant to certain pests and disease. This has created evidence that if farmers will be given opportunity to develop their own plant genetic resources, they can develop varieties based on their local preferences and needs for adaptation to climate change.

(72)

1.2 Millennium Ecosystem Assessment

United Nations Environment Programme (UNEP) is supported for the "Implementing the Millennium Ecosystem Assessment (MA) findings and recommendations". This project aims to promote the implementation of the findings and recommendations of the Millennium Ecosystem Assessment (MA).

Outputs: A MA Follow-Up Workshop, organised by UNEP with the assistance of Sida and Swed-Bio, was held in Stockholm at the Ministry of Environment 2007, attended by 27 participants from 21 institutions involved in the MA follow-up initiatives. The Global MA Follow-up Strategy was endorsed at the above meeting, and it was further refined and finalized in February 2008. The Strategy is designed to provide strategic guidance to the MA follow-up activities in the following areas: 1) build the knowledge base; 2) integrate the MA ecosystem service approach in decision-making at all levels; 3) outreach and dissemination of the MA; and 4) future ecosystem services assessment.

The Strategy provides a road map for the implementation of MA follow-up activities by a wide range of partners, and ensures that the activities are undertaken in a coherent manner. During UNEP's Governing Council 2008 the global MA follow-up strategy was launched at a joint side-event by Sweden and UNEP, where the Swedish Ministry of Environment had a presentation. A process and concept note for a platform or panel on ecosystem services and biodiversity similar to the IPCC for climate, has been developed out of the MA and the International Mechanism of Scientific Expertise on Biodiversity (IMoSEB) processes, which has been processed at COP9 of CBD and which has been further discussed in an international intergovernmental multi-stakeholder meeting late 2008 and UNEP's Governing Council in 2009.

Effects: It is a bit early to report on effects regarding implementation and integration of ecosystem services concept into e.g. developing countries national plans and programmes. The MA follow-up

activities have however been catalysed. Work conducted under the MA follow-up strategy regarding Sub Global Assessments, could have had a capacity building effect already now. One unforeseen effect, to which this programme contributed, is the contribution to the development of the platform or panel for biodiversity and ecosystem services (see above). This could have a potentially very big impact regarding communication of importance of ecosystem services for human well-being and an eye opener for developing (as well as developed) countries. (86)

The World Resources Institute (WRI) is supported for a project with the aim of improving the way public and private sector decisions are made that affect, or are affected by, ecosystem services. See Case 5.

Outputs: “Restoring Nature’s Capital” uses the MA’s findings of global ecosystem degradation as its backdrop to propose an action agenda for business, governments, and civil society to ensure that ecosystems can meet the needs of today’s and future generations. The report contends that governance – who makes decisions, how they are made, and with what information – is at the heart of sustaining healthy ecosystems. WRI has built its own initiative based on the action agenda, which also has a web presence (<http://www.wri.org/ecosystems/services>). WRI also developed “Ecosystem Services: A Guide for Decision Makers”, a guide for mainstreaming ecosystem services in public sector decision making. It is distributed with a CD-ROM comprising all of the Millennium Ecosystem Assessment publications as well as a PowerPoint presentation to help users

make a case for the Ecosystems Services Approach. Developed by WRI, WBCSD, and the Meridian Institute, the Corporate Ecosystem Services Review (ESR) is a methodology that helps managers develop proactive strategies to manage risks and opportunities arising from their company’s dependence and impact on ecosystems (www.wri.org/ecosystems/esr). The ESR is available in English, Spanish, Portuguese, and Japanese and has been downloaded over 12,000 times. The ESR has been presented to over 1000 corporate executives, and WRI has worked directly with over 30 companies to implement the ESR including firms in South Africa, India, China, Indonesia, Egypt, Thailand, and Argentina. Economic valuation tools have been developed by WRI for coastal zones in three Caribbean countries: St. Lucia, Tobago, and Belize.

Effects: The development of the WRI manual “Ecosystem Services: A Guide for Decision Makers” has already informed the work of co-authors, including FAO’s work on payments for ecosystem services. In addition, the manual’s main messages have been incorporated into an Ecosystem Services Advisory Note for Strategic Environmental Assessments that was prepared for the OECD Development Assistance Committee. As a result of the ESR, at least 5 companies are implementing strategies that better align corporate performance with ecosystem stewardship. Local NGOs in St. Lucia, Tobago, and Belize are already using WRI’s economic valuation findings to negotiate policy, such as revisions in coastal protection laws, tightening fishing regulations, and improving coastal development plans. (93)

2. Sustainable management of biodiversity to ensure continued functioning and delivery of ecosystem services for human well-being and health, and contribute to poverty alleviation

2.1 Biodiversity and food and income

Community Biodiversity Development and Conservation Programme (CBDC) Africa

Outputs: Through the CBDC Africa programme, the diversity of crops on farms has increased. Farmers in Mali, Zimbabwe and Ethiopia, for example, have been promoting farmer innovations to conserve and use germplasm of different crops and have improved the seed security status of project farmers. They have now a wider option for planting materials and the capacity to plant more than once, in the event that the crop fails to germinate because of the now even lower and erratic rainfall.

Effects: The CBDC project in Mali has become very popular and officially respected after their seed fairs, which showed that farmers in the project areas have high levels of crop diversity withstanding harsh dry conditions in these regions, hence improving household food security. In Ethiopia, the community seed banking system has become an exemplary approach to ensure seed security at local level, and the experience is in the process of being replicated even by government programmes. See Case 1. (21)

BioNET is supported for the project “Mobilizing taxonomic information to support human well-being”.

Expected outputs: (The project started in October 2008 and has thus far not yielded any outputs). The

project aims to consolidate and mobilize existing taxonomic information for generating tools and products relevant to the environmental, food and poverty crises in Africa.

It will develop taxonomic tools focusing on three areas: pollinators, invasive alien species and pests. The project will build on ongoing national and regional initiatives

Expected effects: Increased knowledge of Invasive Alien Species and Pests and Pollinator decline will improve possibilities to increase agricultural productivity. (10)

Pesticide Action Network Asia and the Pacific (PAN AP)

Outputs: Community-based Pesticide Action Monitoring (CPAM) training and other activities have been implemented through the programme in the Philippines, Malaysia, Sri Lanka, Indonesia, Mongolia and India. In all, 33 000 men and 67 000 women were reached from the PAN AP partners with activities related to CPAM in 2006.

Effects: Farmers and NGOs from various sectors were motivated to take action on pesticides, and promote alternatives to pesticide such as organic agriculture. From the involved organizations, positive influences in participating communities' production are reported the year after (2007). (62)

2.2 Biodiversity and vulnerability

The Global Invasive Species Programme (GISP)

is an international partnership dedicated to tackling the global threat of invasive species. Established in response to the first international meeting on invasive species held in Trondheim, Norway (1996), GISP's mission is to conserve biodiversity and sustain livelihoods by minimising the spread and impact of invasive species. Under the agreement between SwedBio and GISP, for implementing the global strategy on invasive species, there are four specific objectives as follows:

- I. Provide technical support and build capacity to prevent and manage invasive species
- II. Promote the establishment of appropriate legal and institutional frameworks for effective cross-co-ordination and management of invasive species.
- III. Raise awareness of the impacts of invasive species.
- IV. Promote global co-operation in the prevention and management of invasive species.

Outputs: In relation to objective 1, GISP has developed and conducted several capacity building and training workshops in Africa i.e. on “Management of Marine and Coastal Invasive Species” (Senegal), “Drafting Legal and Institutional Frameworks for Invasive Species” (Kenya, Senegal, Zambia, Uganda and Mocambique), as well as training courses on “Economic Analysis of Invasive Species” (Kenya and Senegal). GISP has also conducted reviews of the status of invasive species and their management in Chile, Tanzania and Vietnam, and conducted workshops on IAS databases in Chile and Bolivia.

Effects: Among other outputs, GISP has carried out a large number of activities in terms of providing technical support and capacity building. Although more needs to be done in Africa and South East Asia according to GISP, the work has contributed to an increased understanding of and capacity to manage invasive species, particularly in the countries where the reviews and capacity building workshops has been conducted. This can, in the long term, lead to decreased vulnerability to e.g. effects of climate change at a local level. (44)

League for Pastoral People (LPP) has worked intensely with promoting animal breeding done by pastoralist people and herders in their specific cultural and natural habitats in order not to lose the possibilities for man and domesticated animals to adjust to changes in their environment, amongst other climate change.

Outputs: Through participation in the preparatory workshops and the numerous side-events in the course of the Interlaken process (leading up to the FAO International Conference on Animal Genetic Resources in Interlaken in Sept 2007) about 150-200 policy makers and scientists dealing with animal genetic resources have been familiarised with the concept of Livestock Keepers’ Rights (LKR).

Effects: A pool of developing country representatives working with livestock keepers in the field or hailing from pastoralist backgrounds have developed the capacity to articulate their position and situation in international policy processes, by means of solid argumentation in line with the requirements of international environmental conventions.

Some of the LKR cornerstones have been spelled out in existing international agreements, including the Interlaken Declaration and the Global Plan of Action for Animal Genetic Resources.

Countries such as India are looking into develop-

ing legal frameworks for Livestock Keepers’ Rights tailored to their specific needs and situations at the national level.

Arguably, the intense discussion about Intellectual Property Rights (IPRs) and patenting of animal genetic resources that was initiated and stimulated by our activities has induced companies such as Monsanto to distance themselves from earlier patent applications.

At the pressure of Brazil, FAO has been mandated by the FAO Conference to look into the rights and roles of livestock keepers in maintaining domestic animal diversity and prepare a report for the next Commission on Genetic Resources for Food and Agriculture (CGRFA). IPRs on Animal Genetic Resources are now on the international agenda. See Case 13. (60)

Equator Initiative/ International Institute for Environment and Development (EI/IIED)

The objective of the collaborative action research project “Policy that works for biodiversity and poverty reduction” were to improve understanding of how ‘external’ policy, institutional and economic instruments and processes affect the success of community initiatives and how to better engage with governance and thus scale up community initiatives to generate change at the national and international level.

Output: A briefing paper on the approach and scope of the case studies was prepared for COP7 (February 2004) and a side event organised. Reports from scoping studies undertaken in India, Tanzania and Peru analysing integration of livelihoods in biodiversity policy and mainstreaming of biodiversity and livelihoods in different development policies were produced.

A very comprehensive Issues Paper on Biodiversity Governance was pulled together, exploring a range of biodiversity governance issues – including on assessment of biodiversity, good governance principles, the MA findings, the protected area and community conservation debates, the CBD policy process, linking biodiversity and trade, NBSAPs and mainstreaming biodiversity and economic valuation.

Effects: The Issues Paper provides important ground for action. It gives considerably useful and relevant analytical information. It will no doubt help to raise awareness of the importance of biodiversity governance. The key messages will be disseminated to the biodiversity policy community.

An effect of the research process as such was to promote policy dialogue and collective action by bringing together different actors – local communities and policy makers, environment and development sectors – to discuss particular concerns. This enabled the project to make a tangible contribution

to moving things forward in practice, as well as producing case studies.

This has provided new perspectives and help to raise awareness of IIED's active involvement in biodiversity. (27)

2.3 Biodiversity and health

Center for International Forestry Research (CIFOR)

During 2007–2009 SwedBio supported CIFORs “forest and human health” project.

Outputs: Four reports produced from national forest and health seminars arranged in Indonesia, Cameroon, Ethiopia and Brazil, with in total 130 number of people from the forest and health sector attending (see Case 11). The SwedBio-support has also been one of the contributions enabling publication of the book *Human Health and Forests: A Global, Interdisciplinary Overview* (Edit by Carol J. Pierce Colfer) published by CIFOR in early 2008 and presented at COHAB; and three policy stakeholder seminars in Geneva, Stockholm and Washington DC.

Effects: Awareness on linkages between forests, biodiversity and health is increasing, particularly in the countries where the national workshops and stakeholder meetings were organised to better understand the forest-health linkages. Capacity of some forest professionals to deliver more appropriate information about health issues and better engage with health systems has been enhanced in these countries. The meetings also facilitated valuable networking among participating stakeholders. (15)

Co-Operation On Health And Biodiversity (COHAB)

SwedBio supported participation from third world countries at the second health and biodiversity conference in February 2008, Galway, Ireland (SwedBio also participated in the first conference, in 2005). Themes were Disaster Prevention, Relief and Recovery; Food Resources, Diet and Nutrition, and Emerging Infectious Diseases.

Outputs: A high number from developing countries (37%) participated in the conference and 43% were women. Conference reports have been produced that are now being disseminated e.g. in

international meetings COP9 of CBD and into the first African ministerial meeting (Gabon in August 2008) where ministers of health and environment met the first time and adopted the Libreville declaration. Another book “Sustaining life” has also been distributed widely.

Effects: Important issues are coming up on different agendas internationally, also connected to climate change. (16)

United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)

The objective of the project “Indicators, Capacity Building and Connecting to the MDGs” is to contribute to the 2010-Target² by furthering the development and implementation of a set of approved biodiversity head-line indicators. The project includes the components “Biodiversity in diets and health care” and “Exploration of health and well-being of communities dependent on biodiversity”.

Outputs: This project has contributed to the process of developing indicators on “Biodiversity in diets and health care”, and “Exploration of health and well-being of communities dependent on biodiversity” through e.g. collaboration in-between UNEP-WCMC, WHO and also 2010 Biodiversity Indicators Partnership in arranging a side-event at the COHAB 2008 meeting. A work-plan was developed of an indicator on health and well-being of communities dependent on local ecosystem goods & services.

Effects: This process has created more awareness of the linkages of health and biodiversity and is anticipated to contribute to the head-line indicators for the 2010-Target under the CBD. (84)

2) The 2010-Target to “significantly reduce loss of biological diversity by 2010” was agreed by Parties at COP6 in 2002, and was also endorsed at the World Summit on Sustainable Development (WSSD) in 2002.

3. Ensuring equity and human rights in management and use of biodiversity and ecosystem services

3.1 Increasing civil society involvement in international processes regarding biodiversity management

Indigenous Forum on Biodiversity (IIFB)

Indigenous participation at the 7th, 8th and 9th Conferences of the Parties to the CBD (2004, 2006 and 2008, respectively), was supported via the indigenous “platform” International Indigenous Forum on Biodiversity (IIFB). The actual agreements were made with different regional indigenous organisations; AIPP in 2004 (COP7), IAITPTF in 2006 (COP8) and IIN in 2008 (COP9).

Outputs: Strong attendance by indigenous peoples in the latest three Conferences of the Parties (COPs) to the CBD (2004, 2006 and 2008), indigenous positions were developed prior to the COPs and statements disseminated during the COPs, knowledge and understanding of indigenous peoples on CBD-processes were enhanced through training workshops, indigenous views were disseminated in side events and in a dialogue with Parties, and experiences and results were compiled and disseminated after the COPs. The International Indigenous Forum on Biodiversity (IIFB) functions as a platform for indigenous in-puts into CBD-processes. Preparatory meetings were undertaken and training provided prior to each COP and statements on different issues were produced and disseminated at each COP. Reports were also produced and disseminated after the COP-meetings, for example from three CBD-processes (protected areas, ABS and 8j) after COP7.

Effects: Indigenous participation to a higher extent accepted and having value in CBD negotiations, in particular related to 8j and ABS issues. Indigenous involvement in and capacity to efficiently put forward views and positions during CBD COPs has been strengthened, contributing to indigenous issues and rights being more comprehensively addressed in several CBD-related decision-processes. Noted effects from COP7 2004 included media attention and adoption of some key indigenous issues in public statements made by some of the large international conservation NGOs, and indigenous peoples rights more substantively reflected. (5, 49 and 53)

Tebtebba Foundation

Indigenous peoples capacity building and advocacy project on CBD implementation. The over-all objective was to deepen indigenous peoples’ local-global understanding of the CBD Strategic Plan and its cross-cutting and thematic work programmes, with a focus on enabling indigenous peoples’ participation in national implementation.

Outputs: The programme conducted in depth training for a total of 372 persons in workshops carried out under the project. A good gender balance was achieved in each workshop, with a higher percentage of women over-all - 63% female and 37% male. Two regional workshops were conducted specifically for indigenous women in Asia and Africa. Women participants built their capacities, particularly in situating where and how indigenous women could fully and effectively participate in the various processes of the CBD. Armed with basic understanding of the CBD and women’s rights including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the participants also agreed they achieved a certain level of confidence in helping operationalize and popularize at national and grass-roots levels all CBD-related programmes for indigenous peoples, particularly indigenous women. A number of the participants resolved to immediately contact the CBD focal points to be informed about CBD implementation in their countries.

Effects: East African indigenous participants took the lead in organizing echo workshops in their own countries. At the international level, some represented their countries and region during important meetings. With their prior orientation on the CBD programmes and processes, the indigenous participants were able to follow up their issues and lobby their governments on their positions. The project is increasingly recognized by Parties, the Secretariat of CBD and other stakeholders as an important actor in CBD implementation, as evidenced by its partnerships and collaboration with a number of networks and organizations. (74)

South East Asia Regional Initiatives for Community Empowerment (SEARICE) / CBDC Network

Global support to participation of farmers working with agrobiodiversity to participation in the first and second Governing body of the International Treaty on Plant genetic Resources for Food and Agriculture (ITPGRFA), as well as COP7, COP8 and COP9 and SBSTTA meetings.

Outputs: Case studies on the status of Farmers' rights from partner countries, side events on Farmers Rights, terminator technology, participatory plant breeding etc at the various meetings of the parties. Statements from CBDC Network presented in plenary sessions.

Farmers' Rights perspectives in ITPGRFA have also been strengthened: The global CBDC network coordinated by SEARICE with the "Road to Rome" project made successful preparations for the ITPGRFA, in particular the agenda point on Art 9, Farmers Rights. As part of the collaborative programme SwedBio supported the Global CBDC Network (through the Philippine-based SEARICE) to be better prepared for the Second Meeting of the Governmental Body (GOB) of ITPGRFA, through national processes for defining the status of implementation of Farmers Rights in their respective country. Some of the national programmes of CBDC were invited to present their conclusions at the informal consultation on Farmers Rights, held in Zambia in September 2007 (as preparation for the GOB2 later on in October, where the CBDC Networks work on the issue was consolidated and articulated). Similar to the concept of Food Sovereignty, the concept Farmers Rights' is closely linked to agriculture.

Effects: Contribution to a resolution on Farmers Rights in the Second Governing Body of ITPGRFA. Contribution to uphold the moratorium on terminator technology in COP8. (68, 69, 70 and 71)

Forest Peoples Programme (FPP)

Outputs: Strong attendance of indigenous peoples at the 5th World Park Congress, September 2003, and statements prepared and actively disseminated by the indigenous peoples. 105 indigenous representatives participated (of which 19 women) in the meeting (where over 3,000 people in total participated), attending a large number of side events, work shops, drafting committees etc. An Indigenous Peoples Declaration had been developed in preparatory meetings. FPP functioned as a "desk" for the indigenous networks, and was responsible for the financial parts and the reporting to donors. The documents adopted at the 5th World Parks Congress, September 2003, recognise the need to secure indigenous peoples' rights and concerns. This included concerns such as the need to end forced relocation, restitution of indigenous peoples' lands and to ensure their engagement as equal partners in protected area management. These aspects were reflected in e.g. the Action Plan taken by the overall meeting, and in a "Message to the CBD".

Effects: Increased awareness among delegates to CBD meetings, of the importance of FPIC and 10 (c)³ for successful implementation of CBD. The project played an important role in developing texts on rights, governance, equity and benefit sharing in the CBD Programme of Work on Protected Areas. (37)

3) Paragraph 10 (c) of CBD: "Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements"

3.2 Collaborative and community-based management of biodiversity resources

Birdlife International works with SwedBio-support in Africa to develop collaborative, community based activities to increase local capacity to manage their wild lands better, and increase community involvement in policy development in unprotected but Important Bird Areas (e.g. wetlands, forests)

Outputs: Site Support Groups" established in "Important Bird Areas".

Effects: Increased capacity and participatory plan-

ning in local communities and increased stakeholder engagement in using their common lands, e.g. wetland for tourism development, pasture and natural fodder conservation. (11)

Forest Peoples Programme (FPP) works to promote the rights of indigenous peoples and sustainable use of biodiversity, through e.g. promoting and facilitating community-based mapping,

documenting customary resource use and management systems, and the development of community natural resource management plans.

Outputs: FPP and its partners have made several case studies of community forest management based on local knowledge, practices and rules, in line with article 10(c) of the CBD. They have also made comprehensive studies on the application of the concept of Free Prior and Informed Consent (FPIC) in Peru, Suriname, Indonesia and the Philippines. According to international law, Indigenous Peoples have the right to make well-informed decisions and must give their consent before any actions related to conservation or use of biodiversity are carried out in their territories. A comprehensive study on how the Global Environment Facility (GEF)-supported biodiversity projects impact on indigenous peoples in selected countries has also been made.

All studies have been presented and discussed at several CBD meetings and other national and international meetings.

Effects: Indigenous people's organisations have increased their capacity and gained confidence through making the studies and through learning about the international policy context. They have also become aware of their rights as spelled out in the CBD. Partly as a result of FPP's work on Article 10c, COP9 in 2008 urged the CBD to take action to further the understanding and implementation of 10c as a matter of priority.

Through influence from the study on GEF supported biodiversity projects, the Working Group on

Protected Areas under CBD took the decision to invite GEF to revise its policy on Protected Areas and Indigenous peoples. (39)

The African Biodiversity Network (ABN) supports among other things micro-projects (providing small grants for strategic interventions) for community actions, especially the revival of local cultural practices and governance structures that enhance protection of biodiversity and stewardship of ecosystems provided by ABN.

Outputs: Training in participatory eco-mapping has given ABN partners the tools and knowledge to start assisting local communities to document traditional knowledge and mark boundaries for communal lands and sites of cultural and ecological importance. Eco-mapping played a vital role in establishing mutual cooperation between stakeholders' and in generating motivation and commitment towards the shared goals of resource conservation (between local people and government). The support enabled communities to set-up tree nurseries, carry out tree planting to protect forest areas and water sources, and created spaces for the transfer of traditional ecological knowledge from the elders to the younger generations.

Effects: These processes have led to a revitalization of community ability of good ecological governance. The eco-mapping ability of the local community did also play a central role for Karima sacred forest, Kenya, where local government has returned custodianship to local communities. (1)

3.3 Biodiversity and gender

African Indigenous Women's Organisation (AIWO) organised a conference in April 2004 on biodiversity, traditional knowledge and developing understanding and positions on these issues in relation to international processes CBD, WTO, WIPO, etc.

Outputs: Recommendations and views from African indigenous women on biodiversity, livelihoods and traditional knowledge were developed at a regional Conference held April 2004. Over 100 indigenous women (plus partner organisations and UN agencies) took part in the Conference. Recommendations and positions were developed in respect to e.g. health (traditional medicines and HIV/AIDS); education and culture, and conflicts, and disseminated in a workshop report.

Effects: Participants from the Conference have continued to communicate and ensure a follow up on some recommendations from the conference at the country level and enhanced their collaboration with other partners. (4)

International Collective in Support of Fishworkers (ICSF) has identified gender as a cross cutting issue to be conceptualised and implemented within all their programme areas. ICSF highlights that fisheries management is as much about ensuring equity, sustainability and improving the quality of life of fishing communities, as against the more widespread, narrow perception that fisheries is about production, profits and exports.

Outputs: ICSF produces a newsletter, *Yemaya*,

three times a year with comprehensive analyses of gender and fisheries. One issue of *Yemaya* (November 2007), was devoted to exploring the issue of women's roles in conservation initiatives. In 2008, ICSF also launched a website on women in fisheries, to highlight women's roles and gender relations in fisheries.

ICSF has also worked to raise gender issues in various workshops and conferences, such as in the Global Conference on Small-scale fisheries (4SSF), co-organized by FAO and the Royal Government of Thailand, in October 2008, where ICSF together with the World Forum of Fisher Peoples (WFFP), Sustainable Development Fund (SDF), Federation of Southern Fisherfolk of Thailand (FSF) and International NGO/CSO Planning Committee for Food Sovereignty (IPC) presented a consensus statement highlighting not only the rights of small scale fishworkers, but also the importance of gender equity within these rights.

Effects: ICSF has contributed to highlighting women's roles and gender equality in the context of small-scale fisheries, both in local fishing communities and policy level forums. (55)

The African Biodiversity Network (ABN) During 2007, a training workshop on Gender was hosted by the Green Belt Movement in Kenya.

Based on this, a series of steps have been planned to strengthen ABN's capacity to integrate a clear gender approach into all aspects of its work with partners. One of ABN's core principles in strengthening Seed Security is to promote and protect cultural biodiversity with a strong gender focus.

Outputs: In 2007, as a result of ABN supported training, increasing numbers of women were involved in community-led projects for the recovery of local crop varieties and the cultural traditions associated with them. An innovative way that ABN partners are working with local communities, especially the elders and traditional knowledge holders (women and men) increased visibility of partners work with communities, includes a "Going back to roots" programme for youth, and the building of cultural spaces in local schools. Cultural biodiversity celebrations are building momentum, and bringing to the fore the value of traditional knowledge for seed security and biodiversity protection. South Africa, Kenya, Tanzania, Benin and Ethiopia had particularly vibrant celebrations with several thousand participants at some of the events.

Effects: These celebrations and community work has been used as platforms for advocacy with an increased public attention and support through the media as a result. (1)

4. Support development of appropriate incentive frameworks and good governance in order to address root causes of biodiversity loss

4.1 Biodiversity, macro-policies, trade and international conventions

CBD Alliance coordinates and strengthens NGO-work in connection to CBD. The CBD Alliance's core goal is to facilitate diverse, coordinated, and effective civil society input into CBD policy-making ("Civil society engagement process for the convention on biological diversity").

Outputs: Preparatory meetings for Civil Society has been held in connection with CBD meetings, Civil Society inputs in the CBD meeting have been well coordinated, Civil Society groups and representatives have been able to participate in a more active way since the CBD Alliance have supported them in capacity building, logistics and fundraising, daily newsletters have been produced by CBD Alliance during most CBD meetings.

Effects: Southern representatives are increasingly bringing their perspectives to the fore of the policy negotiations and their perspectives are influencing the outcomes of the negotiations in a way that supports the sustainable and equitable use of biodiversity. (58)

Pesticide Action Network Asia and the Pacific (PAN AP) have worked with the Rotterdam Convention on getting paraquat up on the PIC list. In 2004, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) entered into force as a legally binding law. A significant provision within the Convention is that it will consider a chemical for inclusion on a Prior Informed Consent (PIC) list⁴ when a valid notification of a ban or severe restriction is received from two countries in two different regions of the world (indicating global concern). This provision is an opportunity for PAN AP to focus on pesticides that have been identified as a major concern in the community based monitoring and documentation processes (CPAM) that PAN AP is implementing in collaboration with their

4) The PIC procedure provides all Parties with an opportunity to make informed decisions as to whether they will consent to future imports of the chemicals listed in Annex III of the Convention. All Parties are required to ensure that their exports do not take place contrary to an importing Party's import decision.

member organisations. CPAM aims to empower communities to address their situation themselves and get actively involved in solving their problems. Paraquat is a pesticide frequently identified as a major concern.

Outputs: Campaign Book "The Politics of Paraquat" produced. Side-events held on PIC COP meetings, where plantation workers from PAN AP member organization have informed about their working conditions in the plantation where they sprayed pesticides, especially paraquat and the unsuitability and ineffectiveness of protective gear the women are provided (if at all given); as well as the terrible impacts to their health. National manifestations by member organizations for national ban on paraquat. Global coordination in the global ban paraquat campaign.

Effects: Announcement of a three year phase out of paraquat in Sri Lanka. After phase out decision in Sri Lanka, and the country's notification of the phase out decision to the PIC procedure of the Rotterdam convention, paraquat is in early 2009 entering as candidate for the PIC list, as three countries from three different regions now have notified the PIC Secretariat about their decision to phase out and ban of paraquat (Sweden, Sri Lanka and Uruguay). (62)

GRAIN has produced a successful interactive webpage on free trade agreements, www.bilateral.org GRAIN considers the push for bilateral and regional trade and investment agreements between countries continues to be a serious threat to farmers and local communities, as they tend to include strict provisions on patenting life which go beyond the WTO prescriptions and which further limit people's roles and responsibilities in managing biodiversity. GRAIN has therefore since 2004 participated in the 'bilaterals.org' initiative. www.bilaterals.org is an open-publishing website built on a collective initiative. GRAIN's involvement in the project is at the level of helping to design, run, develop and feed the site.

Outputs: An independent web-site, giving opportunity for stakeholder to publish materials, has been established.

- A huge amount of material centralised in a simple and well-structured format. A collaborative website that tracks what is going on with bilateral trade and investment agreements and their implications for biodiversity and other issues at the local level.
- GRAIN staff posted over 3000 articles on the site 2007 related to bilateral trade and investment agreements and their implication for biodiversity.
- The bilaterals.org website attracts 6 000 unique visitors each day (2007).

Effects:

- Officials and advisers comprise information provided by Biodiversity Rights Legislation (on grain.org) and Free Trade Treaties (on www.bilaterals.org)
- Those who follow or campaign on, or who are involved in, bilateral trade deals acclaim of the usefulness of the DONE DEALS (Treaties and Agreements) database on bilaterals.org,
- The bilaterals.org is referred to in a number of significant places, including a number of official government and parliamentary sites, for example a UK paper on the future post the WTO Doha round, which cited bilaterals.org as a useful source of further information. (47)

4.2 Integration of biodiversity-livelihood concerns in development planning and sector frameworks

The results below exemplify work undertaken regarding indicators. More results regarding the MA follow-up are presented under section 2.2, the Millennium Ecosystem Assessment.

Tebtebba Foundation/International Indigenous Forum on Biodiversity (IIFB) has been supported for the “8j” Indicators Project – “International Expert Seminar on Indicators Relevant to Indigenous Peoples and the Convention on Biological Diversity”.

Outputs: The main components of the process have been achieved, that is to:

1. Convene an International Expert Seminar on Indicators Relevant to Indigenous Peoples, the Convention on Biological Diversity and the Millennium Development Goals (MDGs). (An Executive Summary and full report of the International Expert Seminar were submitted to 5th meeting of the CBD WG8j and Related Provisions held in Montreal, Canada from October 15-19, 2007. These are contained in CBD meeting documents UNEP/CBD/WG8J/5/8 and UNEP/CBD/WG8J/5/INF/2.)
2. Undertake preparatory workshops in different global regions and on important thematic issues leading up to the International Expert Seminar.
3. Promote collaboration among indigenous peoples, local communities, governments, international organisations, regional and national institutions and research bodies with relevant experience and data.

4. Publish the report and results of the process as a resource book on Indicators Relevant for Indigenous Peoples, the Convention on Biological Diversity and the Millennium Development Goals.

Effects: The primary objective of the project to identify relevant indicators has been met, namely: to carry forward a structured technical process under the auspices of the International Indigenous Forum on Biodiversity (IIFB) Working Group on Indicators to identify a limited number of indicators meaningful for Indigenous Peoples, the CBD Strategic Plan and 2010 Biodiversity Target and the Millennium Development Goals. Only a few global headline indicators will be adopted by the CBD under the 2010 Biodiversity Target. However, the more comprehensive list of indicators can be used at the national level to monitor progress of implementation of the CBD Strategic Plan and 2010 Biodiversity Target. Moreover, these indicators can be developed to feed into other global indicators processes and also national level data collection and monitoring– e.g. Human Development Index, Indicators for Sustainable Development, MDGs, as well as national implementation of the CBD. The IIFB Working Group on Indicators is affiliate partner of the Biodiversity Indicators Partnership, and collaborates closely with the Inter-Agency Support Group of the UN Permanent Forum on Indigenous Issues. (75)

The World Resources Institute (WRI) project “Mainstreaming Ecosystem Services in Socioeco-

conomic Decisions” includes a component assessing the state of indicators for measuring and monitoring ecosystem services.

Outputs: WRI has completed a draft assessment of the state of indicators for ecosystem services which will become publicly available on WRI’s website by spring 2009. WRI compiled the measures and indicators used by the Millennium Ecosystem Assessment to assess ecosystem services and ranked each indicator on how well it is able to convey information about an ecosystem service and is supported by data. The paper also rates each service on how well its state can be understood based on existing indicators and data. Based on these rankings, WRI has assessed how effectively the indicators used

in the MA convey information for each regulating, provisioning and cultural service to support policy-making. This project is being incorporated into WRI’s new Ecosystem Services for Development initiative focused on applying the ecosystem services concepts to support poverty alleviation and human development in developing countries.

Effects: There is now an international interest for utilising the results of WRI’s review of indicators. The U.S. Environmental Protection Agency, UNEP-WCMC, and FAO have all expressed interest in partnering with WRI to apply the results of this study to inform and shape data gathering and compilation activities at national and international levels. (93)

4.3 Communication and awareness-raising

Television Trust for the Environment /Earth report (TVE) have produced information material for out-reach to a wider audience in the form of documentaries on biodiversity and climate change, and reports from some of the Millennium Ecosystem Assessment (MA) sub-global partners.

Outputs: TVE has produced and broadcasted two 22-minute television documentaries on biodiversity and climate change linkages, i.e. “Adopt, adapt and survive” and “All of a Quiver”, as part of the TVE series “Earth report”. The documentaries, which were broadcasted on BBC World in April 2007, presented material from Kenya, Tanzania and South Africa and brought attention to the issues and arguments around climate change, biodiversity, livelihoods and adaptation efforts in Africa. Working with MA, TVE researched six stories from Africa, Asia, Latin America, the Caribbean and Europe, which reflected different values of ecosystems to economic development and human well being. These were made into ‘The Eco-Economy’, a two-part documentary programme as part of the Earth Report series and were broadcasted on BBC World in 2005. The programme has been made available in Africa, Asia and Latin America to schools, colleges, universities and other education organisations, NGOs, CSOs and other ‘multiplier’ organisations.

By providing examples of the value of ecosystem services, the documentaries balanced the attention around MA which mainly focused on the loss of ecosystems.

Effects: Through TVE’s broadcast and non-broadcast distribution networks the programmes will

continue to reach new audiences around the world in the coming years. TVE estimates that it takes around five years to assess the distribution impact of a programme. (77, 78)

Third World Network (TWN) provides effective communication and information on biodiversity and biosafety related to international conventions. The Convention on Biological Diversity is the main focus in TWN’s biodiversity work, but TWN also works actively on the linkages among developments at the CBD, the WTO, the FAO and WIPO (World Intellectual Property Organisation) as they relate to the cluster of issues on access and benefit sharing, IPRs, and community rights.

Outputs: TWN information outputs include analytical papers and reports, briefing papers, booklets in the various TWN series and specific books related to biosafety and biodiversity. These are widely distributed at negotiation meetings, seminars and workshops. TWN side events at the COP and MOP meetings are also important activities. However, in order to continuously serve the broad range of stakeholders involved, the TWN Biosafety Information Service and the Biosafety Information Centre (TWN biosafety website) have been established.

Effects: Significant contribution to civil society participation in global biosafety debate. Referring to the evaluation of TWN Biosafety and Biodiversity Programme from 2004, it is obvious that the programme, including the internet information services, has greatly contributed to getting the rather complex issue of biodiversity, the CBD and

the discussion on biosafety onto the global agenda. This has helped an increasingly larger segment of the global civil society community to take part in, and understand, the debate and its content on biosafety, biodiversity, GMOs and food security. (82)

Rhodes University has since 2006 been engaging the Ncera and Tyolumnqa communities in South Africa in the development of a People's Biodiversity Register, i.e. the documentation of local ecological knowledge about the use and occurrence of species and ecosystems. The project responded to three challenges: 1) how to develop and improve methods and strategies to establish biodiversity inventories in remote rural areas by working with rural communities; 2) how to strengthen the capacity of rural people for the governance and monitoring of biodiversity; and 3) understanding how to prevent exploitation of the intellectual property rights of communities, to ensure that they receive a fair share of the benefits from their biodiversity resources and their knowledge.

Outputs: The development and strengthening of a local institution, the "Ncera Conservation and Tourism committee" and strengthening of the

traditional leadership; a community biodiversity register and filing system that is owned by the community; established networks between the community and municipal, provincial and national government departments and NGOs.

Effects: Increased awareness of the importance and benefits of biodiversity among the local communities was achieved through the project. Among the most significant differences between people who had been involved in the process and not, were that involved people identified individual species as being threatened, when asked the question "Are there any species or resources that are threatened or need protection?" They were also more aware of threats to medicinal plants and had a stronger vision of ecotourism as their future. Further, the attitudes towards management of local resources shifted. The majority of uninvolved people thought it was the government's responsibility to manage the "Imidushane Tribal Trust land" (a legal entity established by the community when they settled in the area), whereas the majority of involved people believed management should be a partnership between local people and the government. (65)

Annex 3. List of organisations supported by SwedBio during 2003–2008

	Organisation(s)	Project title	Project duration
1	African Biodiversity Network (ABN)/GAIA	“Strengthening the African Biodiversity Network (ABN) and its International Alliances; Developing and Implementing Biodiversity-Related Policy, Legislation and Practice in Africa”	1 January 2004 – 31 December 2008
2	African Centre for Biosafety (ACB)	“Protecting African Genetic Resources and associated knowledge from biopiracy, through capacity building and training African partners to trace, document and monitor biopiracy in Africa”	1 September 2006 – 31 October 2007
3	African Centre for Biosafety (ACB)	“Protecting Africa’s genetic resources and indigeous knowledge systems from genetic engineering, biopiracy and industrial agriculture”	1 December 2008 – 31 December 2009
4	African Indigenous Women’s Organisation (AIWO)	“The Second Conference on African Indigenous Women, Biodiversity and Traditional Knowledge”	1 April 2004 – 30 April 2004
5	Asia Indigenous Peoples Pact (AIPP)	”Indigenous Participation at the 7th Conference of Parties to the CBD”	1 November 2003 – 28 February 2005
6	Asia Indigenous Peoples Pact (AIPP)	“Promoting Indigenous Knowledge and Biodiversity in Asia”	1 March 2005 – 30 June 2006
7	Asia Indigenous Peoples Pact (AIPP)	“Indigenous Peoples and Protected Areas: A Collaborative Management Learning Network in Southeast Asia, CMLN”	1 November 2005 – 30 September 2008
8	Asia Pacific Research Network (APRN)	“Asia-Pacific Convention on People’s Food Sovereignty”	25 November 2004 – 30 April 2005
9	Asociación IXACAVAA for Indigenous Development and Information (ASIDII)	“Local Ecosystem Assessment of the Higher and Middle Chirripo River Sub-Basin. Cabecar Indigenous Territory of Chirripo”	1 January 2005 – 30 April 2006
10	BioNet	“Mobilizing vital taxonomic information to support human well being and ecosystem health in Eastern Africa”	1 October 2008 – 30 April 2011
11	BirdLife International	“Improving the livelihoods of local communities in Africa by promoting sustainable use of renewable natural resources through increased participation in biodiversity policy making and implementation”	1 November 2004 – 30 June 2009
12	Botanic Gardens Conservation International (BGCI)	“Wild Plants for Food and Medicine”	1 July 2008 – 30 June 2009
13	Centro Ecológico	“New technologies, biopiracy and food sovereignty – Participation of farmers and CSOs in COP8”	1 February 2006 – 31 May 2006

14	Center for International Forest Research (CIFOR)	Conference “Rural Livelihoods Forests and Biodiversity”	1 May 2003 – 30 June 2003
15	Center for International Forest Research (CIFOR)	“Changing the health worker’s paradigm – riches from the forests”	1 March 2007 – 30 June 2009
16	Co-Operation On Health And Biodiversity (COHAB)	“COHAB 2 Second International Conference on Health and Biodiversity Galway, Ireland during the period 25th to 29th February 2008”	1 February 2008 – 31 August 2008
17	Community Biodiversity Development and Conservation Programme (CBDC)	“CBDC Phase II”	1 January 2003 – 30 June 2005
18	Community Technology Development Trust (CTDT)	“Biodiversity, Modern Biotechnologies Lobbying and Networking Initiative at National and Sub-regional (SADC) level”	1 February 2005 – 31 March 2006
19	Community Technology Development Trust (CTDT)	“CBDC project capacity assessment, building and reformulation process”	1 April 2006 – 1 July 2006
20	Community Technology Development Trust (CTDT)	“Proposal for the CBDC Africa Regional partners for the six months period July – December 2006”	1 July 2006 – 31 December 2006
21	Community Technology Development Trust (CTDT)	“Community Biodiversity Development and Conservation Programme (CBDC) -Africa”	1 January 2007 – 31 December 2009
22	Consejo de Todas las Tierras (CTT)	“Strengthening of the full and effective participation of Mapuche and indigenous communities and organizations in the design and implementation of policies and actions related to the conservation and sustainable use of biological diversity and the protection of their traditional knowledge and practices”	1 January 2005 – 31 March 2007
23	Environment Liaison Center International	“Civil society engagement process for the convention on biological diversity”	1 July 2003 – 31 December 2004
24	Environment Liaison Centre International (ELCI)/Convention on Biological Diversity (CBD) Alliance	“Civil society engagement process for the Convention on Biological Diversity”	1 April 2005 – 30 June 2006
25	E-parliament	“International parliamentary hearing on climate and ecosystems”	1 September 2007 – 31 May 2008
26	E-parliament	“International parliamentary hearing on Payment for Ecosystem Services in Costa Rica”	1 December 2008 – 31 July 2009
27	Equator Initiative (EI)/UNDP (contract part) International Institute for Environment and Development (IIED) (implementing agency)	“Policy That Works for biodiversity and poverty reduction”	1 June 2003 – 30 June 2008

28	Equator Initiative (EI)/ United Nations Development Programme (UNDP)	"The Community Kampung – Local Voices for a Global Vision"	1 January 2004 – 30 September 2004
29	Equator Initiative (EI) / United Nations Development Programme (UNDP)	"Community Vilaj – Island voices for a global vision", and "Community Action 2015 – Local Learning facility"	1 January 2005 – 31 December 2005
30	Equator Initiative (EI) / United Nations Development Programme (UNDP)	"Community Taba – Local Voices for a Global Vision"	1 January 2006 – 15 April 2006
31	Erosion, Technology, Concentration (ETC) Group	"The ETC Century – Confronting Eco-Erosion, Technological Transformation and Corporate Concentration in the 21st Century"	1 September 2003 – 31 August 2005
32	Erosion, Technology, Concentration (ETC) Group	"The Points for Moving On"	1 September 2005 – 30 August 2008
33	Flora & Fauna International	"CITES and Livelihoods Workshop"	1 August 2006 – 30 November 2006
34	Flora & Fauna International	"Measuring the impact of livelihoods initiatives in the conservation context"	1 March 2007 – 31 December 2007
35	Forests and the European Union Resource Network (FERN)	"Promoting Good Governance in the Forest Sector"	1 January 2007 – 31 March 2009
36	Forest Peoples Programme (FPP)	"Linking Forest Peoples' Rights and Local Knowledge of Biodiversity Conservation and Sustainable Livelihoods to National and International Biodiversity and Forest Policies and Programmes"	1 April 2003 – 31 July 2004
37	Forest Peoples Program (FPP)	"Participation by indigenous representatives in the Vth World Parks Congress (Durban, South Africa, September 2003)"	1 June 2003 – 31 October 2003
38	Forest Peoples Programme (FPP)	"Supporting Indigenous Peoples' Participation at the IUCN World Conservation Congress, WCC, in Bangkok, Thailand, November 2004"	1 July 2004 – 31 December 2004
39	Forest Peoples Programme (FPP)	"10 case studies, FPIC, and GEF studies"	1 October 2004 – 30 June 2007
40	Forest Peoples Program (FPP) and Asia Indigenous Peoples Pact (AIPP)	"Indigenous Peoples' Participation at the CBD Ad Hoc Working Group on Protected Areas (WGPA-1, Montecatini, Italy, April 2005 and Montreal, November 2005 and WGPA-2 Rome, Italy, February 2008)"	15 April 2005 – 31 May 2008
41	Forest Peoples Programme (FPP)	"Forest Peoples, Biodiversity Conservation and Sustainable Livelihoods"	1 July 2007 – 30 June 2011

42	Foundation on Future Farming (FFF)	“Planet Diversity World Congress”	1 February 2008 – 1 June 2008
43	Global Forest Coalition (GFC)	“Life as Commerce”	1 January 2006 – 31 December 2008
44	Global Invasive Species Programme (GISP)	“Implementing the Global Strategy on Invasive Species”	1 January 2007 – 31 December 2008
45	GRAIN	“Geneva Nexus”	1 November 2002 – 31 December 2003
46	GRAIN	“Harnessing Diversity” – evaluation (SwedBio and Novib/HIVOS) ¹	1 April 2003 – 31 December 2003
47	GRAIN	“Harnessing Diversity”	1 January 2004 – 31 December 2007
48	GRAIN	“Struggles for Life. Supporting peoples’ movement on agriculture, food and biodiversity”	1 January 2008 – 31 December 2010
49	Indigenous Information Network (IIN) / International Indigenous Forum on Biodiversity (IIFB)	“Indigenous Participation at 9th Conference of Parties to the CBD”	1 December 2007 – 31 December 2008
50	Indigenous Knowledge and Peoples (IKAP)	“Inter-Ethnic Networks in Mainland Montane South East Asia on Indigenous Knowledge, Innovations and Practices for the Affirmation of Cultures and Biodiversity Conservation”	1 November 2004 – 30 June 2006
51	International Alliance of Indigenous and Tribal Peoples of the Tropical Forest (IAITPTF)	“Multi-sector meeting to coordinate IP inputs on international policy through the UNFF and CBD”	1 December 2003 – 15 December 2004
52	International Alliance of Indigenous and Tribal Peoples of the Tropical Forests (IAITPTF)	“Indigenous Participation at the 3rd Meeting of the Ad Hoc Working Group on Access and Benefit Sharing”	1 January 2005 – 15 April 2005
53	International Alliance of Indigenous and Tribal Peoples of the Tropical Forest (IAITPTF) / International Indigenous Forum on Biodiversity (IIFB)	“Preparation of Indigenous Participation at the 8 th Conference of Parties to the CBD”	1 November 2005 – 30 June 2006
54	International Alliance of Indigenous and Tribal Peoples of the Tropical Forest (IAITPTF)	“Regional Capacity Building for Asian Indigenous Peoples on Climate Change”	1 September 2008 – 31 March 2009
55	International Collective in Support of Fishworkers (ICSF)	“Rights to resources”	1 May 2007 – 31 March 2009
56	International Federation of Organic Agriculture Movements (IFOAM)	“1st IFOAM Conference on Organic Wild Production”	1 January 2006 – 31 July 2006

1 Evaluations are usually part of specific contributions, but in this case a separate agreement was made.

57	International Institute for Environment and Development (IIED)/ Quechua-Aymara Association for Sustainable Livelihoods (ANDES)	“Protecting Community Rights over Traditional Knowledge: Implications of Customary Laws and Practises: Proposal for a Research Planning Workshop”	1 April 2005 – 30 June 2005
58	Kalpavriksh/ CBD Alliance	”Democracy, Civil Society and the Convention on Biological Diversity”	1 January 2007 – 31 December 2008
59	Kalpavriksh	“Community Conserved Areas (CCAs) in South Asia – Towards an Understanding of their Conservation and Livelihood Security Values”	1 May 2008 – 31 October 2009
60	League for Pastoral People and Endogenous Livestock Development (LPP)	“Strengthening the Movement for Livestock Keepers’ Rights Proposal for Preparatory Activities to the International Technical Conference on Animal Genetic Resources in 2007”	1 March 2006 – 31 December 2007
61	League for Pastoral People and Endogenous Livestock Development (LPP)	“Making Livestock Keepers’ Rights Happen: Advocating and implementing international policy and legal frameworks that support pastoralists and small-scale livestock keepers”	1 October 2008 – 31 December 2009
62	Pesticide Action Network Asia and the Pacific (PAN AP)	“Ending the Cycle of Poison: Community Empowerment and Action for Eliminating Pesticide Hazards”	1 January 2006 – 31 December 2008
63	Proyecto Andino de Tecnologías Campesinas (PRATEC)	“Ecosystem Services in the Commons and Intercultural Education for Sustainable Development in the Central Andean Area of Peru”	15 September 2005 – 30 April 2007
64	REDES-AT	“Nyeleni 2007 World Forum on Food Sovereignty”	15 December 2006 – 1 May 2007
65	Rhodes University	“People Biodiversity Registers – Learning lessons from international comparisons and action research”	1 November 2005 – 30 June 2007
66	Sociedad Peruana de Derecho Ambiental (SPDA)	“The use of biotechnology and the introduction of genetically modified crops in centres of origin and diversity: emerging scientific, policy and legal issues in the Andean region and Peru in particular “	1 December 2004 – 31 May 2006
67	South Asia Indigenous Women Forum (SAIWF)	“Training on Indigenous Women’s Knowledge, Biodiversity at the United Nations Permanent Forum on Indigenous Issues”	1 May 2004 – 30 June 2004 and 3 May 2005 – 6 May 2005
68	Southeast Asia Regional Initiatives for Community Empowerment (SEARICE)/ Community Biodiversity and Conservation Network (CBDC)	“Projecting and sharing the CBDC experiences and lessons in international biodiversity platforms”	1 February 2004 – 28 February 2005

69	Southeast Asia Regional Initiatives for Community Empowerment (SEARICE)/ Community Biodiversity and Conservation Network (CBDC)	“Projecting and Sharing the CBDC Experiences and Lessons in the 8th Conference of Parties of the Convention of Biological Diversity and the 3rd Meeting of parties of the Cartagena Protocol on Biosafety”	1 February 2006 – 30 May 2006
70	Southeast Asia Regional Initiatives for Community Empowerment (SEARICE)/ Community Biodiversity and Conservation Network (CBDC)	“The Road to Rome –Prospects of Farmers’ Rights within the International Treaty on Plant Genetic resources for Food and Agriculture (ITPGRFA) and within the FAO Commission on Plant Genetic Resources: Activities and Participation of Farmers and Civil Society Organizations Towards the 2 nd Governing Body Meeting of the ITP-GRFA”	1 September 2006 – 30 November 2007
71	Southeast Asia Regional Initiatives for Community Empowerment (SEARICE)/ Community Biodiversity and Conservation Network (CBDC)	“Prospects of Farmers Rights within the Convention on Biological Diversity (CBD): Active Engagement and Lobbying of the CBDC Network at the 9 th Conference of the Parties serving as Meeting of the Parties to the Cartagena Protocol (COP9-MOP 4)”	1 January 2008 – 30 June 2008
72	Southeast Asia Regional Initiatives for Community Empowerment (SEARICE) / Community Biodiversity Development and Conservation Programme and Biodiversity Use and Conservation in Asia Programme (CBDC–BUCAP)	“Community Biodiversity Development and Conservation Programme and Biodiversity Use and Conservation in Asia Programme (CBDC/BUCAP)”	1 January 2006 – 31 December 2009
73	Stockholm Environment Institute (SEI)	“Mangrove ecosystems, communities and conflict – developing knowledge-based approaches to reconcile multiple demands”	1 June 2006 – 31 December 2009
74	Tebtebba Foundation	“Indigenous Peoples Advocacy and Capacity-Building For Implementation of the Convention on Biological Diversity (CBD)”	1 December 2004 – 31 December 2007
75	Tebtebba Foundation / International Indigenous Forum on Biodiversity (IIFB)	“International Expert Seminar on Indicators Relevant to Indigenous Peoples and the Convention on Biological Diversity” – “8j” Indicators Project”	1 June 2006 – 31 December 2007
76	Tebtebba Foundation	“Phase 2 – Indigenous Peoples’ Capacity Building and advocacy project for CBD implementation”	1 January 2008 – 31 December 2009
77	Television Trust for the Environment (TVE) / Earth Report	“Documentaries from the Millennium Ecosystem Assessment”	1 September 2004 – 31 August 2005
78	Television Trust for the Environment (TVE) / Earth Report	“Adapting biodiversity and livelihoods to climate change in Africa”	15 January 2007 – 28 February 2008

79	Third World Network (TWN)	"Biosafety and Biodiversity Programme"	1 January 2003 – 31 December 2003
80	Third World Network (TWN)	"Workshops and side events on biodiversity and biosafety during COP7/MOP1 to the CBD (February 2004)"	1 November 2003 – 29 February 2004
81	Third World Network (TWN) (contract partners IGEA Forum and SEARICE)	"Evaluation of Third World Networks Biosafety programme" ²	1 February 2004 – 25 May 2004
82	Third World Network (TWN)	"Biosafety and Biodiversity Programme"	1 July 2004 – 31 December 2007
83	Third World Network (TWN)	"Biosafety and Biodiversity Programme"	1 January 2008 – 31 December 2010
84	United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)	"Indicators, Capacity Building and Connecting to the MDGs"	1 January 2007 – 30 June 2008
85	United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)	"Developing and mainstreaming indicators of biodiversity and ecosystem services for human well-being"	1 December 2008 – 30 November 2010
86	United Nations Environment Programme (UNEP)	"Implementing the Millennium Ecosystem Assessment (MA) findings and recommendations"	1 October 2007 – 30 September 2010
87	United Nations Foundation/ Millennium Ecosystem Assessment (UNF/MA)	"Supporting Participants From Developing Countries at the Millennium Ecosystem Assessments International Conference "Bridging Scales and Epistemologies""	1 March 2004 – 31 July 2006
88	United Nations University Institute of Advanced Studies (UNU-IAS)	"Assessing implementation of CBD National Biodiversity Strategies and Action Plan"	1 September 2008 – 31 October 2010
89	Uppsala University, Department of Archaeology & Ancient History	"Urban Landscape Dynamics"	28 – 30 August 2003
90	Via Campesina	"Biodiversity, Cultural Diversity and Biosafety – the Life of Indigenous Peoples and Peasant Farmers"	1 February 2006 – 30 May 2007
91	World Conservation Union – Regional Office for Europe (IUCN-ROFE)	"International Conference on Biodiversity in European Development Cooperation 19–21 September 2006"	1 May 2006 – 31 October 2006
92	World Intellectual Property Organization (WIPO)	"WIPO Voluntary Fund for Accredited Indigenous and Local Communities"	1 November 2006 – 31 October 2007
93	World Resources Institute (WRI)	"Mainstreaming Ecosystem Services in Socioeconomic Decisions"	1 December 2006 – 31 December 2009
94	World Wildlife Fund-Macroeconomics Program Office (WWF-MPO)	"Promoting the Role of Ecosystem Services in Poverty Reduction Strategy Papers"	1 September 2004 – 31 December 2006

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