Integration of biodiversity aspects in
development cooperation – a case study

Capacity Building in a
Forest Project, India

**The biodiversity integration work at Sida:
results from the first phase 1998–2000**

In 1998, Sida initiated work on integrating biodiversity in the development cooperation. The work during the first three years (1998–2000) focused on 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 capacity building. 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 relevant tools and policies) 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 perti-nent 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 first phase resulted in four main products;

- Three case studies from Sida-supported Natural Resource Manage-ment programmes: "*Crop Breeding and Agrobiodiversity: A case study on the Food Crop and Seeds Project in Zambia*", "*Capacity Building for Participatory Management of Degraded Forests in Orissa, India: A case study of the preparatory phase of the project*", and "*Biodiversity in a Diverse Programme: A case study on biodiversity-mainstreaming from the Sida-supported Mountain Rural Development Programme (MRDP) in Northern Vietnam*". This report constitutes one of the three case studies.

- An analysis and summary of the main experiences of biodiversity integration at Sida, during the period 1998–2000: "*Integration of Biological Diversity in Sweden's International Development Cooperation – the Beginning of a Learning Process*"

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List of Acronyms

CBD	Convention on Biological Diversity
CFM	Community Forest Management
DFID	Department for International Development
EIA	Environmental Impact Assessment
EU	European Union
IUCN	World Conservation Union
JFM	Joint Forest Management
MFP	Minor Forest Product
NGO	Non-Governmental Organisation
NTFP	Non-Timber Forest Product
OFD	Orissa Forest Department
PF	Protected Forest
PMDFO	The project "Capacity Building for Participatory Management of Degraded Forests in Orissa, India"
RF	Reserve Forest
Sida-DNRE	Sida; Department of Natural Resources

1. Purpose and scope of this study

– The purpose of the biodiversity case study is to draw and present lessons learnt from the preparatory phase of the project "Capacity Building for Participatory Management of Degraded Forests in Orissa, India" regarding the integration of biodiversity aspects in the project. The study attempts to analyse to what extent biodiversity has been integrated into the project, which biodiversity aspects that have been considered, the mechanisms for integrating biodiversity aspects, and the relevance of these to the different stakeholders.

It is hoped that the lessons learnt will give some guidance regarding:

– methods for how aspects of biodiversity can be integrated into both the assessment phase of a project/programme and on-going projects/ programmes, and

– how to monitor aspects of biodiversity in the programmes/projects.

2. Methods

The study has been undertaken through:

– studying reports and Sida documents regarding lessons learnt from the Sida-supported Social Forestry Programme in Orissa;

– studying the different reports from phase one of the project

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– consultation with programme officers concerned at Sida-DNRE (Anita Ingevall and Ramesh Mukalla);

– drawing lessons from previous consultations with project staff (Dr L A K Singh, Ulf Öhman, Peder Nilsson, Dr R. V. Singh, Ajay Rai and others);

– drawing lessons from previous consultations with men and women from 12 local communities in Orissa in Mayurbhanj, Dhenkanal and Cuttack districts in Orissa (as part of the biodiversity study for the project preparation);

– drawing lessons from previous consultations with representatives from NGO's (primarily Oxfam, Vasundhara, MASS, and PIPAR) and from a district level forest federation in Orissa (Mr Udanayath Mohanty, president);

– studying other background material of relevance for the case study.

The study was carried out during autumn 1999 and spring 2000 by Marie Byström. A draft was presented and discussed during a seminar at the Natural Resources Department at Sida in January, 2000.
Valuable comments were received from Dr L A K Singh, Orissa Forest Department, Anita Ingevall, Sida and Kees Manintvedt, ETC Ecoculture, the Netherlands. The terms of reference for the case study are found in Appendix 1. Based on the comments received, a final report was presented in May, 2003. The developments in Orissa between 2000 and 2003 have not been analysed in this report.

3. Brief description of the project area

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. Thirty-eight percent of Orissa's population belongs to Scheduled Castes or Scheduled Tribes, which are generally regarded as 'marginalised groups' in Indian society. This is the highest proportion in the country (Statistics India, 1998). Orissa is also one of the least urbanised states with 88% of the people living in 50 000 villages. According to Statistics India (1998), 95% of the population are Hindus, and 76% speak Oriya.

Of Orissa's land area, 58 000 sq.km is officially designated as forest, or about 37% of the total land area. Roughly 50% of this area would in a natural state be constituted by dry deciduous forests dominated by sal (*Shorea robusta*), 30% would be moist deciduous forests and 20% covered by semi-evergreen forests, littoral forests and tidal swamps (OFD,1999).

To understand the forest conditions and forest administration in Orissa today, it may be helpful to look back over the last two centuries. In 1855, under the British colonial rule of India, the Imperial Forest Department was created. Among the first actions of this Forest Department was the demarcation of forests to create Reserved Forests (RF) and Protected Forests (PF) in order to meet industrial demands (e.g. ship-building and later building of railways) of the British Empire. Rights of the majority of people who depended on the forest resources were diminished (Pal, 2000).

After Independence, the Indian government nationalised the Reserved and Protected Forests and adopted the British system of forest management. Today, all land classified as forest belongs to the State, and there is in principle no private ownership of forest land. The utilisation of forests and forest produce is governed by an intricate legal framework. Nevertheless, major illegal felling takes place. Forest degradation has been serious during the last decades.

Today, of the 58 000 sq. km of forests in Orissa, about 10 000 sq. km forest land is estimated by Orissa Forest Department (OFD) to be devoid of any vegetation, and the area of degraded forests is estimated at a total of 31 000 sq.km (OFD, 1999).

However, forests and forest products are still very important for millions of people in Orissa. Of the total revenue earned from the forest sector in Orissa, around 80% comes from non-timber forest products (NTFPs) or Minor Forest Produce (MFP's) (Mallik et al., 1998). Here, it must be remembered that the current logging ban has greatly reduced revenues from timber products. The collection and trade of NTFP's has until 2000 been controlled by a few agencies which lease the rights to the produce from the State. Local people who collect NTFP's have had no rights to store quantities of the produce, sell it on an open market or process it in order to add value.

The degradation of Orissa's forests has led to protection of forests by local communities in all parts of the state. Today it is estimated that at least 4 000 sq.km of forest land is protected and managed by some 10 000 village communities (Mahapatra, 1999). This amounts to around 7% of the total forest area. The community based forest protection and management dates back to the 1930's in some villages. After tribal uprisings and demands for complete rights over forest resources in the

30's the kings in Mayurbhanj, Nayagarh and Bolangir shared their rights to forests with the communities, thus initiating what is today called joint forest management. Much of the forest protection in Orissa has been initiated and managed by communities without involvement of the State, and there is today a tension between what is termed community forest management (CFM) and joint forest management (JFM).

National policy development on Joint Forest Management
The concept of joint forest management (JFM) grew in India in the 1980's as a result of a growing realisation of the necessity to acknowledge people's right to foreste. JFM is today central in India's national forest policy. The National Forest Policy of 1988 provides a broad framework for JFM. Its main objectives are:

(i) maintenance of environmental stability and restoration of ecological balance, (ii) conservation of biological diversity and genetic resources, (iii) checking soil erosion and denudation in catchment areas of rivers, lakes and reservoirs, (iv) checking the extension of sand dunes in desert areas and along the coastal tracts, (v) increasing sustainability of forest cover through massive afforestation and social forestry programmes, (vi) meeting timber and non-timber requirements of rural and tribal populations[1], (vii) increasing productivity of forests to meet essential national needs, (viii) encouraging efficient utilisation of forest produce, and (ix) creating a massive people's movement with the involvement of women for achieving the above objectives and to minimise pressure on existing forests (OFD, 1999).

The policy states that domestic requirements of village communities living near forests for fuelwood, fodder, minor forest produce and construction timber should be "the first charge on the forest produce".

The Orissa forestry sector strategy is developed from the National Forest Policy. It charts an increased role for rural people in forest management and protection and acknowledges the need to devolve increasing benefits to them in meeting their multiple requirements of forest resources. The first state level Government Resolution (GR) on JFM was published 1988. It was subsequently amended in 1990 and replaced in 1993. The 1993 GR elaborately articulated the roles and responsibilities of OFD and the village forest protection committees. It also listed mechanisms for development and approval of Joint Forest Management Plans, benefit sharing provisions (50% share to the protecting community of any major harvest), the right to collect the usufruct (non-timber forest products for domestic use) free of charge and the right to appropriate all intermediate yield from silvicultural operations. The 1996 GR further elaborated these mechanisms and processes. However, the 1996 GR has in practice not been implemented. Its implementation will depend on strengthened capacity of OFD in developing mechanisms to this end, which will require major resources for regulation and monitoring.

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. While village

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[1] In Indian terminology, 'tribes' denotes communities with certain common characteristics like subsistence and often forest-based economies, single social rank and political organisation, and common ownership of resources. The term 'tribe' which dates back to colonial times, has become a political administrative category which has persisted in India todate.

level committees we visited were aware of their 'usufruct' rights they were largely unaware of their rights to all intermediate yield from silvicultural operations and 50% share of major harvests. In addition, a general logging ban has made halted the production of timber from village protected forests (Scandiaconsult et al., 1998).

Some 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 forest management (CFM) arrangements (Conroy et al., 2000).

There are many non-governmental organisations (NGOs) in Orissa that help initiate and support CFM and JFM. Communities and NGOs have also formed district level forest federations in four districts, and in 1999 a state level forum called Orissa Jungle Manch was formed by NGOs and district federations (Pal, 2000). Sida supports the community level forest protection movement in Orissa through direct support to local NGOs for networking and advocacy.

4. People and forest biodiversity in Orissa[2]

In most communities in the forested parts of Orissa, forest products provide an important part of subsistence and income, particularly for the tribal groups. Trees provide wood for construction of houses, tools and fuelwwod. Non-timber forest products (NTFPs) from a large diversity of species are collected and used for domestic consumption or sold.

Until 2000, the rights to trade and process NTFPs were leased in a monopoly contracting system to a small number of traders and companies, some of them state owned. Local communities had no such rights and people were forced to sell their NTFPs to defined outlets, often for a pittance (Hobley and Shields, 2000). This situation has now changed, partly as a result of the PMDFO process (see below under section 6.3.). Both NTFPs sold and NTFPs used domestically are vital for the livelihoods of Orissa's forest dwelling communities (Mallik et al.,1998). For example, green leaf vegetables, small game, fruits and tubers provide proteins, minerals and vitamins which would otherwise be insufficient in the local diets, and they are of key importance during food shortages.

Mushrooms form an important part of the diet during the 2–4 months when they are available, particularly for tribal groups. Particularly tribal people may spend a few hours daily for mushroom collection during this period. In many of the villages, mushrooms are sold at the local market or to other households in the village (while tribal women may spend hours daily in the forest, non-tribal women in the same village may seldom or never enter the forest).

People regularly use medicinal herbs for treatment of cattle diseases and for minor ailments like skin injuries, colds, coughs and stomach disorders.

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[2] Where not otherwise indicated, most of the information in this section is derived from the Biodiversity study of the PMDFO preparatory phase (Singh et al., 1999).

> **Some of the major non-timber forest products sold in Orissa are:**
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> – leaves for plates and bowls (e.g. from sal (*Shorea robusta*) and siali (*Bauhinia vilhii*)),
> – seeds for oil production (e.g. seeds from sal, mahua (*Madhuca indica*), kusum
> – (*Schleichera oleosa*), and karanjia (*Pongamia pinnata*)),
> – Mahua flowers for alcohol production,
> – leaves from kendu (*Diospyrus melanoxylon*) for rolling cigarettes,
> – fibre (e.g. from siali),
> – mushrooms, and
> – neem (*Azadiracta indica*) seeds for medicinal use and pesticide production.
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> **NTFPs commonly collected for domestic consumption include:**
> – fuelwood
> – green leaf vegetables
> – wild game
> – medicinal plants
> – mushrooms
> – fruits
> – tubers
> – resin for incense and insect repellent
> – fibres and thatching materials
> – dyes

Villagers' views on biodiversity values and functions

There is a vast body of knowledge on forest biodiversity among communities in Orissa, i.e. knowledge of occurrence and distribution of plant and animal species and functions and uses of these (Singh et al.,1999).

The communities visited in the PMDFO preparatory phase emphasised the importance of ecosystem functions for forest health and for the health and fertility of surrounding areas (forests were seen as important for e.g. regulation of hydrological cycles and for provision of humus and nutrients for surrounding fields) (ibid.).

Both "use-values" and "non-use-values" of biodiversity were important in the communities visited. The communities were proud of their protected forest areas and cared for the forest not only for its production of goods but also (and explicitly in higher caste groups) for its existence value. Parts of some of the protected forests areas were sacred groves and carried important religious functions. Tribal people in the villages invariably said that life without the forest would be unthinkable. Their identity is linked to the forest.

A reference may be made here to all the different life forms in the forest, the animals, plants, fungi and micro-organisms. Just like the humans, the individual lives in the forest also have a stake in its continued existence for their own being and regeneration. They may be regarded as stakeholders in their own right.

Forest ecosystems and biodiversity

Most forests which are today protected and managed by local communities in Orissa had previously been clearfelled and subsequently degraded – void of trees and most other plants – before the communities decided to start protection. In much of Orissa the natural forests are dominated by sal trees, *Shorea robusta*, a species which regenerates by coppicing, i.e. sprouting from the stump after a tree is felled. Many of the other species in the sal forests will regenerate in the same way.

If sufficient live stumps are left in the ground, the forest will thus naturally return if protected by disturbance from grazing, fire, fuelwood gathering etc. Seeds left in the ground of herbs, shrubs, trees and climbers will germinate and the plants will grow in the protected area. Different bird species will visit the growing vegetation in the regenerating area and carry with them new seeds, invertebrates etc (Unesco et al., 1978). Insects, worms, spiders and other invertebrates will multiply. When the shade increases and leaf litter and other dead matter accumulates, the number and diversity of fungi (mushrooms) will grow – spores are carried in the wind very long distances and fungi of many kinds will reappear when the conditions are right. Many fungi form a symbiotic relationship with trees and other plants called *mykorrhiza* ("mushroomroot"), where the fungus provides nutrients for the tree and receives energy in the form of carbohydrates in return. Mykorrhizae are vital for the functioning of forest ecosystems, and the fungi have a crucial role in restoring nutrient availability in degraded areas (Swift et al., 1979). Other key agents in the nutrient cycling are micro-organisms and termites, which will also build up in numbers and in diversity in a regenerating forest.

The tree canopy cover and the leaf litter which accumulates on the forest floor will protect the soil against heavy impact of rain drops. The leaf litter will also help to conserve moisture in the soil. Crusts and sealing of the soil surface will be broken up (sealing of the soil surface is common on open, degraded land). Roots penetrating into the soil, worms, termites and other organisms will create pores in the soil and provide channels for water infiltration (Sandström, 1995). The rate of water infiltration in the regenerating forest will increase. Plant roots and fungus mycelia will gradually penetrate into new areas of soil and bring nutrients back into the ecosystem.

The returning forest ecosystem will thus gradually increase in biomass and biodiversity, and the ecosystem functions will be gradually restored. We sometimes refer to ecosystem functions important for humans as *ecosystem services*. Some of the ecosystem services of the sal forests in Orissa may be *nutrient recycling, increased infiltration of water, pollination of fruit trees and other plants, control of crop pests, and provision of habitat for timber and non-timber forest products.*

5. Project description

In 1997, Orissa Forest Department embarked on preparation of the project titled "Capacity Building for Participatory Management of Degraded Forests in Orissa" (in this report referred to as PMDFO) with funding from Sida. Scandiaconsult Natura AB and Asian Forest Network assisted Orissa Forest Department in the project preparation phase, which took place during the period January 1998–May 1999.

The PMDFO project aims at promoting sustainable and community based management and use of forests in Orissa and thus contribute to social and economic development in Orissa. The preparatory phase of the project (Dec 1997–May 1999) aimed at developing background and capacity for a longer support in the second phase of implementation.

The goals of the preparatory phase as expressed in OFDs final inception report (Scandiaconsult Natura AB/Asia Forest Network, 1998a) were:

1. Further elaboration of JFM and CFM concepts by exploring relationships between joint and community based forest management practices;

2. Strengthening the capacity, including restructuring, of the Orissa Forest Department;

3. Knowledge about low cost methods for reforestation through natural regeneration;

4. Use of the information and learning experiences generated during this period for the preparation of the project document for phase II.

The expected results of the first project phase were:

a) a project document and work plan for the next 3 – 5 year phase;

b) reports from a number of studies related to the project goals;

c) an established and operative policy cell within OFD;

d) a plan for the reorganisation of OFD;

e) a plan describing how to study the succession of natural regeneration and its management, and how to incorporate lessons learnt within OFD;

f) training carried out for staff and village representatives.

The following studies were carried out in the preparatory phase of the PMDFP project:

– Qualitative assessment of community initiative in forest management

– Benefit sharing mechanism between OFD and communities

– Legal framework and institutional arrangement between OFD and communities

– Identification of research areas and preparation of prioritised research agenda and research approach based on participatory concept

– Study on actors of relevance for implementation of themes of the project

– Study on entry points of relevance for implementation of themes of the project

– Silviculture and management practices in community based forest management initiatives

– Study on biodiversity aspects

– Study on domestic and commercial use of NTFPs, excluding marketing

– Study on domestic and commercial use of NTFPs, including marketing

– Identification and testing of criteria for area selection in forests not protected by communities

– Monitoring and evaluation for CFM and JFM areas

Reports from the studies have been presented, and a base paper has summareised the resommendations from the studies (Scandiaconsult Natura AB/Asia Forest Network, 1998b).

A project document for the implementation phase has been presented to Sida for consideration of support (OFD, 1999). Due to delays of OFD reorganisation for various reasons during the preparatory phase, a policy cell within OFD has not been established but is proposed in the project document. The same applies to training of staff and village representatives.

The implementation phase of the project "Capacity Building for Participatory Management of Degraded Forests in Orissa" has not yet started, and funding is still sought. A complicating factor here is the withdrawal of funds for Swedish development cooperation with India after the Indian nuclear bomb tests in 1998.

6. Analysis of lessons learnt in relation to biodiversity aspects of PMDFO

As in any complex project development process with many actors involved, the lessons that can be drawn are innumerable. For those interested in the results and recommendations from the different studies, the study reports and the base paper summarising the results provide useful reading.

The intention here is not to analyse the results of the preparatory phase of the project in relation to the objectives of the same. Instead, I will try to present some lessons which relate to the biodiversity aspects of the project. My understanding of the process and of lessons learnt are based largely on my own involvement in the biodiversity study of the preparatory project phase (Singh et al., 1999). This means *inter alia* that as an actor in the first project phase I am biased, and I carry my biases with me into this case study report.

In order to attempt a meaningful analysis, the lessons presented in this case study may be separated into three levels:

– lessons related to *development of the project concept;*

– lessons learnt in preparation of the project, i. e. major results and recommendations from the *studies in the project preparation phase*; and

– lessons learnt *regarding the project development process.*

In the following, I will try to summarise some lessons learnt relating to biodiversity aspects on these three levels.

6.1 Lessons related to development of the project concept

Sida supported a Social Forestry Programme in Orissa between 1983 and 1996. This programme covered all of Orissa and focussed on plantation of village forests on land NOT classified as forests, i e land outside the normal domain of OFD. The major costs of the programme were staff (in a separate Social Forestry wing of OFD created for the programme) and labour for tree planting in village woodlots, weeding and guarding plantations etc. Through creating seasonal employment opportunities, the programme did contribute towards poverty alleviation. It was also relatively successful in establishing the plantations. However, the social objective of the programme, to create a sustainable income for the poorer sections of society through tree growing, was never realised to any larger extent (Ingevall, 1997; Holm & Nilsson, 1997). The Village Forest

Committees which were created did not realise their actual ownership of the plantations, and distribution of benefits from these were not equitable.

The tree plantations in the Social Forestry Programme were almost exclusively monocultures of exotic tree species and hence with low natural biodiversity and production of few non-timber forest products beside fuel in the form of wood and dry leaves.

Based on the various difficulties and shortcomings of the Social Forestry Programme, Sida's support came to an end in 1996.

Sida's negotiations with Orissa regarding a new forestry project has been a long process, and Sida has played an active role in supporting change within OFD. This has been the case also in the re-orientation from plantation forestry based on monocultures in the social forestry project to the focus on natural regeneration of forests in the PMDFO project. Conservation and sustainable use of biodiversity are integral to this focus, and so is a focus on equitable sharing of benefits from the use of biodiversity. All three major objectives of the Convention on Biological Diversity have thus been actively addressed by Sida in the dialogue with OFD (Ingevall, 1997).

Ultimately, Sida's support to the project is aimed at poverty alleviation, which is one of the main goals of Swedish development cooperation. In this project, the biodiversity objectives are intimately linked to the overall aim of poverty alleviation.

Sida's active role in supporting a focus within OFD on participatory management of naturally regenerating forests has been a key factor in the development of the project concept. Sida's active role was possible because of the *professional skills* of Sida staff in relation to sustainable and participatory natural resource management, a long *history of cooperation* with OFD and other actors in Orissa, *presence* in India, *knowledge* of national and state level policies and legislation of relevance in the project context, and *persistence* in the dialogue with OFD.

The key role of the donor in the dialogue with the cooperation partner is an important lesson in this case study.

6.2 Major lessons from studies in the project preparation phase

The preparation of the PMDFO project was organised as a series of studies undertaken on issues of relevance for the project. A summary of lessons learnt from these studies, as presented in the project base paper ((Scandiaconsult Natura AB/Asia Forest Network, 1998b) is presented in appendix 1. The studies did not cover issues related to reorganisation of OFD. The following is a brief summary of the major lessons which relate to the biodiversity aspects of the project.

Roles of communities in forest management
– In accordance with the national and state level forest policies, the broad objectives for management of CFM/JFM areas in Orissa should be: rehabilitation of degraded forests through natural regeneration, improving productivity particularly of non-timber forest products (NTFPs) through appropriate measures including biodiversity conservation, sustainable management and sustainable use to supply forest products to meet village communities' require-

ments. Within this broad framework, area-specific management objectives will be developed by each village level organisation (VLO). The management objectives need to include an ecosystem perspective, where issues related to e.g.fodder production and improvement of pastures both within and outside the protected forests may need to be addressed.

– Participatory management systems need to be developed. Participatory forest management will include a baseline survey, a planning process using PRA methodology, and participatory monitoring and evaluation. Planning and monitoring will address managerial, financial, slvicultural, social and biodiversity issues.

Policy and legal framework

– The regulations and policies concerning NTFPs do not sufficiently recognise the rights of forest dwelling communities with respect to collection, processing and marketing.

– Orissa government needs 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 also needs to ensure compliance with National Forest Policy and national conservation guidelines.

– The existing practice of monopoly leases in NTFP trade and processing should be discontinued. Leases could be given to a number of buyers including co-operatives, non-profit making societies, joint sector companies, VLOs and their federations. Formation of primary collectors' institutions could be helpful. The responsibility of primary collection, storage, and minor processing of NTFPs could be entrusted to VLOs. Higher level processing of certain NTFPs could be allowed on experimental basis to capable VLOs.

– The current ban on felling means locking the resource without its sustainable use. It is likely to negate the benefits of CFM/JFM in the state, and it should eventually be lifted. However, this would require the development of regulatory and monitoring mechanisms, to ensure 1) designationa and continued protection of ecologically important areas; 2) ecologically sustainable logging practices and 3) a system for fair sharing of benefits, where the private sector does not dominate the scene with minor benefits to the local communitites.

Needs for training and improved knowledge

– Increased production and collection of NTFPs will depend on participatory forest management systems where the forests are managed for production of both timber and NTFPs. Management systems that enable sustainable production and collection of NTFPs is 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 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.

- Appropriate training for both VLO members and OFD staff is important. Topics for training concerning silviculture and management of CFM/JFM areas may include i) importance of biodiversity in forest management, ii) natural regeneration survey and simple inventory of forest resource (number of trees and basal area per hectare), iii) sustainable silviculture and management practices for CFM/JFM areas, iv) management plan preparation, v) sustainable harvesting, use and marketing of products from CFM/JFM areas, and vi) community organisation and functioning of VLOs.
- Preparation of a field manual on silviculture and management of CFM/JFM areas is essential for training as well as for extension support. Appropriate literature on silviculture and management of CFM/JFM areas needs to be published in Oriya for use by VLOs, OFD staff and NGOs.

The biodiversity study
The biodiversity study of the PMDFO project preparatory phase consulted members of 27 communities in 4 districts in Orissa. The biodiversity aspects studied included:

- *biodiversity and ecosystem functions* in forests protected by local communities;
- *collection and use of non-timber forest products* (NTFPs) by different groups in the communities;
- study of *social, cultural and spiritual values of biodiversity*; and
- *monitoring of biodiversity* as an integral part of participatory forest management.

A summary of findings on the first three aspects has been presented earlier in this report. Below are some of the conclusions concerning biodiversity monitoring in participatory forest management.

Biodiversity monitoring in participatory forest management
Participatory forest management with integration of biodiversity aspects and for optimal yield of NTFPs would typically include management choices like selection of both timber and multi-purpose tree species in silvicultural management; avoidance of indiscriminate clearing of forest under-story, and keeping NTFP species in cases where under-story clearing is necessary (Scandiaconsult Natura AB/Asia Forest Network, 1998c).

Some NTFP collection, like sweeping of leaves from the forest floor (for fuelwood or to facilitate collection or e.g. sal seeds), harvesting of tubers and medicinal plants, and hunting, may well have negative effects on forest biodiversity and ecosystems if done indiscriminately. There is for instance evidence that sweeping of leaves has negative impact on development of forest soils in some protected forests.

In order to learn about the effects on biodiversity of management choices made, monitoring is needed. The best approach to biodiversity monitoring in participatory forest management, based on consultations

with 27 communities, was found to be simple inventories done as transect walks through protected forest areas, documenting plant species and arthropod groups, 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.

The biodiversity-NTFP study recommended that this simple biodiversity monitoring be integrated with the communities' participatory forest management planning as recommended by the study on participatory monitoring and evaluation of forest management (Balasubramanian, 1998). Biodiversity monitoring should thus be done by the community for its own needs. Detailed design of biodiversity monitoring can hence only be done by the communities themselves. This should form part of the implementation phase of PMDFO.

6.3. Lessons learnt related to the project development process

Most of the studies carried out in the preparatory phase of PMDFO were done in consultation with local communities. The participatory approach was planned for at the inception of the preparatory phase.

Consultations between local communities, NGOs and OFD in the form of seminars etc. were also planned in order to discuss the outcome of the different studies and constitute a basis for further project planning. Consultations were held between OFD and the major NGOs active in supporting CFM/JFM in Orissa in the form of a number of seminars during the preparatory phase of the project. This provided useful opportunities for exchange of views and sharing lessons regarding CFM/JFM between OFD and the NGOs.

Efforts were made to integrate the work of the different studies. For instance, the consultants carrying out the biodiversity-NTFP study worked actively to integrate this with the other studies. This was done by consultations with the consultants responsible for the other studies and by efforts to integrate preliminary results of other studies into the biodiversity-NTFP study and vice versa. Some of the field work undertaken in the biodiversity-NTFP study was done jointly with the study of silviculture and forest management. This was beneficial for mutual learning about relationships between biodiversity, silviculture and forest management.

However, consultations which include local communities and their federations regarding the *outcome* of the studies have not as yet been carried out. Without such consultations, the results and recommendations from the preparatory phase can only be seen as preliminary.

One of the factors restricting the level of consultation in the review stage of project preparation was shortage of time in the project planning process. This particularly restricted the possibilities to provide information to communities in the form of study outcomes and proposals as well as the opportunity of communities to comment on these. It was originally planned to translate the study reports and proposals into Oriya. This, however, was not done due to shortage of time.

A major lesson learnt here is that a process for participatory review should be planned at the outset which guarantees that the different interest groups have opportunity and time to present their views on the outcome, and that their views are taken into account. To enable this,

time must be set aside for participatory review at the end of the process in the original time plan (and any delays should not be allowed to encroach on the time allowed for participatory review); a clear process for participatory review must be agreed on and adhered to; and the necessary documents need to be translated into the local language and distributed in a timely fashion to the relevant interest groups. Since a participatory review was not held during the preparatory phase of the project, it could form part of the preparation for a possible continuation of the project.

Different views revealed

In the studies, one interesting observation from the joint field work of the biodiversity-NTFP team and the silviculture/forest management team was that during the field visits, the dialogue of the two teams with community members yielded very different views on forest management. For example, when walking through a forest area protected by the community and discussing with community members, the silviculture/forest management team got the clear impression that sal trees would be favoured in a thinning operation, while wild fruit tree species would be felled. Conversely, the biodiversity team were told that sal trees and wild fruit trees were equally important in forest management. This points towards the need for great care in interpretations of results from brief visits to local communities, and towards the need for longer term interaction, where both parties get to know each other and find space for open dialogue. It also points towards the need for dialogue with members from different groups of the same community, since needs and interests necessarily differ between these. One reason for the different views disclosed in the two groups is probably the desire of the community to please the visiting team and fulfil the team members' expectations, in accordance with the focus and emphasis they provide in the brief interaction with the community.

In spite of these shortcomings, the NGO and community level consultations in the PMDFO preparatory phase helped to facilitate the formation of the state-level forum of village level communities in Orissa, which was formed in March 1999. The separate support from Sida to NGOs supporting participatory forest management in Orissa also facilitated this process.

The main objective of the Odisha Jungle Mancha, or Orissa Forest Forum (OFF), is to act as a pressure group for formulation of a pro-people forest policy favouring the interest of forest protecting and managing village communities (Pal, 2000). OFF is now recognised by the Orissa Government as an advisor and acts as a bridge between the communities and the State. OFF's lobbying has enabled the formulation of Orissa's new NTFP Policy. Announced during 2000, the NTFP Policy gives rights over NTFPs to Panchayats[3], and what was previously a monopoly trade is now decentralised, with a minimum price back-up from the State. The communities can now freely trade and undertake value addition of NTFPs.

Although this development was only indirectly a result of the PMDFO preparatory phase, it is nevertheless a major achievement which the PMDFO process helped facilitate.

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[3] The panchayat is the politically elected community level authority in India.

Environmental Impact Assessment of the project document

As agreed in the planning of the preparatory phase of the project, and in accordance with Sida's EIA Guidelines (Sida, 1998a), a brief EIA was done for OFD of the project document of May, 1999. The EIA was done by one of the consultants in the biodiversity study (Marie Byström) as a desk study of the project document. The EIA thus built on the knowledge gained in the biodiversity study and on previous consultations with local communities and consultants carrying out the other studies. In one sense, the environmental aspects were integrated in the planning process, and the EIA served the purpose of checking that the project document incorporated all relevant lessons learned in the planning process. There was however no feedback process to ensure that OFD reviewed the EIA. In future planning processes, this should be ensured.

7. Biodiversity aspects of the PMDFO project in relation to national and international agreements and policy development

While the national and state-level forest policies of Orissa may be of more immediate importance for forest-dwelling people in Orissa, it may also be useful to see how the PMDFO project relates to international agreements related to biodiversity.

India is a party to the Convention on Biological Diversity (CBD) and a member of the World Trade Organisation (WTO) and hence a party to the WTO agreement on trade-related intellectual property rights (TRIPs).

The Convention on Biological Diversity (CBD)

The three overall objectives of the Convention on Biological Diversity (CBD) are:

– *the conservation of biological diversity*

– *the sustainable use of its components*

– *the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.*

The parties to the CBD are requested to act towards the fulfilment of these objectives at the national and local level and through international cooperation. 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 new NTFP Policy in Orissa (Gov of Orissa, 2000) will 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, which may at least partly be defined as genetic resources.

An Indian national biological diversity law, which more directly addresses the objectives of the CBD, is in the process of legislation. Among the features of the bill are the proposal of People's Biodiversity Registers for the documentation of local biodiversity knowledge, and of a National Biodiversity, State Biodiversity Boards and local Biodiversity Management Committees to regulate access to biodiversity and sharing of benefits. The bill has been developed in a participatory process.

Improvements have been suggested by e.g. Madhav Gadgil et al. (Gadgil et al. 2000) to further focus the biodiversity law on conservation, sustainable use and benefit sharing of biodiversity, and to strengthen the provisions for local management. The biodiversity bill, when passed, may give new opportunities to local communities in terms of sharing the benefits of commercial uses of biodiversity provided through their knowledge. In addition, the People's Biodiversity Registers may assist local communities to strengthen their knowledge on local biodiversity and may also help communities develop management plans, where sustainable use of biodiversity is an integral part.

The PMDFO project can be seen as one of India's activities towards the fulfilment of the objectives of the CBD. The planned project specifically addresses the objectives/obligations of e.g. CBD articles 5 (international cooperation), 6 (b) (integration of conservation and sustainble 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).

TRIPs

WTO's agreement on trade-related intellectual property rights (TRIPS) sets minimum requirements for the patentability of life forms and hence relates to access and benefit-sharing of biodiverstiy.

Article 27.3 (b) of TRIPs reads:

Members may also exclude from patentability;

(b) plants and animals other than microorganisms, and essentially biological processes for the production of plants and animals other than non-biological and micro-biological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. The provisions of this sub-paragraph shall be reviewed four years after the entry into force of the WTO agreement.

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 have direct consequences for the distribution of benefits from genetic resource use. In particular, they contribute to the present structural change toward privatisation 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.

The extension of IPRs to life in industrialised countries, which preceded TRIPs, has largely taken place without a political level discussion of the proper balance between the need to stimulate technological development and other societal objectives. The balance created by present patent practice in developed countries, and codified in the TRIPs agreement, is now broadly questioned by governments and NGOs in developing countries, including India, from an ethical and socio-economic perspective. It would be advisable for developed countries to acknowledge this fact and return to a renewed consideration of their standpoints from this insufficiently explored angle.

India is among the countries that have pointed to a potential conflict between their commitments under the CBD and under TRIPs, as the CBD stipulates that IPRs must be supportive of the Convention objectives, while TRIPs lacks reference to either conservation, sustainable use, or fair and equitable benefit sharing.

Among the concrete proposals given to WTO from developing countries are the withdraw of the requirement of IPRs 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. This would strengthen India's power to implement the benefit-sharing provisions in the proposed biodiversity law in an international perspective. Ultimately, this could benefit local communities in their forest management in Orissa and would hence support the objectives of the project PMDFO.

8 Relations to EC BDP's 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).

BDP Guiding principles 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 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 and 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.

Below, brief comments are given on A) findings in the case study as they relate to the Guiding Principles, and B) the relevance of the BDP Guiding Principles to mainstreaming of biodiversity in development cooperation as judged from this case study. (The Guiding Principles were not developed at the time of preparation of the PMDFO project.)

A. Brief comments on findings in the case study as they relate to the Best Practice Principles:

1. Adopt an ecosystem perspective and multi-sectoral approach to development programmes (taking account of impacts on adjacent and down-stream areas).

   Comment: An ecosystem perspective was part of the project approach (see section 6; for details, the study reports may be consulted). The notion of positive impacts on adjacent and down-stream areas was an integral part of the motivation of many communities to protect forest areas, according to the biodiversity study.

2. Ensure/encourage full stakeholder participation, including partnerships with civil society, government and private sector.

   Comment: Full stakeholder participation was aimed for in the project. The work in most of the different studies was done in consultation with local communities, and OFD had consultations with several NGOs during the preparatory phase. However, although working with participatory processes, the first phase had some shortcomings in relation to this principle, as discussed in section 6.3. This was the case

in particular in the review of results from the preparatory phase. To what extent has the private sector been involved in the studies? This sector and its role in sustainable forestry management are not much mentioned in the report.

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

Comment: This was one of the guiding principles in the development of the project concept (see sections 3, 5 and 6). The principle was also addressed by several of the studies, in the call for review of policies and laws related to NTFP production and marketing (see section 6.2 and 6.3).

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

Comment: The institutional arrangement of the project itself, with the project coordinator and Team Leader from the consultant, Ulf Öhman, stationed at OFD headquarters in Bhubaneswar and working very closely with a group of officers at OFD, met all these principles to an unusually high degree. This is likely to in itself stimulate OFDs work at reorganisation of the Forest Department in line with the above principles.

5. Promote fair and equitable sharing of costs and benefits from biodiversity conservation and sustainable use, at local and national and international levels.

Comment: The project "Capacity Building for Participatory Management of Degraded Forests in Orissa, India" aims at promoting sustainable and community based management and use of forests in Orissa. This overall aim includes the promotion of fair and equitable sharing of benefits from biodiversity conservation and sustainable use at state level in Orissa. This principle was also clearly addressed by nearly all of the studies in the preparatory phase of the project, as has been described above in section 6.2.

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

Comment: Although working with participatory processes, the first phase had some shortcomings in relation to this principle, as discussed in section 6.3. This was the case in particular in the review of results from the preparatory phase. This study recommends for future work in the project 1) translation of relevant documents into the local language, and 2) timely distribution of information to allow review by all relevant stakeholders (see section 6.3 above).

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

Comment: This was a very central guiding principle in the development of the project concept (see section 6.1). In contrast, the earlier Sida-supported Social Forestry Project in Orissa did not have sufficient sensitivity to local and national structures, processes and capacities. This was one reason for Sida to end the support to this project.

B. Comment on the relevance of the BDP Best Practice Principles to mainstreaming of biodiversity in development cooperation:

The best practice principles are excellent guiding principles for development cooperation. The fifth principle, "Promote fair and equitable sharing of costs and benefits from biodiversity conservation and sustainable use, at local and national and international levels" is directly related to mainstreaming of biodiversity in development projects. All the other principles should be guiding principles for development cooperation in general, and the fifth principle should be promoted not only in "biodiversity projects" but also in work towards the mainstreaming of biodiversity aspects more widely in development cooperation in the natural resources management sector.

9. Conclusions and recommendations for biodiversity mainstreaming at Sida

– There are no shortcuts to integration of biodiversity aspects into natural resource management projects/programmes. Integration, or mainstreaming, will depend on the understanding by the actors involved of the relevance of biodiversity issues in the project/programme context.

– The dialogue between Sida and the cooperation partner is a key factor. A genuine dialogue requires time and concerted efforts on both sides.

– Among the most important factors for integration of biodiversity issues in this project was the professional competence of Sida staff, as well as 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. The lessons learned in this case study as described in section 5 above may be of relevance here.

– 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). The focus of

the project studies is directly related to two of Sida's three strategic priorities for biodiversity, namely support to:

– 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.

No need to revise Sida's strategic priorities was identified in this case study.

– In Sida's Guidelines for EIA in development cooperation (Sida, 1998a), the following questions could be added in the biodiversity section in the relevant checklists:

"Will the project facilitiate or work against the development of fair and equitable sharing of benefits from the use of biological diversity?"

"Does the project involve activities which require the prior informed consent of local communities or indigenous peoples? If so, have these groups been informed? Have they given their consent to the planned activities? Are the plans on mutually agreed terms?"

– 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.

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Appendix 1

Terms of Reference FOR BIODIVERSITY CASE STUDIES

1. Background

In "Sida and the Convention on Biodiversity" Sida assumes the responsibility for mainstreaming[4] aspects of biodiversity into all programmes, starting with the Department for Natural Resources and the Environment (NATUR). The mainstreaming will focus on analysing the consequences for biodiversity of the programme/project and on making stakeholders, women as well as men of different ages, aware of the importance of biodiversity on all levels from gene, population, species, functions and ecosystems, both wild and cultivated biodiversity. Mainstreaming of biodiversity will have more relevance in some programmes/projects of development cooperation than others. The reason for the selection of NATUR as the first department at Sida in the mainstreaming process is that NATUR is responsible for contributions to agriculture, forestry, fishing, etc which depend on biodiversity and have a direct impact on biological diversity.

The objective (according to the Sida-memo on "Mainstreaming of Biodiversity at Sida – phase 1", appendix 1) of this work is:

"*that consequences for biodiversity are analysed in the project identification, planning process and follow-up of all programmes and projects supported by Sida-DNRE, as part of the EIA, to minimise negative effects and also point out positive impacts for biodiversity*"

A simultaneous processes take place with the same purpose of mainstreaming biodiversity into development cooperation programmes, e.g. the Biodiversity in Development Project (BDP) undertaken by EC in collaboration with DFID and IUCN. A coordination with the process in the BDP will take place.

2. Purpose and scope

As part of the process of mainstreaming biodiversity aspects into preparation, implementation and monitoring of Sida-DNRE´s natural resources management and rural development programmes, a number of

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[4] Mainstreaming – integrating biodiversity aspects; consequences for biological diversity shall be analysed and taken into consideration in all programmes and projects.

case studies will be undertaken. These will form the base for developing hands-on methods and guidelines on biodiversity mainstreaming for primarily Programme Officers at Sida-DNRE.

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).

3. Tasks

The task include:

3.1 Undertaking case studies in connection to three to four Sida-DNRE bilateral programmes.

The case studies shall describe and analyse to what extent biodiversity aspects have been considered within the programme context. Two Sida-programmes have so far been identified as suitable for case studies: The Joint Forest Management Programme in Orissa, India, presently under preparation, and the Mountain Rural Development Programme (MRDP) in Vietnam. One to two more case studies remain to be identi-fied from Africa, and possible suggestion include the Region 3-pro-gramme in Ethiopia, LAMP in Tanzania, the agricultural sector pro-gramme in Zambia, the planned support to the agriculture sector in Mozambique. Other options are the Lake Victoria-initiative, or the water-related activities in southern Africa.

The case studies shall cover the following questions:

1. Background

Background and history of the project/programme, including descrip-tion of the programme's various phases and the national development context to be able to understand in which context biodiversity is to be mainstreamed. This includes a description of policy and legal framework for the country. Which treaties, binding and non-binding, have been adopted such as:

– World Intellectual Property Organisation's (WIPO's) Union for the Protection of New Varieties of Plants (UPOV), binding

– World Trade Organisation's (WTO's) Trade-Related Aspects of Intellectual Property Rights (TRIPs), binding

– Convention on Biological Diversity (CBD), binding

– Food and Agriculture Organisation's (FAO's) International Undertak-ing on Plant Genetic Resources and the Global Plan of Action for the Conservation and Sustainable Utilisation of Plant Genetic Resources for Food and Agriculture

– Rio-declaration including the forest principles, non-binding recom-mendations

– Agenda 21, non-binding Action Plan

– Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), binding

– RAMSAR – Convention on Wetlands, binding

– and other treaties in relevance for the programme.

It also includes a description of which donors that exist in the country.

2. Project/Programme description
Brief description of the present set-up of the programme:

a) description of the aims and activities of the project

b) geographical area

c) socio-economic and cultural context

d) stakeholder analysis including ethnic and gender relations, and also an assessment of stakeholders that were "excluded" from the project activities

e) institutional set-up including policy framework on biodiversity

f) programme activities.

3. Problem analysis
Analysis of biodiversity aspects within the programme, both historically (since inception of programme) and presently. The analysis should:

a) be made using the following documents as analytical tools:

– "Biological Diversity – guidelines for Sida support for the sustainable use and conservation of biodiversity", Sida, 1994

– "Sida and the Convention on Biological Diversity", Sida, 1998

– "Guidelines for Environmental Impact Analyses in development cooperation", Sida, 1998

– Sida's four action programmes

– "Strategic Framework" developed for the Biodiversity in Development Project (to be able to influence the BDP-process).

b) explicitly consider and comment on the full range of biodiversity issues in the project area, (e.g. evidence of irreversible losses, opportunities for improved use of biodiversity for human development, etc), to what extent biodiversity has been "mainstreamed", which biodiversity aspects that have been considered, and the relevance of these to the different stakeholders, how the aspects of biodiversity has been handled and from which stakeholders,

c) identify key constraints to improved biodiversity management and improved human development, and assumptions made about the links between the two, within the context of the project aims and activities

d) include assessment of whether project/programme successes have been, or are, sustainable (considering mainly aspects in connection to biodiversity use) in the long term (i.e. without further project input),

e) explicitly consider and comment on methods used for mainstreaming aspects of biodiversity into the project/programme, past and present monitoring of biodiversity aspects and tools to follow-up these aspects (environmental/biodiversity indicators).

Particular attention should be paid to the analysis of the projects impact on ecosystem services related to biodiversity, as well as the linkages

between biodiversity and sustainable livelihood, culture and social relations (including ethnic, gender and age relations) and political and socio-economic structures. Also gene policy questions (bioprospecting and eroison of domestic species, plants and animals, genetic diversity) should be analysed.

4. Institutional resources
Identification of and consultation with possible other institutions of importance, shall be done, that could be a resource for the programme (regarding biodiversity).

5. Lessons learned for the programme
The lessons learned from the mainstreaming of biodiversity for the project/programme planning and implementation, including field methods, shall be summarised and discussed.

6. Lessons learned for the Sida mainstreaming process
The lessons learned from the mainstreaming of biodiversity for project/ programme planning and implementation, including field methods, shall be summarised and discussed.

7. Conclusions and recommendations for the programme
Conclusions and recommendations for the programme:

a) on methods for biodiversity mainstreaming within the programme

b) on follow-up mechanisms (monitoring including possible indicators).

8. Conclusions and recommendations to Sida
Conclusions and recommendations to Sida regarding:

a) improvements that could be made in the project/programme plan- ning process and implementation of projects/programmes

b) improvement of the analytical tools and guidelines, see c) above, for mainstreaming biodiversity aspects within Sida-DNRE's programmes.

c) methods for how aspects of biodiversity can be mainstreamed into projects/programmes.

d) how to monitor aspects of biodiversity in the programmes/projects (through environmental indicators etc).

3.2 Presentation of case studies in seminar/workshop

The case studies will be presented in a seminar/workshop at the Sida office in Stockholm in January 2000, and when possible in the country where the case study has been taken place. The case studies will also, if possible, be presented at the BDP regional workshops on case studies: Cameroon (28/6–2/7/99); Sri Lanka (24/7–30/7/99); Botswana (6–11/9/99); Peru (27/9–1/10/99).

4. Methods

The mainstreaming of aspects of biological diversity is of course de- pendent 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.

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, see also Terms of Reference for BDP case studies, appendix 2.

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, and also with the staff at Sida-DNRE. 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 further inputs to the analytical tools and guidelines can be made. From our own results and from the BDP results, further 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.

5. Time frame

The case studies, for mainstreaming of Biodiversity at Sida phase 1, DNRE, shall all be completed within the year 1999, although follow-up of the case studies and further lessons learned from them will take place during year 2000 and beyond.

(6. Specifics regarding the Vietnamese case study, omitted here)

7. Specifics regarding the Orissa case study

7.1   Background

The project "Capacity Building for Participatory Management of Degraded Forests in Orissa, India" aims at developing the concept and understanding of Participatory Forest Management (PFM) that includes both joint and community forest management as a potential for sustainable use of forest resources in the state of Orissa. The understanding of PFM should be based on experience from Orissa Forest Department

(OFD) and from the experiences of local initiatives to protect forest areas for sustainable production of timber and non-timber forest products (NTFPs).

The first phase of the project (Dec 1997 – May 1999) aims at developing a background and capacity for a longer support in the second phase. The outcome of the first phase will be a proposal for continuation of the project, written by OFD but developed out of an understanding of PFM for sustainable utilisation of forest resources shared between OFD and NGOs and village level organisations (VLOs) active in the area.

The multiple goals of the first phase are:

5. Further elaboration of JFM and CFM concepts by exploring relationships between joint and community based forest management practices;

6. Strengthening the capacity, including restructuring, of the Orissa Forest Department;

7. Knowledge about low cost methods for reforestation through natural regeneration;

8. Use of the information and learning experiences generated during this period for the preparation of the project document for phase II.

7.2 Purpose and scope

The purpose of the biodiversity case study is to draw and present lessons learnt from the first phase of the project "Capacity Building for Participatory Management of Degraded Forests in Orissa, India", in particular regarding mechanisms for mainstreaming biodiversity aspects, which biodiversity aspects have been covered in the project and the relevance of these to the different stakeholders.

The study will present the format used in the project and proposed by the project for PRA-based village studies and monitoring on environment and biodiversity, including environmental and biodiversity indicators and with special emphasis on conclusions of relevance for other Sida-supported programmes.

The study will also make conclusions and recommendations, based on the experience from the project "Capacity Building for Participatory Management of Degraded Forests in Orissa, India", regarding improvement of the analytical tools and guidelines (see 3.1 c) for mainstreaming biodiversity aspects within Sida-DNRE´s programmes.

7.3 Methods

The study shall be undertaken through:

– studying the different reports from phase one of the project to draw lessons regarding to what extent biodiversity has been "mainstreamed", which biodiversity aspects that have been considered, the mechanisms for mainstreaming biodiversity aspects, and the relevance of these to the different stakeholders;

– consultations with programme officers concerned at Sida-DNRE;

– consultation with relevant project staff;

– consultation with other institutions of importance in India;

– studying other background material of relevance for the case study;

– presenting lessons learnt from the project, in particular regarding mechanisms for mainstreaming biodiversity aspects and the relevance of these to the different stakeholders;

– presenting the format used in the project and proposed by the project for PRA-based village studies and monitoring on environment with specific emphasis on biodiversity and biodiversity indicators.

7.4   Time frame and reporting

A total of two weeks are required for the case study. Since field work for mainstreaming of biodiversity aspects in the project has already been done by the consultant, including consultations with stakeholders (representing women and men from tribal groups, scheduled casts, open casts etc.) in twelve villages in Orissa, consultations with local and state level NGOs and with local and central OFD staff, no field work for this case study should be necessary. Necessary contacts in India should be possible to make through different forms of correspondence. A draft report will be presented by June 30, 1999.

The consultant shall present the results in a seminar/workshop at the Sida office in Stockholm and also if possible in India.

8. Regarding the other one to two case studies

The other one to two case studies are yet not elected but will be elected latest February 1999. They shall be finalised before December 1999.

Appendix 2

Summary of project-specific lessons learnt from the studies in the pre-
paratory phase of the project "Capacity Building for Participatory
Management of Degraded Forests in Orissa, India"

In 1997, Orissa Forest Department embarked on preparation of the
project titled "Capacity Building for Participatory Management of
Degraded Forests in Orissa" with funding from Sida. Scandiaconsult
Natura AB and Asian Forest Network assisted Orissa Forest Department
in the project preparation phase, which took place during the period
January 1998 – May 1999.

 The first phase of the project preparation was organised as a series of
studies undertaken on issues of relevance for the project. A brief sum-
mary of lessons learnt in the different studies is presented below.
The lessons learnt have been synthesised in one summary, and they are
not presented study-wise.

Forest management:
The management of CFM/JFM areas needs to be site specific.
No uniform set of silvicultural and management practices should be
followed for all areas. Silviculture and management practices should suit
the silvicultural requirements of the crop and should be adjusted to meet
the objectives of management. The broad objectives for management of
CFM/JFM areas should be: rehabilitation of degraded forests through
natural regeneration, improving productivity particularly of NTFPs
through appropriate measures including biodiversity conservation,
sustainable management and sustainable use to supplement supplies of
forest products to meet village communities' requirements. Within this
broad framework, area-specific management objectives will be developed
by each VLO.

 Natural regeneration will be relied on to regenerate forests. No gap
planting is recommended. The gaps and blank areas in CFM/JFM areas
should be developed for grass production by cutting tall weeds and
bushes not yielding any fodder. Fodder is an important requirement of
village communities and development of such areas for grass production
will be better than planting of trees.

An efficient participatory learning and monitoring approach needs to be adopted not only to develop appropriate management practices, but also to ensure their proper implementation.

A baseline survey through which the status of the forest and socio-economic conditions of the village will be analysed through PRA before the preparation of the management plan.

Participatory monitoring and evaluation (PAME) should be done to review the progress of the forest management. It may be undertaken once in a year with participation of both VLO and OFD field staff. PAME would address managerial, financial, slvicultural, social and biodiversity issues.

Strong extension support to be provided by OFD ad NGOs is needed for proper management of CFM/JFM areas. Special training will be necessary for OFD field staff (see further below).

The current ban on felling (in other words locking the resource without its sustainable use) is likely to negate the benefits of CFM/JFM in the state. Its adverse effects include:

- lower productivity of the forest resource;

- increased incidence of illicit felling to meet villagers' requirements;

- reduced quality of growing stock as a result of illicit cutting of better stems and leaving the inferior ones as was observed during field visits, and

- mistrust between villagers and OFD because of the feeling gaining ground among the villagers that FD is interested in getting the JFM forests protected and rehabilitated and not in giving them the promised forest products; such mistrust can be suicidal for JFM programme.

Sustainable use of NTFPs:
The collection and use of NTPF provide an important part of subsistence and income, particularly for the tribal groups. NTFPs regularly collected for domestic consumption include fuelwood, mushrooms, medicinal plants, green leaf vegetables, fruits, tubers, resin, fibres, thatching grass, and dyes. Important NTFPs collected and sold commercially include kendu leaves, siali leaves, sal leaves, sal seed, and mahua flowers. Present levels and methods of collection of NTFPs seem to be overall sustainable, with considerable potential for increased production and collection.

Increased production and collection of NTFPs will depend on participatory forest management systems where the forests are managed for production of both timber and NTFPs. Management systems that enable sustainable production and collection of NTFPs generally is expected to contribute to restoration of forests rich in biodiversity. However, production of some major NTFPs (e.g. kendu leaf, sal leaves and sal seed) may lead to simplified and eventually degraded ecosystems, if production is not carefully managed on a sustainable basis. A better understanding of how best to optimise production of these NTFPs is, therefore, important.

The regulations and policies concerning NTFPs do not sufficiently recognise the rights of the forest dwelling communities with respect to collection, marketing and processing. While there is scope for a manifold

increase of the production and value addition of NTFPs, it will depend on policy and legal changes.

The issues in NTFP trade relate to ownership rights over forest land and produce, accessibility, forms of disposal, marketing arrangements as well as procurement of raw material and price fixation.

The existing practice of monopoly leases in NTFP trade and processing should be discontinued. Once the royalty and minimum support price etc. are decided and regulated, lease could be given to a number of buyers including co-operatives, non-profit making societies, joint sector companies, VFCs, VSSs and their federations. Formation of primary collectors' institutions could be helpful. The responsibility of primary collection, storage, minor processing etc. of NTFPs could be entrusted to VLOs. Higher level processing of certain NTFPs could be allowed on experimental basis to capable VLOs. Primary collectors/VLOs may be permitted to sell a major part of their finished forest products to ORMAS.

Legal/policy issues:

Orissa government needs 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 also needs to ensure compliance with National Forest Policy and national conservation guidelines.

Policy constraints include:

– the provisions in JFM resolutions (1993 & 1996) regarding the roles of VLOs and FD need clarity to empower the VLOs to implement the programme and the FD to assist and facilitate implementation;

– usufruct sharing mechanism requires clarity, and major harvest needs a clear definition;

– a provision appears necessary to enable sale of products in excess of village subsistence needs, and appropriate marketing system needs to be developed to improve the returns to VLO members, particularly the poor, from CFM/JFM;

– harvesting trees should be the responsibility of the VLOs; the government resolution on JFM is not clear as to whether the trees to be removed in thinning are to be harvested by VLO members or by FD;

– ban on fellings in CFM/JFM areas needs to be removed to meet the requirements of management plans;

– CFM/JFM areas need to be taken out of the purview of working plans.

Training

Appropriate training for VLO members and OFD staff is important. Topics for training concerning silviculture and management of CFM/ JFM areas may include i) importance of biodiversity in forest management, ii) natural regeneration survey and inventory of forest resource (number of trees and basal area per hectare), iii) sustainable silviculture and management practices for CFM/JFM areas, iv) management plan preparation, v) sustainable harvesting, use and marketing of products

from CFM/JFM areas, and vi) community organisation and functioning of VLOs.

Preparation of a field manual on silviculture and management of CFM/JFM areas is essential for training as well as for extension support. Appropriate literature on silviculture and management of CFM/JFM areas needs to be published in Oriya for use by VLOs, OFD staff and NGOs.

The training programme to be designed for phase II needs to integrate biodiversity aspects in all its parts. Training needs related to biodiversity include i) training of VSS and VLOs in participatory management, monitoring and evaluation of biodiversity and NTFPs, ii) training of FD at central level, divisional level and local level in participatory management, monitoring and evaluation of biodiversity and NTFPs, and iii) training and skills development at village level for value addition of NTFPs, including packaging, storing, marketing, accounting and other management skills. Appropriate training for NGOs also should be arranged.

Training should be conducted as much as possible in the field. Training in skills development at village level for value addition and marketing of NTFPs needs to be developed together with local villagers and NTFP producers. Successful cases of local value-adding and marketing of NTFPs may be used as examples in this training.