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Integration of biological diversity
– the beginning of a learning process

Integrating Biological Diversity



Foreword

Biological diversity as a basis for people's survival and well being is badly understood. This is strange, since biodiversity is the fundament on which we base our existence – we can not live without using a large number of plant and animal species. And the services to humankind that the ecosystems provide are literally invaluable.

Moreover, from a poverty alleviation perspective, the maintenance of biodiversity has a particular significance. Poor people often depend directly on a variety of species and on well-functioning ecosystems.

The increasing attention to the socio-economic importance of biodiversity, and the vital services it provides is encouraging. One sign is the agreement at the WSSD to take action in order to significantly reduce the rate of loss of biodiversity by 2010.

Increased attention and urgent action is certainly required. Biological diversity is rapidly decreasing throughout the world. Sida is indeed regarding the challenge of disappearing biodiversity seriously. A number of initiatives have been taken, the study reported here is one of them.

The report tells us that at Sida, impacts on biodiversity of programmes or projects are seldom taken into explicit account – or even described – in proposals, reports and evaluations unless the project is an environmental project. Natural Resources Management (NRM) projects, where utilisation of biological resources (within agriculture, fishery and/or forestry sectors) is central, are seldom designed with the view of optimising them from a biodiversity perspective. Proposals are often focused on short-term production goals, with no statements about alternatives.

It is clear that if we are to act seriously on the knowledge we have on the current alarming losses of genes, species and ecosystems, significantly more effort is needed towards the mainstreaming of biodiversity in Swedish international development cooperation.

But all is not doom and gloom. The report also shows that a conscious process for biodiversity integration within Sida has started, that practical tools have been developed which are now being further refined, and that interest and understanding among Sida staff is gradually on the increase.

It is my hope and expectation that the learning process that has begun within Sida will develop and deepen.



Mats Segnestam
Head of the Environment Policy Division

Phase I, 1998–2000

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Authors: Maria Berlekom, Marie Byström

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List of acronyms

BAP	Biodiversity Action Plan
BDP	DFID/EC/IUCN Biodiversity in Development Project
BSAP	Biodiversity Strategy and Action Plan
CBD	The Convention on Biological Diversity
CBFM	Community-Based Forest Management
COP	Conference of the Parties (to the Convention on Biological Diversity)
DFID	UK Department for International Development
DNRE	Department for Natural Resources and Environment (at Sida)
EC	European Commission
EIA	Environment Impact Assessment
EU	European Union
FCSP	Food Crop and Seed Project (Zambia)
GMO	Genetically Modified Organism
IUCN	World Conservation Union
JFM	Joint Forest Management
MAFF	Ministry of Agriculture, Food and Fisheries (Zambia)
MARD	Ministry of Agriculture and Rural Development (Vietnam)
MENR	Ministry of Environment and Natural Resources (Zambia)
MRDP	Mountain Rural Development Programme (Vietnam)
NGO	Non Governmental Organisations
NPGRC	National Plant Genetic Resources Centre
NRM	Natural Resources Management
NTFP	Non-Timber Forest Products
OFD	Orissa Forest Department (India)
PMDFO	Participatory Management of Degraded Forests in Orissa (India)
SCCI	Seed Control and Certification Institute (Zambia)
SCRB	Soils and Crops research Branch (at MAFF, Zambia)
Sida	Swedish International Development Cooperation Agency
SLU	Swedish Agricultural University

TBAG EU/EC Tropical Biodiversity Advisers' Group

TRIPs WTO Agreement on Trade-Related Intellectual Property Rights

UNCED United Nations Conference on Environment and Development

WTO World Trade Organisation

Executive Summary

Biological diversity is rapidly decreasing throughout the world. An increasing number of species and habitats are threatened, and the situation for genetic diversity of cultivated species and domestic animal breeds is alarming. Although the convention on biological diversity (CBD) entered into force a decade ago, there are no indications that the rate of loss of biodiversity globally is slowing down. The odds are not good¹. At the same time, there is more capital, more human resources and more technology available today than ever before. Why then, is there such poor knowledge of the current disastrous loss of biodiversity, and so little action?

Firstly, we live in an increasingly complex and specialized world, with a constant overflow of information. Most professionals (including Sida staff) can barely keep up with the new trends in their own fields of work. Secondly, while current development objectives internationally focus on economic development and poverty alleviation, the fundamental importance of function ecosystems is largely unknown, and environmental mitigation is often seen as a hindrance or as a cumbersome ‘add on’ of little importance to the objectives at hand. Thirdly, “biodiversity” is on one hand a fairly complex issue with many dimensions and linkages (see 1. background above), and on the other often equated with “species loss” or “protected areas management – i.e issues which tend to seem fairly peripheral from the point of view of addressing immediate food security and poverty alleviation concerns.

This report analyses the main experiences and lessons learned from the first phase of biodiversity integration at Sida 1998–2000. During this period work concentrated on capacity building for biodiversity integration within Sida’s Department of Natural Resources and the Environment (DNRE). The main activities were:

- Collaboration with other donor organisations in Europe
- Study on Sida-DNRE programme officers understanding, involvement and need as regards biodiversity issues
- Case studies from three large natural resources management programmes at Sida, and how biodiversity issues have been handled and viewed within these

¹ A majority of the world’s governments agreed at the World Summit on Sustainable Development in Johannesburg in 2002 to take action in order to significantly reduce the rate of loss of biodiversity by 2010, but leading ecologists conclude today that this goal seems totally unrealistic at the moment.

- Identification of available facilities and competence on” biodiversity for development”
- Capacity building and training at Sida
- Development of Sida-statistics on support to biodiversity initiatives.

The discussion and analysis is organised around three elements of “capacity”: institutional framework (e.g. policies); organisation & management; and individual knowledge. The main lessons learned from the mainstreaming work were:

- Biodiversity issues appear overlooked within NRM-programmes, and have seldom been specifically addressed in spite of their strong relevance. Integration of biodiversity into natural resources programme (which usually include clear components of managing biological resources, such as forests, fisheries, agriculture etc) can include aspects of minimising negative impacts (such as from chemical fertilisers and pesticides in intensified agriculture). They also provide large scope for optimising the positive biodiversity impacts through promoting poor peoples access to and benefit sharing of biological resources (e.g. community-based forest management, continued access to traditional seeds, securing access and benefits from traditional medicines, promoting low external input agriculture etc). To integrate these concerns adequately into a NRM-project/programme the most efficient way is to incorporate them as early as possible during project preparation, and ensure that they are adequately covered in project/programme design.
- The Sida policy framework on biodiversity (*Sida and the Convention on Biological Diversity*)² is basically adequate but may need continuous updating. Other policy & strategy documents – e.g. country strategies, sector strategies, and key crosscutting-strategies² – need to be examined and when up-dated (or new developed) biodiversity issues should be included.
- Regarding organisation and management it was found that the combination of ‘mainstreaming fatigue’ (a large number of issues being mainstreamed within Sida simultaneously), time constraints and a perceived lack of relevance of biodiversity (see below) all contributed to the lack of attention to biodiversity issues. Addressing biodiversity issues better with existing tools (e.g. using the framework ToRs/checklists in Sida’s EIA-guidelines) to avoid extra burdens was therefore strongly recommended by DNRE-staff. Tools (e.g. EIA-guidelines) were further basically found to be accurate (albeit with some need for elaboration on biodiversity), and the EIA-checklists can usefully be applied not only in specific EIAs, but through-out during project/programme planning (e.g. during stakeholder consultations and LFA-workshops in the planning phase,) as well as to assist in drafting ToRs for reviews and evaluations. However a main problem is the limited overall use of the EIA-tool (and the guidelines), not only in relation to biodiversity. Mechanisms to ensure implementation of the existing guidelines need therefore to be developed, in collaboration with Sida’s two environmental helpdesks.

² E.g. gender, poverty, rural development etc

- Adequate professional knowledge & competence of Sida staff (both headquarter and Embassies) is fundamental for biodiversity integration. But knowledge and understanding on biodiversity issues was generally found to be limited, and increased awareness and information on the role and relevance of biodiversity for poverty alleviation is clearly needed. This need as a minimum to include knowledge about and ability to use the framework ToRs in Sida's EIA guidelines as basis for project preparation and evaluation; basic understanding of the importance and role of biodiversity for poverty alleviation, health and food security; and knowledge on where additional competence and facilities can be accessed.

Based on the findings and experiences from the mainstreaming work it is recommended that the continued work with biodiversity integration should focus on:

- Education and awareness raising among Sida-staff which is closely tailored to the needs of the respective target group, and starts from a very basic level
- Development of mechanisms to ensure implementation of existing environmental guidelines (e.g. EIA guidelines) at Sida.
- Initiation of biodiversity mainstreaming activities at other Sida departments.
- Development of specific "best practice" examples of biodiversity integration from different sectors (illustrating how biodiversity may be relevant for each sector, and how to address these), which can be shared among stakeholders including Sida-staff.

Part I. Introduction

1. Background

Poor people in rural areas are directly dependent on natural resources for their survival and well-being. They use both cultivated and wild species for food, medicine, shelter, firewood etc. The dependence on wild species and on local varieties of cultivated species is often neglected or poorly understood. Also poorly known and understood is the total dependence of all human societies on functions of the surrounding ecosystems, such as circulation of nutrients, water purification and water infiltration, pollination of crops, seed dispersal, pest control etc. These ecosystem functions, or ecosystem services, are dependent on the continued existence of a variety of life forms with intricate interrelationships. The diversity of different species, the genetic diversity within species, and the diversity of ecosystem functions and of different ecosystems, are termed biological diversity or biodiversity.

Today biological diversity is rapidly decreasing throughout the world. More than half the species in the world are in danger of disappearing during the next century, and the situation for genetic diversity of cultivated species and domestic animal breeds is just as alarming. Some of the alarming changes are captured in the following figures:

- The area covered by tropical forests is decreasing at a rate of 10% per decade.
- Up to 75% of the genetic diversity in cultivated crops may have disappeared during this century.
- 5% of all domestic livestock breeds are estimated to disappear every year,
- 70% of the world's conventional marine fish species utilised by humans are fully exploited, overexploited, or depleted due to over-exploitation.

And yet, it is biological diversity that makes up the world's ecosystems that are the basis for the production of natural resources, on which we all depend. The loss of biodiversity, both wild and domesticated, will affect us all. Poor people often have to pay a particularly high price for the loss of biodiversity. Both for the rich and the poor, it is essential to save as much as possible of the remaining biodiversity and to strive to ensure a continued supply of ecosystem services. But for the poor, an equally

critical need is to provide more suitable and secure access to ecosystem services in its widest sense.

In short, sustainable use of biodiversity is a requirement for sustainable development in a global perspective and a crucial issue for the world's poorest. Control of and access to biodiversity are intimately linked to fundamental aspects of development, such as poverty, food security, livelihoods, equity, health, and trade.

Box 1. The Convention on Biological Diversity

As an expression of the growing concern globally regarding loss of biodiversity, and of the awareness of urgency of concerted efforts to halt this loss, the Convention on Biological Diversity (CBD) was signed at the UNCED conference in 1992. The CBD entered into force in December 1993 and has hitherto been signed by over 170 of the governments in the world. The parties to the convention undertake to act nationally and internationally for:

- *Conservation of biological diversity,*
- *Sustainable use of its components, and*
- *Fair and equitable sharing of the benefits arising from the utilisation of genetic resources.*

2. Biodiversity at Sida: Integrating Biodiversity and Development Concerns

In recognition of the crucial links between biodiversity and poverty alleviation, Sida in the policy paper “*Sida and the Convention on Biodiversity*” (see Box 2) assumes the responsibility for mainstreaming, or integrating, biodiversity issues (Box 3) into all programmes, starting at the Department for Natural Resources and the Environment (DNRE).

As a starting point it must be realised that the overall aim of the biodiversity mainstreaming process at Sida is to see clear results and positive impacts on biodiversity in the programme/project areas supported through Sida. This include both the maintenance of biodiversity itself in the areas and ecosystems, AND poor peoples access to and benefit sharing of the multiple products and services provided by biodiversity. The main – and necessary – means to achieve this is *capacity building*³ among those working with the Sida-supported programmes/projects. This capacity building has two broad aspects: an internal Sida side and an external side.

The external side is the actual mainstreaming of biodiversity issues in the respective programmes and projects, while the internal side deals with mainstreaming within Sida’s own organisational setting. The external side hence include the capacity among recipient organisations and the target groups (such as e.g. an agricultural ministry or a forest department, as well as the local communities and people) – and include both competence (knowledge, interest and skills) of the different stakeholders at different levels, organisational framework (mandate and role of the collaborating organisations, management issues), and institutional framework (legal and policy framework within the country relating to use & management of biological resources).

The internal side relate to capacity within Sida, and include competence of staff (knowledge, interest and motivation), conduciveness of organisational set-up (routines, guidelines, tools, division of responsibilities & roles between different departments and between the headquarter and embassies, work load etc) and policy framework (sector policies, biodiversity policies etc).

³ The common use of the concept “capacity building” within Sida has been applied in this report. This three main levels of capacity are identified: a) individual level (competence and knowledge), b) organizational level (management, organization of work), and c) institutional framework (policies, laws etc)

Box 2. Priorities for working with biodiversity at Sida

In "*Sida and the Convention on Biodiversity*" it is stated that Sida shall give priority to:

- Supporting maintenance and development of knowledge on the conservation and sustainable use of biodiversity in local communities and indigenous populations, including support for strengthened local control, by both women and men, over the use of biological resources and the fair and equitable sharing of benefits of biological resources and of the use of local knowledge.
- Conservation and sustainable use of biological diversity in areas, which are cultivated by human beings including agriculture, forestry and fisheries. The focus should lie on mechanisms which make it possible to continue to maintain the sustainable use of biological diversity at higher levels of production and on mechanisms which permit the fair and equitable sharing of the benefits of such use of biological diversity.
- Policy research and policy development in respect of access to and fair and equitable sharing of genetic resources and knowledge of biological diversity. This shall include support for the work of developing mechanisms to ensure that compensation is given to farmers and societies that have developed and managed knowledge and genetic resources which are today utilised commercially, the so called "farmer's rights" in a way which is realistic and practicable. Support should also be given for capacity building in respect of biosafety and for the management of biotechnology.

It need also be kept in mind that consultants (Swedish, international, or national from the partner countries) often play a crucial role (or rather roles) in all project/programme phases (planning, assessment, implementation, evaluation) – with some functions more clearly supporting the internal processes at Sida (e.g. appraisals, evaluations etc) while other functions (e.g. consultants in implementation programmes) more clearly support the external processes and the recipient organisations. Swedish NGOs, and Swedish organisations (Government or private sector) involved in different kind of twinning arrangements with sister organisations are other actors.

Box 3. What are 'biodiversity issues'?

In the report we will refer to the concept of 'biodiversity issues' throughout. By this we mean all relevant aspects of biodiversity use and management, ranging from e.g. people's rights to use seed varieties and to protect their traditional knowledge from exploitation, to sustainable management of ecosystems and the wild plant and animal species therein.

Specific examples include e.g. maintaining traditional varieties of major crops as a basis for future breeding AND ensuring access of farmers to seeds as a fundamental prerequisite for food security; use and benefit-sharing of Non-Timber Forest Products (NTFPs); the crucial role of wildlife, edible plants and aquatic resources for nutrition and health; eco-tourism as an income source for local communities; maintaining functioning ecosystems such as forests and natural wetlands to ensure adequate quality (and quantity) of water; and biosafety etc.

The 'biodiversity issues' also have links with very complex and contentious international policy processes such as patenting of life and trade and benefit-sharing of biological resources. 'Bio-diversity issues' are thus as much social, political, economical and legal, as purely biological.

2.1 The biodiversity integration work at Sida

The first phase of the biodiversity mainstreaming (or integration) started at the end of 1998, and covered a two-year period up to end of 2000. The work during this period focused on the internal side of capacity building for biodiversity integration at Sida's Department for Natural Resources and the Environment (DNRE). This was based on two main assumptions:

- There is a clear link between the internal and external components of building the knowledge base. Experiences from mainstreaming of other issues within development cooperation (e.g. gender) has shown that an increased awareness, understanding, and pro-active work of the donor representatives – including understanding of the type of activities that can be implemented, and the type of impact that should be considered – may substantially trigger and stimulate the interest of potential partners. A donor's biodiversity integration must therefore start "at home".
- Biodiversity issues has more immediate relevance in some areas of development cooperation than in others, and is particularly pertinent in the natural resources management sector (i.e. agriculture, forestry, fishing etc), where management choices and activities have a direct impact on biological diversity.

The full terms of reference for activities during phase one are attached in Annex 1. The overall objective of phase one was that "consequences for biodiversity be analysed in the project identification, planning process and follow-up of all programmes and projects supported by Department of Natural Resources and the Environment, as part of EIA, to minimise negative effects and also point out positive impacts for biodiversity". The immediate objective of phase one was that "the Sida/NATUR officers obtain the understanding and tools they need to ensure that biodiversity is mainstreamed in all projects/programmes"⁴.

Six different activities were planned, which would each contribute to integration of biodiversity, and to an increased understanding of the mechanisms needed to achieve this:

- Collaboration with other donor organisations in Europe
- Study on Sida-DNRE programme officers understanding, involvement and need as regards biodiversity issues
- Case studies from three large natural resources management programmes at Sida, and how biodiversity issues have been handled and viewed in these
- Identification of available facilities and competence on "biodiversity for development"
- Capacity building and training at Sida
- Development of Sida-statistics on support to biodiversity initiatives

Responsibility for the activities was divided between Sida/DNRE and external consultants.

⁴ This includes the knowledge to enable officers to discuss needs and find solutions together with cooperation partners when analyses of the consequences for biodiversity are not fully presented in the programmes/projects.

This report summarises the key findings, and lessons learned from the first mainstreaming phase, and ends with recommendations for the continued mainstreaming work. Focus is mainly on the experiences in relation to internal capacity building (knowledge/competence, organisation & management, and policy framework), and to less extent on the “biodiversity issues” themselves. The outputs from the six activity areas are presented below in part 2 (chapters three to eight). The main experiences, conclusions and lessons learned are found in part 3 (chapters nine and ten).

The first draft of this report was completed late 2000, while the final version was completed in 2003⁵. This final version still covers the 1998–2000 period, but in a few cases, references (usually in the form of footnotes) have been made to events that took place from 2001 and on-wards.

⁵ Because of a long period of sick-leave of one of its authors, which was eventually ended by help of spinal surgery.

Part II: Activities and Outputs

3. Collaboration with Other Donors

Sida has collaborated with a number of donor organisations and have exchanged experiences on work with biodiversity mainstreaming. This has included bilateral contacts with donor organisations such as DFID, but has mainly been undertaken within the framework of the European Commission and has included cooperation through the Biodiversity in Development Project and the Tropical Biodiversity Advisers Group (TBAG).

3.1 The Biodiversity in Development Project, BDP

Sida's mainstreaming work, phase I, has been coordinated with the DFID/EU/IUCN-project Biodiversity in Development Project, BDP. Sida participated in meetings, had a continuous dialogue with the BDP, and also shared policy documents and findings of the biodiversity case studies (see below) with other donors and actors within BDP.

The BDP was started in 1997. One of the requests from the group of donor representatives who participated as advisors to BDP was to improve communication between the donor agencies of the EU member states on issues relating to biodiversity and development cooperation. In response to this request, an EC donor advisers group has been meeting twice a year.

The focus of the BDP shifted considerably since its initiation in 1997 from being conservation oriented to a focus on enabling sustainable use of biodiversity and equitable sharing of benefits from its use. The focus was further on biodiversity and sustainable livelihoods of poorer groups, including issues like food security, property rights, rights to traditional knowledge, etc. The focus of the BDP was shaped by developing country representatives through the BDP case studies and through 3 regional workshops (in Africa, Asia and Latin America), and also by the participating donor organisations, including Sida.

The main outputs from the BDP are contributions to the CBD COP5, input to EC processes, including the Biodiversity Action Plan, Environment Manual and Environmental Training Courses, and publications on biodiversity in development cooperation. The publications include Guiding Principles (see Box 4), a Sourcebook, Biodiversity Briefs and a Policy Review. The BDP was completed by 30 April 2001.

Box 4. BDP Guiding principles

As part of the “Strategic Framework” developed for the EC/DFID/IUCN Biodiversity in Development Project, seven guiding principles have been developed (BDP, 2000), to ensure that all development cooperation actions are sustainable and effective and give biodiversity proper consideration:

1. Adopt an ecosystem perspective and multi-sectoral approach to development programmes (taking account of impacts on adjacent and down-stream areas).
2. Ensure/encourage full stakeholder participation, including partnerships with civil society, government and private sector.
3. Ensure that development cooperation projects and programmes are consistent with the wider donor and national policy framework, and/or changes are made for supportive policies and laws.
4. Ensure that institutional arrangements are effective, transparent, accountable, inclusive and responsive.
5. Promote fair and equitable sharing of costs and benefits from biodiversity conservation and sustainable use, at local national and international levels.
6. Provide and use accurate, multi-disciplinary information, which is both accessible to and understood by all stakeholders.
7. Development cooperation investments must be sensitive to, and complement local/national structures, processes and capacities.

3.2 Tropical Biodiversity Advisers Group, TBAG

In 1999, the BDP advisers group adopted the name Tropical Biodiversity Advisers Group (TBAG), reflecting the focus on development cooperation in Africa, Asia and Latin America. It was felt that exchange of information outside the focus of the BDP was as important as the advisory role to the BDP.

The overall functions were agreed:

- To be an informal network for the exchange of both technical and policy information and documents, and to share experience on best practice;
- To develop complimentary, but not identical policies;
- To co-ordinate activities better, and reduce duplication and conflicting activities.

The use of a biodiversity advisers group to gather EU Member States’ policy and review documents improved the speed and depth of consensus building to produce the EC Strategic Framework for biodiversity in development. The TBAG also informed the EC Biodiversity Action Plan for development cooperation. The EC shared early drafts of the Biodiversity Action Plan with the TBAG, which allowed early feedback on the structure and content of the BAP from Member States. Finally, an ad hoc technical meeting in Bonn in March 1999 on biodiversity and EIA resulted in an Information Paper being presented to COP5 of the CBD. Sections of this paper went into the final decision of the COP.

At the TBAG meeting in September, 2000, it was stressed that to have an impact on the way EC delivers its development cooperation, the TBAG members need to link more strongly with their home country colleagues, as well as their permanent representations in Brussels, to

inform these on outcomes of discussions, and consensus has been reached on a particular policy or action plan. The EU permanent representatives in Brussels remain largely unaware of TBAG activities and need feedback to ensure that they are up-to-date on whom to contact when policies, action plans and projects are reviewed in EC Council meetings. This is only just beginning to happen.

The BDP functioned as secretariat to the TBAG. After completion of BDP in May 2001, this function could be organised in three ways:

- The secretariat functions could be carried out as part of a policy project funded by the EC (a follow up of the BDP). IUCN is happy to contribute to this role.
- The secretariat could be carried out as part of a Brussels-based EC Environment HelpDesk, which is planned under the 'integrating environment into development cooperation' agenda.
- Member States could rotate the secretariat duties for a period (e.g. 1 year).

4. Study on the Needs of Programme Officers at Sida-DNRE Regarding Biodiversity Issues

A background study to better understand the needs of the programme officers was performed during 1999 by the officer responsible for biodiversity at DNRE.

Some of the questions asked were:

- Are impacts on biodiversity described in project/programme proposals received today, and in the reporting and follow-up of the projects/programmes?
- What experience do programme officers have of the knowledge and interest of partners in different aspects of biodiversity?
- What do the programme officers think is lacking (knowledge, time, relevance etc), both in respect of themselves and the partners?
- What kind of tools do they need to fulfil the objective of mainstreaming aspects of biodiversity?
- What do they expect from the officer responsible for biodiversity?

The main conclusions from the background study are summarised in Box 5.

Box 5. Main findings from interviews with programme officers at Sidas Department for Natural Resources and the Environment

Extent of integration of biodiversity concerns:

- There was a general agreement that impacts on biodiversity of programmes or projects are seldom described in proposals, reports and evaluations unless the project is a biodiversity or environmental project. In many cases biodiversity issues are not discussed at all. Proposals are often focused on short-term production goals, and often lack discussion about alternatives to the suggested project/programme.

Obstacles for mainstreaming:

- Some officers thought that the obstacles for mainstreaming of biodiversity are both shortage of time and knowledge, while others thought that the only obstacle was time and that they had the knowledge. The overload of topics to mainstream was considered to be a problem. If the mainstreaming is too bureaucratic for the cooperating partners it would be an obstacle.
- Knowledge gaps included e.g. lack of understanding of costs/values (social, economic, ecological) of biodiversity products and services (ecosystem services), and their role for sustainable natural resources management and sustainable rural livelihoods.

- In some countries, environmental concerns are still related to very conservative groups in society that “care more about elephants than the human population”.
- Political actions far beyond the local control of projects/programmes were considered to be one of the obstacles for integration of environmental concerns.
- Knowledge about biodiversity issues is often missing at the government level in cooperating countries.
- There may be some projects or programmes where biodiversity aspects do not have relevance.

Tools for mainstreaming:

- Several officers felt that the biodiversity issue has to be intergraded by the use of a single tool which has to be easy to use. The Guidelines for Environmental Impact Analysis is – or should be – the said tool.
- Education was considered important in order to understand the biodiversity issues. The officers thought that the biodiversity questions should be further explained/illustrated through examples from Sida's own work.
- Colleagues from the Ministry for foreign affairs should take part in the education since they are involved in negotiations on bilateral agreements.
- Consultants were suggested to perform much of the mainstreaming work in the same way it is done with gender issues. This could also give the cooperating partner knowledge on biodiversity. Inclusion of biodiversity aspects was suggested to be regulated in agreements.
- The cooperating partners need to be in the focus for the mainstreaming process so that they understand the importance and relevance of biodiversity. The national capacity to integrate biodiversity concerns into development processes has to be developed, and Sida should emphasise capacity building e.g. at the level of government authorities or other strategic institutions, e.g. concerning the ability of performing environmental impact assessments.
- It would be relevant to study and learn from development in Sweden, e.g. with Life Cycle Assessments, environmental standards, certification, environmental analyses, environmental audits etc.

Resource person for biodiversity:

- The officer for biodiversity should gather knowledge and experiences, have a supportive role, be a discussion partner, help with assessments of proposals and terms of references, be responsible for method development etc. He/she should also be able to suggest consultants.

5. Three Case Studies from NRM-programmes

As part of Sida's attempt to mainstream biodiversity aspects within all projects and programmes, three case studies in the natural resources management sector were commissioned to provide recommendations and suggestions on methods for biodiversity mainstreaming within both preparatory and implementation phases of NRM projects/programmes. The three case studies, which were chosen from Sida-supported programmes in India, Zambia and Vietnam respectively, cover the following questions:

- A background description including the legal and policy framework in the country.
- A description of the programme in past and present phases.
- Analysis of biodiversity aspects within the programme, both historically and presently.
- Identification of relevant institutions (in-country) that could be a possible resource for the programme.
- Lessons learned and conclusions for both the respective programme and Sida in general regarding biodiversity mainstreaming.

5.1 The “Food Crop and Seed Project”, Zambia

The context for the case study was the Food Crop and Seed Project (FCSP) in Zambia with a history dating back to 1981. The original objective of the project was the cleaning and improvement of the available maize genetic material – maize being the dominating food crop in Zambia. Later on, other crops important in traditional household food security such as sorghum, finger and pearl millet, cassava and sweet potato were included. Research on vegetables and pasture crops was also carried out. Support to the project was suspended by the end of 1997 when Sida made the approval of a National Seed Policy conditional for further funding. Upon the formulation of a draft national seed policy early 1999, Sida accepted the proposal (1999–2001) for appraisal. The first component of this proposal focuses on breeding in maize, sorghum, millets, root and tuber crops, post-harvest technology and farming systems approaches to be carried out by the Soils and Crops Research Branch (SCRB) of the Ministry of Agriculture, Food and Fisheries (MAFF). The second component focuses on capacity strength-

ening of the Zambia Seed Company Ltd. (ZAMSEED) in the fields of marketing, and research and development.

5.1.1 The Case Study

The case study looked at biodiversity from four different angles, i.e. perception, impact on biodiversity, roles and responsibilities, and instruments. The case study has exploited sources such as documents, websites and interviews with stakeholders for gathering information, and relevant stakeholders in Zambia have been enabled to give comments on the draft report. Because of the agricultural focus of the project, and within that an emphasis on breeding of particular crop, the case study has focused on agro-biodiversity.

5.1.2 Main findings

Perceptions

Although Sida has not explicitly mainstreamed biodiversity in its programmes in Zambia, the issue of biodiversity and related agro-biodiversity meets general interest. Depending on the perspective of the respective stakeholder, the perception of agro-biodiversity varies. Generally, stakeholders interviewed are aware of the need for genetic diversity conservation but less informed on functional relationships at an agro ecosystem level. Although local knowledge related to agro-biodiversity, especially of women, is assessed to be important, this is not formally documented or validated.

The projects impact on biodiversity

The project has contributed to increased genetic diversity (between and within crops, between and with varieties) mostly through the importation of exotic material and subsequently to increased food security at household level and thus possibly to poverty alleviation. Benefits from new varieties include high yields, disease and insect pest resistance and early maturity. The direct impact of all varieties developed and disseminated by FCSP on crop diversity and social parameters is not exactly known because of a general lack of precise monitoring data. However, the apparent fact that farmers in Zambia generally favour the integration of new varieties into their entire seed range, would support the hypothesis that total genetic diversity in Zambia within the most important food crops might have increased. The case study has not found hard evidence of irreversible losses of genetic biodiversity due to the project.

Although farmers seem to be willing to diversify their cropping pattern, they are not in a position to influence the effective market demand in the short term because of the continued high demand for maize nation-wide.

Roles and Responsibilities

Stakeholders interviewed indicate a gap between the overall responsibility of the Ministry of Environment and Natural Resources (MENR) for all issues pertaining to the environment, natural resources and consequently biodiversity, and the authority over other ministries, whereby it cannot effectively enforce policy and legislation. However, using a consultative process with relevant stakeholders at different levels, MENR has finalised the National Biodiversity Strategy and Action Plan (SAP),

expected to be approved by Cabinet in the second part of 1999. The six key areas of the BSAP are conservation of Zambia's ecosystems, sustainable use of biological resources, equitable sharing of benefits, conservation of genetic diversity of crops and livestock, bio-safety, and the institutional and legal framework, and thus duly address important aspects of agro-biodiversity. Its emphasis on a five-year process of gathering more data on important biodiversity issues, in order to create a foundation for exchange among stakeholders and sound decision-making, is an asset. It is expected that the BSAP, once approved by Cabinet and put into effect, will largely contribute to a more intensive coordination and collaboration between the relevant stakeholders at the different levels.

The tendency within MAFF and within the project (FCSP) to refer all agro-biodiversity issues to the National Plant and Genetic Resources Centre (NPGRC) bears the risk that biodiversity may become a stand-alone theme which is not really integrated in policy and implementation of other departments.

In the project proposal for the next phase, research on crops with a low commercial value still remains the responsibility of SCRIB, whereas the multiplication of seed can be carried out on-farm. The breeding policy does not describe specified breeding objectives in relation to farmers' requirements, gender specificity or different agro-ecological regions, which would acknowledge possible distinctions in varietal requirements based on different perceptions on the production method or the use of the end product(s). However, the proposed integration of farming systems research into the other project components as an approach offers some scope for involving farmers in priority setting, own experimentation and evaluation, maintenance breeding, seed multiplication and dissemination.

Although seed quality is the core business of the Seed Control and Certification Institute (SCCI), it does not take a pro-active stand in advancing the issues of intellectual property rights in relation to varieties and plants and of bio-safety (especially for GMOs).

The private seed sector and NGOs are involved in seed multiplication and distribution. The private sector is mainly involved in commercialised crops; for food crops this is exclusively hybrid maize. NGOs, coming from seed rehabilitation background after the drought years in 1991/92 and 1994/95, are mainly involved in seed multiplication and distribution of crops of less commercial interest to the private commercial seed sector. NGOs, government extension services and SCCI closely collaborate in training of community seed groups while SCCI coordinates the NGO seed and multiplication activities. A major concern is the insufficient capacity for effective maintenance breeding in Zambia, which leads to inefficient use of resources, and sometimes even a decrease in ultimate seed quality.

Instruments

Zambia is a signatory to all relevant international treaties related to agro-biodiversity, except the Convention of the International Union for the Protection of New Varieties and Plants (UPOV). There is a considerable number of legislative documents dealing with elements of biodiversity in general and with agro-biodiversity in particular. The majority of stakeholders interviewed share the opinion that legislation in the area of

biodiversity needs reviewing and adaptation to changed circumstances and that the enforcement of such legislation is not adequate yet.

Being a member of the World Trade Organisation (WTO) of Trade-Related Intellectual Property Rights, Zambia must have put in place the necessary structure and legislation before the year 2000 far as plant and variety issues are concerned. The existing draft Plant Breeders' Rights Act in conjunction with the expected outcome of the task force on an all African *sui generis* system recognising rights and benefit sharing of farming communities forms a good basis for complying with this condition. The NPGRC is actively involved in the formulation of this model legislation.

The draft National Seed Policy has met general consensus of the major relevant stakeholders but is yet to be incorporated into the overall Agriculture Policy before submission to the Cabinet. In order to address biodiversity in a broad sense, specific issues related to bio-safety and intellectual property rights for varieties still need to be articulated.

The case study has no evidence of the inclusion of an Environmental Impact Assessment (EIA) in the project formulation. Biodiversity is not explicitly considered in the project design, nor has Sida requested the Zambian government to do so. Therefore, no indicators for the possible impact on biodiversity have been developed nor has the impact on biodiversity been monitored. The project proposal for the next phase has not altered this situation.

In Sida's guidelines for EIA, the pertinent questions on biodiversity in the checklist for agricultural projects are not elaborate with regard to the impact of interventions on the functionality of ecosystems or their components. In addition, they do not reflect the areas of international debate such as the influence of the dynamics over time or the perspective of stakeholders biodiversity. Consequently, the impression may be easily created that biodiversity is a somewhat static parameter that can be expressed in absolute terms. This checklist does not reflect the wider perspective and challenges addressed in Sida's earlier policy document on biodiversity (Sida 1994).

Stakeholders indicate the need for the set-up of local seed reserves in order to avoid the forced replacement of local varieties through seed relief activities in disaster situations often dependent on the importation of bulk quantities of seed with a uniform character from outside the area/country. An area of specific concern in relation to this is the financial sustainability of research, public or private, in crops with a low marketing potential. It may prove to be unrealistic to acquire sufficient funding from the commercial market players. A concerted effort of the public and private sector is needed, in close collaboration with the farming community.

5.1.3 Major recommendations for the project

Below follows a selection of the major recommendations from the case study. The principal criterion for selection is the degree of possible feasibility of application within the project, the Zambian setting or the Sida biodiversity mainstreaming process.

General

- Since the appraisal of the next phase of the project was in an advanced stage during the case study, it was recommended that the project holders (within the framework of the approval conditions for the next phase and in close collaboration with the donor) look for opportunities on when and how to incorporate important issues related to agro-biodiversity in the coming project period – particularly issues related to the core activities of breeding and seed multiplication and distribution.

Perceptions

- It was recommended that Sida consider funding initiatives within the project that aim at redressing information and knowledge gaps in the field of agro-biodiversity.

Impact on biodiversity

- The project should look into opportunities for including the monitoring of possible effects on agro-biodiversity in the project.

Roles and responsibilities

- Because of the widely accepted role, knowledge and involvement of women in the field of agro-biodiversity management, the project should consider applying a more explicit gender perspective.
- In order to help Zambia adequately prepare for possible future litigations in the area of plant rights and bio-safety, Sida should consider providing support to the Government of Zambia (GRZ) with the establishment and strengthening of the necessary legal capacity and network.
- In order to effectively mainstream biodiversity in existing projects in Zambia, the donor should commence a stakeholder consultative process to discuss agro-biodiversity with the relevant partner organisations. Specific activities may consist of a series of introductory workshops on the issue of agro-biodiversity and other policy issues of Sida and GRZ of information gaps, the definition of goals and activities, criteria for monitoring and evaluation, the responsibilities of the stakeholders concerned (public sector, private sector, farming community, NGOs) and the instruments to be used (e.g. monitoring).

Instruments

- Since the BSAP offers a good basis for further elaborating issues of biodiversity relevant for Zambia, and duly recognises issues of agro-biodiversity, the project should consider involving itself in the implementation wherever appropriate.
- In order to contribute to improved community biodiversity management, the project should, in close collaboration with the NPGRC and NGOs, consider providing technical expertise for strengthening the capacity of community groups, district level field extension staff and NGO staff in carrying out in-situ conservation of locally available genetic material, the recording and validation of local knowledge and the promotion of local genetic information centres.
- The project should, in close collaboration with Sida, NGOs, the farming community and the private seed companies, study the possi-

bilities for the establishment of an adequate capacity for high quality maintenance breeding by the public sector in Zambia.

5.1.4 Issues for Sida's biodiversity mainstreaming process

Based on the findings and lessons learned for the project, the case study identifies five issues as important for the next phase of the Sida biodiversity mainstreaming process: *knowledge base, agricultural development approach, stakeholder involvement, legal rights and benefit sharing, and analytical tools and guidelines*. It was noted that the process of mainstreaming could be characterised by an internal component (Sida's organisation) and an external component (programmes and projects). Considering the nature of activities performed at the various levels, different methods, techniques and tools may have to be developed and used in order to effectively integrate biodiversity in Sida's development effort at large. The case study finally suggests that a first identification of such methods and tools should include: networking, adapted policy formulation, consultative stakeholder processes, joint inventories and tool development, public private partnerships, funding of relevant public biodiversity research, establishment and support of legal aid centres, donor concentration, and adaptation of EIA checklists.

5.2 The project "Participatory Management of Degraded Forests, Orissa", India

The context for the case study was the preparatory phase of the Participatory Management of Degraded Forests Project in Orissa, initiated by the Orissa Forest Department (OFD) and funded by Sida. The overall goal of the project was promotion of sustainable and community based management of forests in Orissa and thus contribution to sustainable rural livelihoods in the State. The preparatory phase of the project (Dec 1997–May 1999) aimed at developing background and capacity for a longer support in a second phase of implementation⁶.

The immediate objectives of the preparatory phase, as expressed in OFDs final inception report, were:

1. Further elaboration of participatory forest management concepts by exploring relationships between joint (State and community) and community based forest management practices;
2. Strengthening the capacity, including restructuring, of the Orissa Forest Department to provide support for participatory and sustainable forest management in Orissa;
3. Increase the knowledge base of low cost methods for reforestation through natural regeneration;
4. Use the information and learning experiences generated during this period for the preparation of the project document for phase II.

5.2.1 Brief project background

Orissa is situated on the East coast of India. With 32 million people and 155 000 sq.km it is one of the least densely populated states of India. Orissa is also one of the least urbanised states with 88% of the people

⁶ The planning of the project was finalized in 1999, but before final endorsement Sweden decided to discontinue all development support to India in response to the test of nuclear bombs. The project was therefore never initiated.

living in villages. Over 1/3 of the land area, or 58 000 sq. km, is classified as forestland. Due to serious forest degradation, about 10 000 sq. km forestland is estimated to be devoid of any vegetation, and the area of degraded forests is 31 000 sq.km.

Still, the dependence of local communities on forest resources is very high in Orissa. Forest areas are used for grazing, fuel wood collection, collection of non-timber forest products, etc. The degradation of Orissa's forests has led to both spontaneous and OFD-initiated protection of forests by local communities in all parts of the state. Today it is estimated that at least 4 000 sq.km of forestland is protected and managed by some 10 000 village communities. After a long period of marginalizing local communities' rights to forest resources, the realisation of the necessity to acknowledge such rights grew in India during the 1980's. The concept of joint forest management (JFM) was established in the Indian National Forest Policy of 1988. The government of Orissa has developed mechanisms for JFM which e.g. regulate roles and responsibilities of OFD and village forest protection committees, mechanisms for approval of joint forest management plans, sharing of benefits between the communities and the state, and rights to collect non-timber forest products.

While OFD has facilitated the formation of village forest protection committees on a fairly large scale and initiated joint forest management in many areas, the benefit sharing provisions of the Government Resolutions have not been implemented to any significant degree, and village level committees are not well informed of their rights.

Many communities have little faith in OFD and claim full rights to the forests they protect. While some communities have established village forest protection committees with official JFM agreements with OFD, other communities prefer to protect their forests on their own, in community-based forest management (CBFM) arrangements.

5.2.2 The case study

The case study was based on a number of different studies in the preparatory project phase, including fieldwork and local consultations in the biodiversity study. The aspects studied were: expected project impact on biodiversity, policy-related issues, tools for integration and lessons learnt for Sida's biodiversity mainstreaming process.

5.2.3 Findings and recommendations for the project

The different studies of the programme preparation process clearly established the close interdependence between forests and local communities in Orissa. According to the findings from the preparatory phase, a number of actions need to be taken by OFD and by the state government in order to ensure long-term conservation and sustainable use of forest biodiversity in Orissa, as well as equitable sharing of the benefits arising from this use. Actions were recommended in the preparatory stage of the project. This case study presents recommendations related to biodiversity, which are thought to be of general interest to Sida.

Roles of communities in forest management

It was found that participatory forest management planning is required to safeguard forest biodiversity. The case study recommended that area-

specific management objectives be developed by each village level organisation. The management objectives need to include an ecosystem perspective. While communities are already involved in joint forest management, the respective roles and benefits of communities vs. OFD need to be clarified, with more responsibility and more benefits flowing to the communities.

Impact on biodiversity

The overall biodiversity impacts of the project were expected to be positive, since it was expected to assist in further developing participatory forest management systems based on protection and natural regeneration of forests, where the forests are managed for production of both timber and non-timber forest products (NTFPs). Such participatory management systems are generally expected to contribute to restoration of forests rich in biodiversity, which will be ecologically sustainable and hence contribute to sustainable livelihoods of forest-dependent communities. However, production/collection of some major NTFPs (e.g. kendu leaf, sal leaves and sal seed) may lead to simplified and eventually degraded ecosystems. A better understanding is needed of how best to optimise production of these NTFPs.

Tools for integration

Some of the tools which may be used to integrate biodiversity aspects into participatory forest management were found to be:

- Development of simple biodiversity monitoring as part of participatory forest management, e.g. simple inventories done as transect walks through protected forest areas, documenting plant species, complemented by an enumeration by the community of plant and animal species known to live in the forests, and trends (increasing or decreasing in numbers) for key species.
- Participatory development and use of a field manual for participatory forest management, with biodiversity aspects fully integrated into all stages of management, including the planning, action and learning stages.
- Interactive training in forest management for both members of village level organisations and OFD staff, including integration of biodiversity-related aspects.

Policy related issues

Both the Indian national forestry legislation and the Orissa state level forestry legislation referred to above address all three major objectives of the CBD to some extent.

The PMDFO can be seen as one of India's activities towards the fulfilment of the objectives of the CBD, in that it will assist OFD in meeting its obligations in relation to the CBD. The planned project specifically addresses the objectives/obligations of several CBD articles (see Box 6)

Box 6. PMDFO and CBD-objectives

The planned project specifically addressed the objectives/obligations of e.g. CBD articles 5 (international cooperation), 6 (b) (integration of conservation and sustainable use of biodiversity into relevant sectoral or cross-sectoral plans, programmes and policies), 8 (f), (i), (j) (rehabilitation and restoration of degraded ecosystems, provision of conditions to enable conservation and sustainable use of biodiversity, and maintenance of knowledge, innovations and practices of local communities and equitable sharing of benefits from these), and article 10 (b), (c), and (d) (adoption of measures relating to the use of biological resources to avoid or minimise adverse impacts on biological diversity, protection and encouragement of customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use, and support to local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced).

On Sida's side, cooperation in the development of PMDFO supports fulfilment of Sweden's obligations in e.g. CBD articles 5 (international cooperation), 18 (technical and scientific cooperation, in particular 18.2.: cooperation in development and implementation of national policies, human resources development and institution building, and 18.4. encouragement and development of methods of cooperation for the use of technologies, including traditional technologies, in pursuance of the objectives of the CBD), and article 20.3. (provision of financial resources related to the implementation of the CBD through bilateral channels).

One major recommendation of the preparatory phase of the project was the need for Orissa government to carry out an internal review of policy and laws relating to NTFPs in order to provide clear definition of NTFPs, ensure transparent management operations in relation to collection, processing and marketing of NTFPs, sharing of revenue generated, institutional arrangements etc. The review was *inter alia* needed to ensure compliance with National Forest Policy and national conservation guidelines. Since the end of the preparatory phase of the PMDFO, a new NTFP Policy in Orissa has been passed. The PMDFO preparatory phase helped facilitate the new NTFP policy. The new policy has the potential to substantially increase the rights of local communities to process and market NTFPs, and local communities will hence hopefully share a larger proportion of the benefits from the use of NTFPs.

India is also a member of the World Trade Organisation, and as such a signatory to the WTO Agreement on Trade-Related Intellectual Property Rights (TRIPs). For the first time in history, TRIPs has made intellectual property rights on some life forms mandatory.

Although it is very difficult to quantify the effects of this request in TRIPs for intellectual property rights on certain life forms, it is beyond doubt that the extension of intellectual property rights to life forms has consequences for the distribution of benefits from genetic resource use. In particular, they contribute to the present structural change toward proprietarisation (turning research results into private property) and concentration of biological research. While this may not directly affect local communities in Orissa, the TRIPs provisions may have a long-term impact on their shares of benefits from use of genetic resources.

Among the concrete proposals given to WTO from developing countries are the withdraw of the requirement of intellectual property rights (IPR) on life forms altogether, direct inclusion of some of the CBD

objectives in the TRIPs text, and amending the text with explicit provisions for community rights protection. Ultimately, this could benefit local communities in their forest management in Orissa and would hence support the objectives of the PMDFO.

5.2.4 Issues for Sida's mainstreaming process

- Among the most important factors for integration of biodiversity issues in this project was the professional competence of Sida staff, as well as their intimate knowledge of the situation in the country/area of cooperation, including knowledge of the policy/legal context in relation to biodiversity issues and related socio-economic issues. Hence, it seems important that Sida staff has sufficient time to 1) follow the international discourse and policy development in biodiversity-related areas; 2) acquire a high level of knowledge of the country-specific situation, and 3) undertake a genuine dialogue with the cooperation partners, with sufficient time for the actors concerned to reflect on and come back to crucial issues.
- In project planning/implementation, clear processes for participatory planning, monitoring and review should be agreed upon early in the planning stage and adhered to. Of particular importance is the need to ensure that all interest groups are able to participate to sufficient degrees.
- Monitoring of biodiversity as part of natural resource management should be:
 - as simple as possible in order to be cost/effective, manageable and replicable;
 - based on local knowledge;
 - an integral part of local management systems.
- Sida's strategic priorities in relation to the CBD (Sida, 1998b) were found to be relevant in this case study. Sida's guidelines for support to biodiversity from 1994 were also relevant (Sida, 1994).
- Development of processes for the integration of EIA in project planning may be needed. Integration of EIA in the planning process depends on the degree of ownership of the EIA felt by the actors involved. Development of a sense of ownership of the EIA requires understanding of the relevance of EIA as a useful tool in the planning process. Sharing of lessons learnt between projects will be important in this context.
- The "Guiding Principles" of the EC/IUCN/DFID Biodiversity in Development Project (BDP, 2000) were found to be relevant to the project studied, and they should be used as guiding principles not only for mainstreaming of biodiversity but for development cooperation in general.

5.3 The "Mountain Rural Development Programme" in Northern Vietnam

The third case study analysed biodiversity issues of relevance to the Mountain Rural Development Programme (MRDP) in northern Vietnam. MRDP is a fairly broad and complex programme (encompassing a

range of activities and components ranging from local business development to agriculture & forestry extension) that operates in a context influenced by a large number of factors. The biodiversity analysis has therefore been addressed from different perspectives; *technical issues*, such as the consequences/impact on biodiversity of the different programme activities, *policy-related issues* such as property-rights and access, and division of *roles and responsibilities* between the various stakeholders.

5.3.1 *The programme*

The overall vision of MRDP during the 1996–2000 period was “In order to alleviate poverty amongst poor households the programme should contribute to the re-establishment of green productive uplands that are managed in a sustainable way by healthy farmers having secure land tenure, maintaining the ecological, economical, social and cultural diversity of the area”.

To achieve this, the programme had three main objectives:

- Institutional development in the whole support structure from central to province, district, commune and village levels of the five provinces, to enable rural households to achieve what they truly want as expressed in their visions and end results.
- Development of working methods and productive systems to sustainably (from both economic, ecological, social and cultural points of view) convert the barren uplands and mountains in the five provinces to productive land use.
- Create policies, recommendations and guidelines for sustainable upland and mountain rural development based on learning from the institutional, methods and systems development in the five provinces.

5.3.2 *Methodologies used in the case study*

Information and data for the case study was collected from a number of different sources, which broadly included:

- Interviews with staff within MRDP and MARD at different levels
- Village case studies, using PRA methodology
- Interviews with other actors and stakeholders in Vietnam
- Documentation and reports; including Sida general policy-documents, programme
- Documents and reports, and other relevant documentation
- Web-sites
- A workshop on “environment issues and MRDP” within the Ministry of Agriculture and Rural Development (MARD), in April 2000.

The focus of the case study was the generation of a tool –or a simple analytical framework – for analysing what biodiversity issues that need to be considered within MRDP-type of programmes. The following analytical framework was adopted for the case study:

Issues	Questions
Technical issues: Impact on biodiversity	<ul style="list-style-type: none"> • What type of impacts – in relation to various programme activities • Which level of biodiversity is primarily affected (genetic, species, ecosystems, functions etc)
Policy issues:	<ul style="list-style-type: none"> • Property-rights • Relation to policy-framework and legislation • Support and control mechanisms
Actors and stakeholders	<ul style="list-style-type: none"> • Who is concerned and/or affected? • What are their roles and responsibilities? • Knowledge and information of the various stakeholders • Areas of conflicts
Relevance to the programme	<ul style="list-style-type: none"> • How relevant and important is the particular issue in the programme context? • To what extent has the particular issue been considered in the programme context? • What kind of biodiversity-related monitoring (if any) has been undertaken?

5.3.3 Main conclusions from the MRDP case study

- There is a large-scale transformation of the landscape in Northern Vietnam (and the whole country), with a steady decrease in the natural habitats. At the same time the complexity and diversity of the managed landscape increases.
 - In Vietnam there is more awareness and discussion on biodiversity in relation to the forestry sector than in relation to the agricultural sector. It should for example be noted that the direct responsibility for the Protected Area Management lies with Forest Protection Department. There is thus a tradition and history of linking biodiversity issues/protected area management/wildlife protection with forestry (in Vietnam as in many other countries). To the extent biodiversity issues have been discussed within MRDP, it is therefore not surprising that it is primarily in relation to forestry, – e.g. management of natural forest areas, species diversity in forest plantations, and diversity of fruit trees.
 - The number and complexity of biodiversity related issues have increased with the broadening of the scope of programme activities from the early phases to the present day MRDP.
 - Further, many MRDP-interventions have both positive and negative impacts on biodiversity. *Positive impacts* clearly visible in MRDP-villages include:
 - Increased diversity of the managed landscape, and possibly increased diversity of the home garden system
 - Return of some wildlife, timber species, herbs and other NTFPs, through allowing for regeneration of sloping areas.
- Possible negative impacts on biodiversity include:*
- Possibly reduced species and variety (few provenances used) diversity of both fruit trees and timber trees
 - Supporting the trend of declining agro-biodiversity (reducing both variation of species, and local land-races), primarily in the intensely cropped rice fields, but also among smaller livestock such as chicken and pigs.

- Potentially supporting a trend of decline in wild fish populations.
- The case study also notes that there are several complicated “trade-offs”, between positive and negative impacts on biodiversity at different levels on one hand, and impacts on economy and social dynamics on the other, and describes several examples:
 - The same intervention can simultaneously have both positive and negative effects on biodiversity (e.g. agricultural intensification have contributed to the return of forests and wildlife on sloping areas, but have intensified the trend of agrobiodiversity loss).
 - An intervention can have a positive impact on biodiversity but other negative environmental impacts, and vice versa.
 - Biodiversity/environmental changes vs socio-economic gains and losses.
- The present approach to the village-based monitoring within MRDP, using the concept of “sustainable livelihoods” as the analytical framework, has several advantages:
 - It acknowledges that people are in the centre
 - It allows for addressing the trade-offs between environmental, social/cultural and economical changes and gives a framework for doing this.
 - It also provides a meaningful way of discussing and highlighting both environmental and socio-economic changes together with local communities.
- The physical location of a programme – e.g. in the form proximity to bio-diversity “hot-spots” (such as protected areas) – is one factor determining importance of sustainable use and conservation of “wild biodiversity”. Presently MRDP works in some Districts with Nature Reserves, but no villages or communes are located directly adjacent to an area, which form part of Vietnam’s protected area system⁷.
- “Biodiversity” has not been regarded as a priority issue for MRDP (neither by MARD or by Sida) – and appears to be easily overlooked in a programme of MRDP’s type. Other issues – e.g. gender, poverty etc –have received more attention.

5.3.4 Recommendations regarding programme operations

- Ensure that biodiversity aspects become part of the village monitoring as planned.
- Ensure that biodiversity aspects are documented in on-going programme studies, e.g. the analysis of Joint Forest Management -trials. Issues related to biodiversity of particular relevance for the JFM-documentation include:
 - silvicultural management practices
 - harvesting regulations and benefit-sharing arrangements
 - regulations and incentive framework for management (should promote natural regeneration and enrichment with indigenous trees)
 - risk and occurrences of outside exploitation of local knowledge and local biodiversity.

- Ensure that environmental and biodiversity aspects are considered when the land-use models are being studied.
- Employ a more cautious approach towards encouraging and subsidising high-yielding varieties (HYV) and crossbreeds of primarily maize and rice, particularly in up-land areas. Care should also be taken when new varieties (crops, livestock/fish, fruit trees) are introduced to an area, to ensure variation of both species and varieties (as well as economical viability and marketing opportunities).
- Include environment and biodiversity issues more comprehensively in training activities.
- Initiate broader discussion on environmental considerations (including biodiversity) in relation to agricultural strategies in general. This would include looking at experiences of MRDP. As well as other agricultural and rural development programmes within MARD.

5.3.5 Summary of lessons learned for Sida's general work on mainstreaming biodiversity

- Biodiversity was not explicitly considered in the planning phase of MRDP (and no formal/structured EIA was undertaken during the preparation work), but there were some environmental (even if not explicitly biodiversity-related) goals. However, there are no shortcuts to integration of biodiversity aspects into this type of rural development projects/programmes – i.e. general statements are no guarantee for on-the-ground implementation.
- Integration, or mainstreaming, will in practice also depend on the understanding by the actors involved of the relevance of biodiversity issues in the project/programme context. Stakeholder identification & involvement is consequently an important part of the planning process (and during subsequent annual planning as well, on all levels), but also becomes complex when a programme is as diverse and includes as many different activities as MRDP.
- The sectoral approach of the Sida EIA-guidelines (applied in the analysis of MRDP) is a useful tool for structuring an analysis of different biodiversity issues in relation to broad and diverse programmes such as MRDP.
- A biodiversity analysis as part of the EIA (or programme preparations) cannot go into much more details than the present EIA-guidelines without becoming too complicated. The analysis needs to be kept fairly broad, and strategic, to be meaningful in practice.
- However, to be efficient more clearly defined processes for the integration of EIA in project/programme planning may be needed. Integration of EIA in the planning process depends also on the degree of ownership of the EIA – as perceived by the involved actors and stakeholders. Development of a sense of ownership of the EIA requires understanding of the relevance of EIA as a useful tool in the planning process.
- In programmes with focus on methods- and policy development, and/or where field-level implementation is scattered (such as MRDP), the assessment of impacts (of any kind, including biodiversity) becomes complex. The assessment should include three parts:

- Assessing the relevance of the methods and policies developed (direct field level impacts), from a biodiversity perspective.
- Assessing programme contribution to development of particular policies (since policy development usually is shaped by many factors).
- Finally, the overall (potential) impact of the strategies and policies then need to be assessed. The impact assessment thereby becomes more strategic.

6. Identify Facilities/ Resource Base

One activity within the mainstreaming project was to find, develop and use existing facilities such as the EIA-guidelines, the BDP Strategic Framework and biodiversity web-sites on Internet. The project was also expected to develop a register of biodiversity experts. The BDP project investigated the development of a international biodiversity expert register, but came to the conclusion that the interest among members was to small to carry the costs for setting up and running such a facility.

7. Capacity Building and Training at Sida-DNRE

The officer responsible for biodiversity issues carried out some internal seminars and presentations at Sida-DNRE. The main event was a biodiversity mainstreaming seminar held at Sida-DNRE in January 2000 to review and discuss the progress in mainstreaming of biodiversity in development cooperation. The officers at DNRE, heads of units and head of department participated, as did the staff of the Environment Policy Unit. The three external consultants responsible for the biodiversity case studies participated as resource persons⁸.

The three case studies on integration of biodiversity aspects in natural resource management programmes (in Zambia, Vietnam and Orissa), and the findings on views from programme offices (see 4. above), were presented and discussed at the seminar. The participants then worked in groups to prepare recommendations on:

- When and how to integrate biodiversity in projects and programmes supported by DNRE;
- Methods and tools for biodiversity integration;
- What next – how to continue work with mainstreaming, or integration, of biodiversity aspects in DNRE's development cooperation work.

Since this seminar was of particular importance for the work of mainstreaming biodiversity at DNRE, a summary of discussions and recommendations is made in Box 7.

⁸ Kees Manintveld – Zambia-study; Marie Byström – Orissa study; Maria Berlekom – Vietnam-study.

Box 7. Comments and recommendations from the biodiversity mainstreaming seminar, January 2000.

A. When and how integrate biodiversity?

Biodiversity aspects need to be integrated throughout the project/programme cycle, i.e from the identification and preparation stages, to monitoring and evaluation stages.

1. *Identification stage.* Biodiversity integration should begin at the onset of the process and include e.g.

- Identification of and consultation with relevant stakeholders;
- Mapping of the societal context of biodiversity conservation and use (including definition of benefits and procedures for sharing of these).
- Visioning of programme objectives should encompass biodiversity concerns and aspects;

2. *Preparation stage*

- Key activities for biodiversity integration:
 - Dialogue between stakeholders;
 - Participation in preparatory process at different levels;
 - EIA well integrated in the planning process
- Good biodiversity integration includes knowledge on the followings:
 - Local use of biodiversity and local knowledge of biodiversity.
 - Uses by different stake holder (including illegal use)
 - Formal rights according to legislation: – ownership, concessions, leases and other forms of user rights
 - Informal rights (traditional, non-written)
 - Biological knowledge;
 - Experience of processes for biodiversity integration.

3. *Implementation, Monitoring, Evaluation*

- Mechanisms for continuous monitoring of biodiversity need to be developed;
- *Participation* at different levels is important;
- Information and training in biodiversity-related aspects is needed for stakeholders at different levels involved in the project/program;
- Increase knowledge on biodiversity locally and nationally by support to research, collection of material and information via universities and forestry- and agricultural research institutions.

B. Methods and tools for biodiversity integration

1. *General aspects on biodiversity integration*

- Integration should be done within the framework of the EIA
- Biodiversity integration needs to be done in concord with all Sida's major goals (poverty alleviation; Democracy and respect for human rights; Environmentally sustainable development; Gender equity, etc)
- We need to define which aspects of biodiversity Sida support should focus on, and why. Biodiversity is a very wide term which encompasses agrobiodiversity, ecosystem diversity, threatened wild species, etc., and as a donor with limited funds, Sida needs to have a focus.
- The possibility of using biodiversity as an indicator for sustainable development should be explored
- Quality control aspects are important. Necessary to link actions with responsibilities, and ensure that decisions are made on an informed basis.

2. Important tools

- EIA
 - Existing EIA guidelines should be used;
 - Biodiversity aspects of EIA guidelines should be developed to better reflect relevant issues;
 - Analysis of ecosystem services should be included,
 - Both positive and negative effects and impacts on biodiversity should be included
- Use multidisciplinary teams in planning, which can cover ecological, social and economic aspects;
- Stakeholder analysis is important to define who the stakeholders are and their relations to biodiversity, as well as to serve as a basis for local consultations;
- Local consultations: Methods are needed for participatory mapping of biodiversity values and use;
- Environmental economic studies of biodiversity values and use could assist in developing our understanding of these

C. Suggested activities for continuation of biodiversity mainstreaming

- Development of guidelines for biodiversity assessment and consultation with Sida's EIA helpdesk regarding biodiversity
- Further case studies of biodiversity "mainstreaming" in a handful of project/ programs, with value for similar projects/programmes;
- Training based on the above.

8. Biodiversity Statistics at Sida

Biodiversity was included in the Sida administration system “PLUS”. It is now possible to register a contribution, which has activities, which relates to the Convention on Biodiversity in the PLUS system, in line with the recommendations from DAC.

Part III: Analysis and Recommendations

This part contains three chapters: A) Lessons from the programmes, concentrating on findings relating to contents and “biodiversity issues”. B) Lessons and experiences from capacity building on biodiversity integration within Sida. C) Conclusions and recommendations

9. Lessons from the Three Case Studies

9.1 The extent of integration of biodiversity aspects in NRM-programmes

'Biodiversity issues' are easily overlooked, even in NRM-programmes where management of biological resources constitute a core activity. This is clear both from the cases studies (biodiversity aspects were neither explicitly considered in the planning phase of the MRDP in Vietnam or the FCSP in Zambia, and no formal/structured EIA was undertaken during the preparation work of these programmes⁹), the interviews with programme officers, and the mainstreaming workshop in January 2000. Issues with a longer history of integration, like e.g. gender issues, have received more attention in e.g. the MRDP programme.

9.2 Biodiversity issues being raised

From the three case studies, the interviews and the January 2000-seminar at Sida, the following specific 'biodiversity issues' were found to be particularly relevant:

- The Zambia and Vietnam-cases show that in support to agricultural production, it is important to look at the whole farming and production system, and the role of biodiversity (both cultivated and wild) within these. It must be recognised that the level of biodiversity in agricultural systems is to a fairly large extent related to the input level in the production process. When production systems based on high yields from a few commodities (often based on HYV and high input of fertilisers and pesticides) is promoted, both agro-biodiversity (traditional/local crop and livestock varieties) and wild biodiversity decline. At the same time, farmers vulnerability (to economic fluctuations, as well as ecological disasters such as drought and pest attacks) increase. Farming systems which are built on local knowledge, based on higher crop diversity and use less external in-puts (such as Low-External Input & Sustainable Agriculture, LEISA) are less vulnerable, and tend to use and maintain biodiversity (cultivated and grown) much more sustainable. Extreme care should therefore be taken in supporting (and subsidising) agricultural extension with strong bias on promotion of HYV and chemical fertilisers.

⁹ The PMDFO in Orissa is in this regard not typical, since biodiversity was identified as core issue at the on-set of planning.

- All three case studies high-light the strong need for understanding and taking into account how trade-agreements (e.g. WTO) and commercial interests (such as US pressure on patenting of life and life forms) will impact on poor peoples opportunities to continue managing (and benefiting from) the biological resources they depend on. This includes e.g. access to seeds, intellectual property rights such as traditional knowledge on medicinal plants, and biosafety etc.
- The Orissa and Vietnam cases both (particularly Orissa) highlight the extreme importance of Non-Timber Forests Products (NTFPs) for local livelihoods, and as source of both food and income. The two programmes also high-light the role and importance of promoting management arrangements through which the local communities actively manage forest areas and have official endorsement to do so, including rights to products and mechanisms for benefit-sharing.

10. Capacity Building for Biodiversity Integration within Sida

The starting point of the analysis is to examine the core issues that pertain to the main levels of capacity building: 1. Institutional framework (policy level), 2. Organisation & management (with focus on tools and working arrangements), and 3. Competence and knowledge of Sida-staff at DNRE.

During the first phase three key issues very clearly emerged as the most crucial obstacles to biodiversity integration within Sida:

- a) “mainstreaming fatigue” among programme officers,
- b) lack of easy tools, and hands-on examples on “how to do it”, and
- c) lack of knowledge and understanding.

The first two are discussed under 10.2 Organisational framework, and the last under 9.3 Knowledge and competence.

It should also be kept in mind that the analysis is based on biodiversity integration work from only the Sida-department working with natural resources programmes, and that the findings therefore might not be fully applicable to other departments.

10.1 Institutional framework: Sida policies on biodiversity

The mainstreaming work 1998–2000 did not include a comprehensive analysis of how Sida’s policies in general address biodiversity issues (if at all), but two of the case studies (Orissa and Vietnam) looked at the relevance of Sida’s strategic priorities on biodiversity (as expressed in “*Sida and the Convention on Biological Diversity*”, see Box 1) in relation to the respective programmes. For both PMDFO (Orissa) and MRDP (Vietnam) it was found that two of the three strategic priorities were particularly relevant:

- “Work to respect, maintain and develop knowledge on the conservation and sustainable use of biological diversity in local communities and indigenous populations including support for strengthened local control over the use of biological resources.”
- “The protection and sustainable use of biological diversity in areas which are utilised by human beings including agriculture, forestry and fisheries. The focus should lie on mechanisms which make it possible to continue to maintain the sustainable use of biological diversity at higher levels of production.”

At the same time, they had not been consciously utilised as starting point for inclusion of 'biodiversity issues' in the programmes. In the Zambia and Vietnam programmes biodiversity issues were not explicitly considered at all. In the case of Orissa the strategic priorities helped to confirm a general direction, but were too general to provide a more specific guidance. In the Orissa case study, the "Guiding Principles" of the EC/IUCN/DFID Biodiversity in Development Project (see Box 4) were also analysed in relation to PMDFO, and found to be relevant. There may thus be scope for updating and specifying the Sida-priorities for biodiversity work.

The impression from interviews and discussions with the Sida-DNRE staff is further that biodiversity issues are by and large not directly mentioned and/or addressed in most of Sida's various policy papers, such as country strategies, and various sector-strategies including in the NRM-sector (e.g. water, forests etc). This means that biodiversity issues do not feature high on the policy agenda.

10.2 Organisational framework

Two main – and rather different – aspects which form part of the management and organisational framework within Sida emerged as crucial in relation to (the lack of) biodiversity integration: a) lack of time due to work overload and too many other issues to consider, and b) request for practical tools.

10.2.1 "Mainstreaming fatigue" and time constraints

The interviews and the discussions during the seminar brought to light that many programme officers see time constraints as a problem – both generally and more specifically in relation to biodiversity integration. Number of staff decreases while workload (number of supported programmes/projects) remain the same or even increase.

At the same time there was a general concern over the large number of development issues and aspects that need to be considered (or mainstreamed) in any given project/programme – from e.g. capacity building, gender, HIV/AIDS and participation, to monitoring routines and EIAs, just to take a few. There was thus a real concern that partner organisations (recipients) would be over-burdened with too many "issues", and also a kind of "fatigue" at the prospect of possibly having to consider yet another one internally.

As biodiversity many times is perceived as a "conservation issue" (i.e. as conservation of threatened species, and national parks)¹⁰ and thus not have high priority from a development and poverty alleviation perspective, biodiversity more or less automatically receives very low (if any) attention. This point also clearly highlights the need for more information and understanding about the importance of biodiversity products and ecosystem services for poor people and what "biodiversity issues" really are (see 9.3 below).

However, the problems with time constraints and "mainstreaming fatigue" can (and should) not be addressed at the individual level. They are also not particular for biodiversity integration, but a general

¹⁰ This point was e.g. raised during the January 2000-workshop.

feature of the conditions of work at Sida, and thus outside the scope of the biodiversity integration work. However, it is necessary to understand these conditions when discussing and planning measures for improved biodiversity integration. This would help to avoid unrealistic plans and assumptions regarding interest and time availability that does in fact not exist.

10.2.2 What are the tools for biodiversity integration in the projects/programmes?

The experiences from the biodiversity mainstreaming work (and from other mainstreaming work as well, e.g. gender) show that there are two key entry-points for Sida to encourage and promote biodiversity integration – during project preparation and during monitoring and evaluation. In the case of NRM-projects – that by nature explicitly deal with management of biological resources (as opposed to e.g. infrastructure and industrial projects) – there is a need for minimising & mitigating negative impacts on biodiversity (from e.g. intensified agricultural practices). There is also a large scope for optimising positive impacts on biodiversity (including poor people’s access to and benefit-sharing of the values of biodiversity products and services) through a careful design of the project/programme. From this perspective, the earlier “biodiversity issues” can be incorporated in project formulation the better.

There are several general tools (not specific to biodiversity) already developed at Sida that can be usefully applied during the project preparation. The key tools are stakeholder analysis & dialogue and Environmental Impact Assessments (EIAs).

Stakeholder analysis and dialogue

Providing space and time for a genuine dialogue with the cooperation partners, with sufficient time for the actors concerned to reflect on and come back to crucial issues – including biodiversity – is (or should be) a fundamental aspect of the whole project/programme cycle. Stakeholder identification and participation is therefore an important part of the planning process (including during EIA, see below) as well as during subsequent annual monitoring and review, on all levels. Clear processes for participatory planning, monitoring and review should therefore be agreed upon early in the planning stage and adhered to, to ensure that all interest groups are able to participate to sufficient degrees.

More pragmatically: integration of biodiversity aspects into development projects/programmes will in practice depend on the understanding by the actors involved of the relevance of biodiversity issues in the specific context.

In practice, this has the following consequences for including biodiversity in project preparation during stakeholder consultations:

- *Include biodiversity issues in stakeholder consultations:* Biodiversity issues need to be brought up in the dialogue and stakeholder consultations (at different levels) that takes place during project/programme preparations, such as LFA-workshops, village consultations etc. The framework ToR (checklists) in Sida’s EIA guidelines may help to identify which biodiversity issues that are relevant to consider (see below).
- *Undertake stakeholder identification based also on biodiversity aspects:* During identification of stakeholder groups, knowledge and understanding

about the relevant biodiversity issues¹¹ can help to broaden and assist in identification of stakeholder groups.

Environmental Impact Assessments

According to Sida regulations an EIA is mandatory for *all* supported project/programmes as part of the project preparation, and before a final decision is taken on support. The scope and extent varies considerably with size and type of project/programme, from quick five minute write-ups of the Sida programme officer in the internal Sida decision-memo (e.g. in the case of a support to an environmental workshop) to comprehensive fully-fledged EIA-studies with a team of consultants (as e.g. in the case of support to hydropower development).

The consultations and discussions with programme officers at DNRE (in individual interviews and during the seminar in January 2000) recommended using EIAs as one of the key tools for biodiversity integration, since they are the main vehicle for considering environmental aspects generally. But, as noted above, mainstreaming biodiversity into a NRM-project needs to be undertaken in an early phase of the project cycle in order to successfully integrate it in project formulation before critical moments of appraisal. Since the EIA is usually undertaken when the project/programme is already formulated (or not undertaken at all), this would mean losing valuable opportunities. Including biodiversity issues in the stakeholder consultations and dialogue would therefore provide a better opportunity for early considerations and integration (see above) – and the EIA-guidelines can actually be of considerable use also here.

Sida's work with EIA

Since 1998 and on-wards a number of additional EIA-guidelines have been developed, and the initial ones have been revised. This include:

- “Sector Programmes: Guidelines for the Dialogue on Strategic Environmental Assessment (SEA)”, 2002
- “The Country Strategies – Guidelines for Strategic Environmental and Sustainability Analysis”, 2002
- Revision and updating of the EIA-guidelines from 2002. This up-date included revising and broadening the parts on biodiversity, and addressed the four concerns noted in the case studies.

Sida has also initiated two environmental so-called helpdesks, which assist Sida with in-depth knowledge and advise. The EIA-helpdesk at the Swedish Agricultural University (SLU) support Sida with advise on project/programme EIAs and strategic EIAs on e.g. sector support programmes. The Unit for Environmental Economics at the Gothenburg University provide backstopping and support on environmental aspects within country strategies, and on environmental economics generally.

This is confirmed by the experiences from the cases studies, which show that the framework ToRs (with sectoral check-lists) were useful for including analysis of biodiversity issues, noting two strengths in particular:

- The framework ToR (with sectoral checklists) are very useful for structuring an analysis of different biodiversity issues in relation to broad and diverse programmes (such as MRDP); and

¹¹ These can (as already noted) be identified in the framework ToR (checklists) in Sida's EIA guidelines.

- They are comprehensive and acknowledge the necessity for including stakeholder groups potentially concerned by a project into the EIA process.

At the same time it was noted that the checklists do not reflect the full complexity and dimensions of biodiversity, and the following areas need to be better covered:

- Trends (past as well as future scenarios)¹²
- Ecosystem services¹³ and their value
- User-values perceived by different stake-holders (such as products and services used), and
- Ecosystem resilience (i.e. roughly “buffer capacity” of the eco-system, or capacity to cope with interference, and self-repair damage after interference, without becoming degraded).

Biodiversity monitoring, evaluation and reporting

Monitoring, evaluation and reporting constitute another important entry-point to integrating and considering biodiversity issues. It must be realised that the reporting requirements by different levels and stakeholders will vary substantially, and that this will affect the type of monitoring undertaken and indicators used. The following two broad monitoring and reporting requirement can be identified for biodiversity integration within Sida:

1. *Reporting by Sida to the Swedish Government in relation to implementation of different international biodiversity-related conventions, mainly the Convention on Biological Diversity (CBD).*

This reporting is built e.g. on the statistical classification in Sida’s administrative system (PLUS), which have been improved to allow identification of projects/programmes that are relevant for CBD. The reporting also to a large extent draws on the knowledge about Sida’s portfolio of the “Biodiversity Programme Officer”¹⁴, and is therefore very vulnerable to changes of individual staff.

A key problem with the PLUS-reporting is that there does not exist any simple definition of what can be classified as a biodiversity project, there is no real mechanism for how to classify projects/programmes which include biodiversity but where it is not the main objective (except that it is partially relevant to CBD), and absolutely no possibility to classify different aspects of biodiversity. The PLUS-system further is already quite complex, and adding specific dimensions on only one topic (biodiversity) would in practice not be acceptable or possible (given the magnitude of topics already, see further on “mainstreaming fatigue” above)

¹² This is equally valid for all other environmental aspects, and not just for biodiversity.

¹³ “Ecosystems services” are the services provided by functioning systems, such as pollination (which is crucial e.g. to agricultural production), water purification by wetlands, soil formation by micro-organisms etc.

¹⁴ The person at Sida-DNRE with particular responsibility to follow the international policy- and methods development on biodiversity.

2. *Monitoring, evaluation and reporting on biodiversity issues from the supported projects/programmes.*

Just as stakeholder consultation and dialogue during preparation contributes to a deepened understanding and awareness about biodiversity issues at the start of the project/programme, monitoring and reporting can provide a means for continuous reflection and learning. The case studies have shown that to be efficient and perceived as worthwhile it need to be:

- As simple as possible in order to be cost/effective, manageable and replicable;
- Based on local knowledge;
- An integral part of the programme monitoring system. The joint development of tools that reflect the requirements of the various levels of administration can further contribute to an improved internal understanding of the issue of biodiversity and the progress made. Moreover, it may considerably increase the efficiency of monitoring procedures.

Indicators for monitoring biodiversity aspects likewise need to be simple, locally based, and closely linked to the objectives of the project/programme in question.

An analytical framework of “sustainable livelihoods” was outlined in the MRDP case study, Vietnam, which provides a means of linking different aspects of resources needed (human capital, social capital, natural capital including biodiversity, financial capital and assets) from a household perspective. This appears to be a useful instrument for addressing and contextualising biodiversity both during village-level monitoring and discussion within local communities, and with higher levels within administration.

Biodiversity issues should further be included during reviews and external evaluations, and the framework ToR (checklists) for EIAs can again serve as a tool for identifying the relevant questions and issues to include.

10.3 Knowledge and competence

The interviews and the case studies show that most programme officers have limited knowledge and understanding about biodiversity issues, and in practice seldom regard it as a priority issue. One of the key reasons for lack of integration of biodiversity issues is a lack of knowledge – internally (among Sida staff) as well as externally (among the recipient organisations, such as staff within an agricultural ministry).

A major reason behind the lack of knowledge is the increasingly complex and specialized nature of key issues in the world, with a constant overflow of information. Most professionals (including Sida staff) can barely keep up with the new trends in their own fields of work. Secondly, while current development objectives internationally focus on economic development and poverty alleviation, the fundamental importance of ecosystems function is largely unknown, and environmental mitigation is often seen as a hindrance or as a cumbersome ‘add on’ of little importance to the objectives at hand. Thirdly, “biodiversity” is on

one hand a fairly complex issue with many dimensions and linkages (see 1. background above), and on the other often perceived as and equated with “species loss” or “protected areas management – i.e issues which tend to seem fairly peripheral from the point of view of addressing immediate food security and poverty alleviation concerns.

However, adequate competence of Sida staff (both at the headquarters and at the embassies) in the area of biodiversity is fundamental if Sida intends to mainstream biodiversity in Sweden’s development cooperation. This need as a minimum to include knowledge about and ability to use the framework ToRs in Sida’s EIA guidelines as basis for project preparation and evaluation; basic understanding of the importance and role of biodiversity for poverty alleviation, health and food security; and knowledge on where additional competence and facilities can be accessed.

Considerable effort must therefore still be put into the improvement of the information flow on critical biodiversity issues so as to continuously deepen the knowledge on biodiversity, both at Sida and among stakeholders of projects and programmes. Special attention needs to be given to concrete information about the positive contribution of improved management of biodiversity on the key development objectives.

Attention must also be given to the different types and kinds of information needed by the different categories within Sida, as the demands on internal competence will vary substantially depending on role and position. The needs of e.g. Sida embassy staff (including national staff) in the front-line of interaction with partner organisations may considerably differ from information & knowledge needs of Sida headquarter at different departments.

There is also a strong need within Sida for “champions” with special competence and responsibilities to:

- continuously spear-head and encourage the on-going biodiversity integration work,
- sufficiently follow the international discourse, policy- and methods development regarding biodiversity issues, including knowledge on policy and legal context and socio-economic relationship,
- function as focal point for reporting related to CBD-implementation (and other biodiversity related conventions), and
- act as an internal source of updated knowledge and information.

This role can be filled by the Environmental Policy unit (through e.g. the Biodiversity officer), which acts as an internal back-stopping and help-desk function, possibly linked to a larger group of more interested and motivated individuals.

11. Conclusions and Recommendations

11.1 General recommendations

Based on the findings and experiences from the mainstreaming work it is recommended that the continued work with biodiversity integration should focus on:

- Education and awareness raising among Sida-staff
- Development of specific “best practice” examples of biodiversity integration from different sectors (illustrating what biodiversity that may be relevant for each sector, and how to address them), which can be shared among stakeholders including Sida-staff.
- Development of mechanisms to ensure implementation of existing environmental guidelines (e.g. EIA guidelines) at Sida.

The specific and detailed recommendations for each level of capacity building are summarised below.

11.1.1 Policy framework at Sida

- The specific policy framework on biodiversity is basically adequate (*Sida and the Convention on Biological Diversity*), but may need continuous up-dating
- Other policy & strategy documents – e.g. country strategies, sector strategies, and key crosscutting-strategies¹⁵ – need to be examined and when up-dated (or new developed) biodiversity issues should be included.

11.1.2 Organisation and management (tools)

- Given the “mainstreaming fatigue” at Sida, as well as the inter-linked nature of biodiversity issues with NRM-issues more broadly, biodiversity integration should form part of the normal and already accepted planning and monitoring frameworks. Biodiversity issues should thus be incorporated as much as possible within these.
- Existing guidelines and tools for project planning (e.g. EIA-guidelines) – while in need of some broadening and more depth – still basically cover biodiversity in an adequate way. The main constraint is thus not

¹⁵ E.g. gender, poverty, rural development etc.

lack of tools per se, but lack of implementation of existing tools. However, mechanisms to ensure implementation of the existing guidelines (e.g. EIA) need to be developed. This should be done together with Sida's two environmental helpdesks, i.e. the EIA helpdesk at SLU (The Swedish Agriculture University), and the helpdesk for environmental economics (at Gothenburg University) which supports Sida with integrating environmental issues generally within country strategies.

11.1.3 Competence and knowledge

- Increased awareness and information on the role and relevance of biodiversity for poverty alleviation is clearly needed, and should target:
 - Sida staff both at the headquarters and at the embassies;
 - Partners in developing countries;
 - Consultants working with implementation of Swedish international development cooperation;
- The education needs to be very closely tailored to the needs of the respective target group, and it needs to start from a very basic level
- 'Best practice' examples of biodiversity integration should be developed. Relevant focus on programmes selected in close collaboration with Sida officers to ensure that they are of relevance for stakeholders in the respective sector. This work should begin at the Department Natural Resources and the Environment (DNRE) at Sida.
- Circulation and use of the BDP publications (see chapter 3) could form part of Sida's capacity building. The publications could be made use of at Sida's internal environmental training courses, internally at DNRE, at other Sida departments, at the Swedish embassies and by consultants assisting in the implementation of projects and programmes. Distribution of the documents would best be done in association with a seminar (or seminars), where the main conclusions of BDP and of Sida's phase I of integration of biodiversity in development cooperation are presented and discussed.

11.2 Continuation of biodiversity mainstreaming

Continued concerted efforts are needed to integrate biodiversity aspects in Sweden's international development cooperation. The ToRs (Annex 1) for Phase I of biodiversity mainstreaming also envisaged the development of a plan for the mainstreaming of aspects of biodiversity into all projects/programmes at Sida in a Phase II. In this second phase, the other departments at Sida would be involved in the following order: Department for Research Cooperation (SAREC), Department for Infrastructure and Economic Cooperation (INEC), Department for Cooperation with Non-Governmental Organisations and Humanitarian Assistance (SEKA), Department for Democracy and Social Development (DESO) and other departments.

Based on the experiences and outcome of Phase I of the biodiversity mainstreaming at Sida, in our view work will be needed *both* to continue and consolidate integration of biodiversity aspects in projects/pro-

grammes supported by DNRE, *and* to begin work with biodiversity mainstreaming at the other departments at Sida. Planning and implementation of a Phase II should also take the lessons learnt from Phase I as a point of departure and make full use of these lessons. The following are therefore suggested activities for Phase II of the biodiversity mainstreaming process at Sida:

1. Further development of guidelines for biodiversity assessment linked to EIAs;
 - Consultation with Sida's EIA helpdesk regarding biodiversity issues in the EIA guidelines and in-depth guidelines for biodiversity assessment;
 - Use of draft biodiversity assessment guidelines for training/consultation in biodiversity integration with DNRE officers;
2. Follow up of the three case studies in Phase I, ensuring that the agreed recommendations of the case studies are followed;
3. Undertake further case studies of biodiversity "mainstreaming" in a handful of project/ programs, with value for similar projects/programmes;
4. Training based on the above for DNRE officers *and* officers at other relevant departments;
5. Initiation of biodiversity mainstreaming activities at other Sida departments.

Annex

Mainstreaming of Biodiversity at Sida,
Phase I – Department for Natural Resources and the Environment

1. Background

Poor people in rural areas are directly dependent on natural resources for their survival. They use both wild and cultivated species for food, shelter, firewood etc. There is also a direct link between biodiversity and the possibility for ecosystems to function properly and deliver ecosystem services. Ecosystem services are defined as services which the ecosystem performs which can be of importance for human society. Such services are for example the circulation of nutrients, water purification, production of food etc. An ecosystem service such as cross-pollination is for example essential for reproduction in many crops. As an example, according to research, 40 US crops, valued at approximately USD 30 billion, are totally dependent on insect pollination for production. Biodiversity at its different levels from gene, population, species, functions and ecosystems is diminishing rapidly today. This affects the livelihood for people as well as in the South as in the North.

In “Sida and the Convention on Biodiversity” Sida assumes the responsibility for mainstreaming aspects of biodiversity into all programmes, starting at the Department for Natural Resources and the Environment (DNRE). The mainstreaming will focus on analysing the consequences on biodiversity of the programme/project and to making stakeholders aware of the importance of biodiversity. The mainstreaming of biodiversity will have more relevance in some programmes/projects of development cooperation than others. The reason for the selection of DNRE as the first department at Sida in the mainstreaming process is that DNRE is responsible for contributions in agriculture, forestry, fishing etc which have a direct impact on biological diversity. The mainstreaming will be done in cooperation with the environmental economists of the Department for Policy and Legal Services (POLICY).

The mainstreaming of biodiversity at DNRE is Phase I, and in Phase II the other departments at Sida will be involved in the following order: Department for Research Cooperation (SAREC), Department for Infrastructure and Economic Cooperation (INEC), Department for

Cooperation with Non-Governmental Organisations and Humanitarian Assistance (SEKA), Department for Democracy and Social Development (DESO) and other departments.

Sida has recently completed new guidelines for Environmental Impact Analysis, EIA. The EIA guidelines contain a battery of special questions on biodiversity, which shall be answered. In the mainstreaming process at Sida the EIA guidelines will be used as one of the main tools.

The EU, DFID and IUCN are cooperating on a similar project “Biodiversity in Development Project”, BDP, for EU and its member states, see appendices 1, 2 and 3. The objective of this project is to find methods for mainstreaming of biodiversity. DNRE intends to work in close cooperation with the BDP.

2. Relevance

2.1 Participant analysis with target group identification.

Participant analysis

The Swedish stakeholders in the mainstreaming process are:

- Programme Officers at Sida. In Phase I officers at DNRE and then in Phase II programme officers at the other departments.
- Heads of departments and divisions. In Phase I at DNRE.
- Sida staff at the embassies

The stakeholders in the partner countries or partner organisations are:

- Local people (which is not a homogeneous group but can consist of different groups which might have different stakes, and also different stakes than the authorities etc)
- Authorities, institutions and officers involved in the projects/programmes

Others:

- Consultants (Swedish, international, local)
- Monitoring teams
- Private sector: pharmaceutical and agrochemical companies, food industry, local market etc.

Target group

The target group of the mainstreaming process at Sida consists of the programme officers. (In Phase I officers at DNRE incl. officers for DNRE at the embassies and then in the following order SAREC, INEC, SEKA, DESO and other departments incl. their officers at the embassies). An obviously important target group are the people responsible for the project in the recipient country and the local people, the project owners. But since the BDP focuses on this target group, together with middle level officers in the EU and its member states, Sida will learn from the BDP project and instead focus its attention on what is of specific importance for Sweden – Sida programme officers. This does not exclude that Sida, in the process of its work with case studies, also learns

from the stakeholders in the partner countries, and influences the BDP with this experience.

The Sida programme officers will be involved in the process through consultations etc, see Activities.

2.2 Problem analysis

Concern for biodiversity has not been mainstreamed enough in Swedish development cooperation programmes with the South and East.

2.3 Objective

The development objective is sustainable development.

The objective of the mainstreaming of biodiversity, Phase I – DNRE, is that consequences for biodiversity are analysed in the project identification, planning process and follow-up of all programmes and projects supported by DNRE, as part of EIA, to minimise negative effects and also point out positive impacts for biodiversity.

2.4 Outputs

Since Sida is focusing on its programme officers the objective of the outputs below are to make sure that the officers have the understanding and tools they need to ensure that biodiversity is mainstreamed in the projects/programmes. (This includes the knowledge to enable them to discuss needs and find solutions with the partner countries/organisations when the analyses of the consequences for biodiversity are not fully presented in the programmes/projects.)

Output 1: Coordination with DFID/EU/IUCN on BDP

Sida's work of mainstreaming aspects of biodiversity into programmes/projects is coordinated with the BDP project.

Activity

The EU/DFID/IUCN have resources to do more extensive work than Sida. Sida can learn from and contribute to the BDP process. One of the main activities will be to coordinate the Sida mainstreaming process with the BDP process.

A team consisting of the Programme Officer for Biodiversity and at least two consultants will follow the process by active participation in meetings and workshops.

Output 2: Background study

A background study will be performed by the officer responsible for biodiversity at DNRE to obtain a better understanding of the needs of programme officers to make mainstreaming of biodiversity possible.

Activity a

The Programme Officer for Biodiversity will interview officers at DNRE and also a strategic selection of officers in other departments. (Although Phase I of the mainstreaming project only includes DNRE, the Biodiversity Officer will also hold interviews at SAREC, INEC and SEKA to be able to plan Phase II – mainstreaming at all levels at Sida – and to obtain a broader understanding of the problem.) Questions to be answered during the interviews are:

- Are impacts on biodiversity described in project/programme proposals received today, and in the reporting and follow-up of the projects/programmes?
- What experience do programme officers have of the knowledge and interest of partners in aspects of biodiversity?
- What do the programme officers think is lacking: knowledge, time, relevance etc, both in respect of themselves and the partners?
- What kind of tools do they need to fulfil the objective of mainstreaming aspects of biodiversity?
- What do they expect from the officer responsible for biodiversity?

Activity b

The officer for biodiversity will also try to obtain an understanding of whether or not the projects/programmes are in accordance with the document “Sida and the Convention on Biodiversity”.

Output 3: Case studies

Three to four case studies will be performed from which Sida will obtain inputs on:

- methods for how aspects of biodiversity can be mainstreamed into both the assessment phase of a project/programme and on-going projects/programmes
- how to monitor aspects of biodiversity in the programmes/projects (through environmental indicators etc).

Activities

For the BDP-process the EU/DFID/IUCN have developed a draft Strategic Framework that will serve as an analytical tool for the case studies performed in the BDP.

Analytical tools for the Sida case studies will be both the BDP Strategic Framework and the Sida guidelines for Environmental Impact Analysis, EIA.

Lessons learned from the BDP case studies will influence the final BDP Strategic Framework. The Sida case studies will also constitute an input to the Strategic Framework.

It might be the case that, during the mainstreaming process, we discover that we need a Sida-specific framework document in addition to the Sida EIA guidelines.

The Sida case studies shall not be restricted to the BDP Strategic Framework. The BDP Strategic Framework does not for example include gene politics, which if possible the Sida case studies will include in the problem analysis.

The case studies will analyse and describe effects on biodiversity and what has to be done from the perspective of the use of biodiversity in general, with a specific focus on the effects on the livelihood of poor people. Gender aspects on the use and conservation of biodiversity will also be analysed. For more information on social approaches see BDP “Strategic Framework”.

The Case studies shall all include:

1. Background:
 - history and background information on the project/programme
 - how, to what extent, and which biodiversity aspects are included in the project/programme.
2. Problem analysis based on:
 - the Sida guidelines for Environmental Impact Analysis
 - the BDP Strategic Framework (including gene policy questions)

Emphasis shall be placed on the value of biodiversity from a social, cultural, economic and ecological point of view.

1. Methods used for mainstreaming aspects of biodiversity (consequences on biodiversity, awareness of stakeholders etc) into the project/programme and tools to follow-up these aspects (environmental indicators).
2. Lessons learned
3. Conclusions and recommendations for the project/programme on mainstreaming and follow-up mechanisms (environmental indicators etc).
4. Conclusions and recommendations on the use of the BDP Strategic Framework and Sida's EIA guidelines as tools for the analysis of biodiversity aspects.

The mainstreaming of aspects of biological diversity is of course dependent on the interest of the "owner" of the project/programme in extending the focus of the project/programme. The mainstreaming should be initiated in close connection with regular reviews of Sida's support. Resources should be allocated for the extra support needed in the form of studies, training, special assignments for institutions in the partner country, etc.

The work of mainstreaming aspects of biological diversity should initially be implemented with external assistance. In the ongoing mainstreaming process it is of importance that national experts in the partner countries are consulted to as great an extent as possible.

Methods

The consultants performing the case studies will be responsible for developing specific methods for each case study, as a contribution to lessons learned, in cooperation with the recipient partner. The consultants shall try to coordinate the activities in the case studies with the BDP. The consultants shall use the EIA guidelines and the Strategic Framework as their point of departure.

The work on the case studies can be done in the following way:

- 1) Discussion and planning in consultation with programme officers concerned.
- 2) Planning of each study in consultation with the partner in cooperation, institutions of importance for the issue in the recipient country and consultants responsible for the implementation of each programme.

- 3) Implementation in consultation with, and preferably together with, the partner in cooperation and institutions of importance for the issue in the recipient country, if possible in the field.
- 4) Review of results in seminar form (and in a written report) in connection with annual reviews or suchlike. Discussion of results and recommendations for each programme.
- 5) The follow-up of the first mainstreaming studies should take place after approximately one year, in connection with the normal follow-up of the programme. At this point in time the methods can be evaluated and inputs to the Strategic Framework can be made. From our own results and from the BDP results, recommendations can be made on how the work of mainstreaming aspects of biodiversity can be continued in other projects/programmes in the natural resources sector.

Selection of case studies

About four case studies will be selected from on-going projects and projects which are in the planning phase. Priority will be given to programmes in which experience gained should have relevance for other programmes in the same sector.

Two case studies are already in the planning phase, Vietnam Mountain Rural Development Programme and the community forestry programme in Orissa, India.

List of potential case studies:

1. Vietnam
This case study focuses on the on-going Mountain Rural Development Programme in Vietnam.
2. Ethiopia
The Amhara programme in Ethiopia might be an interesting subject for a case study on an on-going agricultural programme.
3. Mozambique
The planned Swedish support to the agriculture sector in Mozambique might be an interesting subject for a case study.
4. Zambia
Zambia might be an interesting alternative to Ethiopia for an on-going programme if Ethiopia is not selected.
5. India – Orissa
This case study is already being performed. The programme to be studied is a community forestry programme and aspects of biological diversity are included as an integral part in the formulation and assessment of the programme.
6. Marine programme
One case study will be a marine programme. A programme for Capacity Development in Marine and Coastal Resources Management for Coastal Provinces in Vietnam might be selected.

Duration of the case studies

The period required for each mainstreaming study should be between 5 and 10 weeks depending on the focus of the programme in question, the proportion of field work etc. In cases in which consultants are already engaged in environmental analysis less time will be required.

Output 4 – Facilities/Resource base

The main output of the mainstreaming project is to find, develop and use existing facilities (such as the EIA) which can make mainstreaming possible for Sida officers and partners, see output of case studies etc. An inventory shall also be made of facilities such as databases etc for work on aspects of biodiversity. A list of institutions and consultants with special qualifications and experience in biodiversity shall also be compiled.

Activity

The BDP project includes web site development. Sida should have a dialogue with the BDP team on data which can be of use for development projects (for example easily accessible information and manuals via the internet).

An inventory of experts in Sweden shall be drawn up in the field of biodiversity (institutions and consultants). The list shall specify the qualifications in the biodiversity field possessed by each expert. This can also comprise a contribution to the BDP's Expert Register. The list shall be utilised and stored with information on other consultants available to perform EIA.

The officer for biodiversity is responsible for ensuring that activities are performed.

Output 6 – Training

A training plan shall be developed.

Activity

One of the outputs of the background study shall be an understanding of the needs of the programme officers at DNRE. Biodiversity issues are already a topic in the environmental training programme that all officers at Sida must attend. A plan shall be drawn up for the inclusion or extension of biodiversity issues in existing training programmes at Sida (both the special environmental training programme and when relevant in other training programmes). A plan for continuous capacity development in the form of seminars, workshops etc shall also be drawn up. The training in the field of biodiversity shall be coordinated with training on other environmental issues.

The officer for biodiversity is responsible for ensuring that the activity is performed.

Output 6 – Statistics

In the Sida administration system "PLUS", biodiversity shall be included in a way which makes it possible to follow-up the mainstreaming process of biodiversity.

Activity

The officer responsible for biodiversity shall discuss how biodiversity can be taken up in PLUS with members of staff responsible for PLUS and ensure that it is included.

3. Risks and external factors

There is a potential risk that the programme officers at DNRE and partners in cooperation in the South will not see the relevance of biodiversity. This risk can be diminished through training, especially on the relationship between economics and biodiversity. Another risk is that the mainstreaming process is not performed in a participatory manner. Consultations with the programme officers and the case studies in themselves will be a method to ensure participation. One risk with the selection of Sida officers as the only target group (i.e. not including counterparts in developing countries as one target group) is that the mainstreaming process will have less "field" relevance. This will be prevented through cooperation with the BDP process as well as the work on Sida case studies. Sida must also make time and resources available to make the mainstreaming process viable.

4. Feasibility

To make the mainstreaming process viable Sida must provide resources to cover the costs of the project (for consultants etc) and make time available for the programme officers.

The responsibility for the coordination of the activities in the mainstreaming project lies with the Programme Officer for Biodiversity at DNRE.

The duration of Phase I will be from September 1998 to December 1999.

5. Sustainability

A policy framework – "Sida and the Convention on Biodiversity" – exists in which Sida assumes responsibility for the mainstreaming of aspects of biodiversity in all programmes, starting at DNRE. If resources and time are allocated and priority given by department management, and the objective that officers and counterparts assume responsibility for the mainstreaming of biodiversity is achieved, it is possible for the mainstreaming project to be viable.

The greatest risk to the sustainable livelihoods of poor people is if biodiversity is not mainstreamed into the projects/programmes. If the mainstreaming of biodiversity is successful, the partner countries and organisations will have better prospects of becoming independent of aid in the long run than if biodiversity is not mainstreamed, since the ecosystem services rely on a functioning resilient ecosystem, and a functioning ecosystem relies on the diversity of organisms.

6. Follow-up and evaluation

After Phase I, in December 1999/January 2000, the objective of the mainstreaming project will be evaluated at a seminar with programme officers at DNRE, which will focus on the different outputs mentioned above.

A plan for the mainstreaming of aspects of biodiversity into all projects/programmes at Sida, Phase II, will then be developed.

Halving poverty by 2015 is one of the greatest challenges of our time, requiring cooperation and sustainability. The partner countries are responsible for their own development. Sida provides resources and develops knowledge and expertise, making the world a richer place.



SWEDISH INTERNATIONAL
DEVELOPMENT COOPERATION AGENCY

SE-105 25 Stockholm Sweden
Phone: +46 (0)8 698 50 00
Fax: +46 (0)8 698 56 15
info@sida.se, www.sida.se