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Integration of biodiversity aspects in
development cooperation – a case study

Mountain Rural Development, Vietnam



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 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 first phase resulted in four main products;

- Three case studies from Sida-supported Natural Resource Management 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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Author: Maria Berlekom

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Contents

1. Summary	7
1.1 Main Conclusions from the Study	8
1.2 Recommendations for MRDP Operations	9
1.3 Lessons learned for Sida’s General Work on Mainstreaming Biodiversity	10
2. Introduction	12
2.1 Background to the Case Study	12
2.2 Terms of Reference for the Study and Study Methodology ..	13
2.2.1 Scope of the Study	13
2.2.2 Approach to the Study	13
2.2.3 Methodology	15
3. Description of the programme	16
3.1 Brief Programme History	16
3.2 The Present Phase	18
3.2.1 Trends and Conditions in the Programme Area	18
3.2.2 Aims and Objectives of MRDP	18
3.2.3 Stakeholders	19
3.2.4 Programme Activities	20
3.2.5 Programme Monitoring	22
3.2.6 Environmental Impacts of MRDP	22
4. Biodiversity pre-MRDP	24
4.1 1974–1986 Bai Bang Construction	24
4.2 The Plantation and Soil Conservation Project, 1986–1991 ...	24
4.3 Forest Cooperation Programme, 1991–1996	26
5. MRDP and biodiversity	29
5.1 Recognised Biodiversity Issues	29
5.2 Monitoring Biodiversity	30
5.3 Sectoral Analysis	31
5.3.1 Agriculture and Biodiversity	32
5.3.2 Livestock/Aquaculture and Biodiversity	35
5.3.3 Forestry and Biodiversity	38
5.4 Main Biodiversity Issues of Relevance to MRDP	41
6. Conclusions and recommendations	44
6.1 Conclusions	44

6.2 Recommendations for MRDP	46
7. Lessons learned (for mainstreaming)	47

Annexes:

I. ToR	51
II. Persons consulted	61
III. Literature reviewed	63
IV. Institutional framework	67
V. Key environment and biodiversity institutions in Vietnam	71
VI. Suggested priority actions in revised BAP	73
VII. Description of the MRDP programme area	79
VIII. Expected End Results of MRDP	81
IX. MRDP planning process	83
X. Concept for village-level monitoring within MRDP	85

Acronyms

APO	Annual Plan of Operation
CBD	Convention on Biological Diversity
CBDC	Community Biodiversity Development and Conservation programme
CBFM	Community Based Forest Management
CIAS	Centre Interministerial pour les Applications Spatiales
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CRES	Center for Natural Resources and Environmental Studies
EIA	Environmental Impact Assessment
EWC	East-West Centre
FCP	Forestry Cooperation Programme
FCSP	Food Crop and Seed Project (Zambia)
FIPI	Forest Inventory and Planning Institute
FREC	Forest Resources and Environment Centre
GDLA	General Department for Land Allocation
GEF	Global Environment Facility
GRAIN	Genetic Resources Action International
HYV	High-Yielding Varieties
IIED	International Institute for Environment and Development
IPR	Intellectual Property Rights
IUCN	World Conservation Union
JFM	Joint Forest Management
LA	Land Allocation
LUP	Land Use Planning
MARD	Ministry of Agriculture and Rural Development
MILS	Management Information and Learning System
MOSTE	Ministry of Science, Technology and Environment
NEA	National Environment Agency
NTFP	Non-Timber Forest Products
PAG	Programme Advisory Group

PC	Peoples' Committee
PGR	Plant Genetic Resources
PPA	Participatory Poverty Appraisal
PRA	Participatory Rural Appraisal
SAGU	Department of Social Anthropology at Gothenburg University
SALT	Sloping Agriculture Land Technology
Sida	Swedish International Development Co-operation Agency
SPGRC	SADC Plant Genetic Resources
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNDP	United Nations Development Programme
UPOV	International Union for the Protection of New Varieties and Plants
VAC	Garden-Livestock-Pond Farming System
VMG	Village Management Group
VND	Vietnamese Dong (Vietnamese currency)
WRI	World Resources Institute
WTO	World Trade Organisation
WWF	World-wide Fund for Nature

1. Summary

As part of Sida's attempt to mainstream biodiversity aspects within all projects and programmes, three case studies (within 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:

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

This report has attempted to analyse biodiversity issue of relevance to the Mountain Rural Development Programme in northern Vietnam. As will be evident (see chapter 3) MRDP is a fairly complex programme that operates in a context influenced by a large number of factors. Biodiversity is therefore addressed from a number of different perspectives. This includes 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.

Note that the result will not be an analysis of biodiversity status within the programme area – such as lists of actual species affected or status and/or location of particular areas of high biodiversity value (e.g. protected areas). The focus is instead on analysing biodiversity in relation to the programme. Hence, the aim is to discuss and present a strategic analysis of what issues relating to biodiversity that need to be considered within MRDP-type of programmes.

1.1 Main Conclusions from the Study

The following general conclusions were drawn from the study:

- 1) 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.
- 2) 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.
- 3) 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.
- 4) Further, many MRDP-interventions have both positive and negative impacts on biodiversity.

Positive impacts visible in MRDP-villages include:

- Increased diversity of the managed landscape, and increased diversity of the home garden system
- Return of some wildlife, timber species, herbs and other NTFPs, resulting from regeneration of sloping areas.

Possible negative impacts on biodiversity include:

- Promoting a fairly limited range of species and varieties (few provenances used) 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.
- 5) There are also several complicated “trade-offs”, between positive and negative impacts on biodiversity at different levels, and e.g. impacts on economy and social dynamics:
 - The same intervention can simultaneously have both positive and negative effects on biodiversity (see Figures 2–4).
 - The same intervention may have some positive impacts on environment, but negative impacts on biodiversity, and vice versa.
 - Some interventions may have positive socio-economic impacts (e.g. increased yields from new rice varieties), but negative environmental and/or biodiversity impacts (e.g. loss of agro-biodiversity when HYV are introduced).

- 6) 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 taking the trade-offs between environmental, social/cultural and economical changes into account, and gives a framework for doing this.
 - It provides also a meaningful way of discussing and highlighting both environmental and socio-economic changes together with local communities. A discussion based around the different form of resources (see Annex X) make sense also in a village context.

The physical location of the programme villages – e.g. proximity to areas with high bio-diversity values (such as protected areas) – is one factor determining importance of sustainable use and conservation of “wild biodiversity”. Presently MRDP works in some Districts with so called Special Use Forests, but only one commune supported by MRDP is located directly adjacent to such a protected area. Wildlife and biodiversity conservation has consequently not been a priority issue.

- 7) Biodiversity has not been regarded as a priority issue for MRDP (neither by MARD or by Sida) – and appear to be easily overlooked in a programme of MRDPs type. Other cross-cutting issues – primarily poverty, but also environment more generally–have received more attention.

1.2 Recommendations for MRDP Operations

It is recommended that MRDP during the remaining programme period should increase efforts to:

- 1) Ensure that biodiversity aspects become part of the village monitoring as planned.
- 2) Ensure that biodiversity aspects are documented in on-going programme studies, e.g. the analysis of trials with Community-Based Forest Management (CBFM). Biodiversity issues of particular relevance for the CBFM-documentation include:
 - silvicultural management practices
 - harvesting regulations
 - 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.
- 3) Ensure that environmental and biodiversity aspects are considered when experiences form applied research and “models” are being documented.¹
- 4) Employ a more cautious approach towards encouraging and subsidising high-yielding varieties and cross-breeds primarily maize and rice – particularly in up-land areas. Care should also be taken when new varieties (of crops, livestock/fish, fruit trees) are introduced to an area,

¹ This is planned by MRDP for 2000

to ensure variation of both species' and varieties (as well as economical viability and marketing opportunities).

- 5) Include environment and biodiversity issues more comprehensively in training activities (where relevant).
- 6) Initiate broader discussion on environmental considerations (including biodiversity) in relation to agricultural and forestry strategies in general. This would include looking at experiences of MRDP, as well as other agricultural and rural development programmes within MARD.

1.3 Lessons learned for Sida's General Work on Mainstreaming Biodiversity

For Sida's work on mainstreaming of biodiversity issues the following can be noted.

1) *The importance of consistence*

Biodiversity per se was not explicitly considered in the planning phase of MRDP. There was further no formal or structured EIA undertaken during the preparation work. At the same time MRDP has a fairly explicit environmental goal, and "regreening of barren hills" is considered one of the important rationales for MRDP from a Vietnamese perspective. MRDP shows though that general statements are no guarantee for actual implementation. There must be follow up in design and implementation of components and activities.

2) *The importance of involvement and understanding of key stake holders*

MRDP further shows that integration, or mainstreaming, in practice will depend on the understanding by the actors involved of the relevance of biodiversity issues in the project/programme context. Stakeholder identification and involvement is consequently an important part of the planning process but also becomes complex when a programme is as diverse and includes as many different activities as MRDP.

3) *Role and scope of biodiversity assessments*

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. The analysis needs to be kept broad, and strategic. To be useful, more clearly defined processes for the integration of EIA in project/programme planning may be needed.

The experiences from MRDP also show that in programmes with focus on methods- and policy-development, and/or where field-level implementation is scattered, the assessment of impacts (of any kind, including biodiversity) becomes very complex. The difficulty to attribute any given changes or impacts specifically to the programme, and to distinguish and quantify the role of the project/programme from other factors becomes almost impossible. With this in mind it is suggested that biodiversity assessments (within the framework of EIAs) at least should include the following elements:

- Identification of main biodiversity issues within the programme, and relevant stakeholders
- Assessing the relevance of the methods developed by the project/ programme from a biodiversity perspective. What kind of Natural Resource Management models will be promoted (e.g. for forestry, agriculture, livestock production etc)? To what extent are biodiversity concerns met in these?
- Assessing possible programme contribution to development of particular policies: To what extent could the programme be engaged in policy dialogue? Which issues can be put on the agenda and to what extent could biodiversity concerns be promoted within the framework of the programme?

4) *Choice of location*

Choice of geographical area is one of the factors that will determine the relative importance of protected area management and wildlife conservation in any type of rural development oriented programme.

5) *Biodiversity monitoring*

For monitoring of biodiversity and environment issues within MRDP-types of programmes it was noted that 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 analytical framework of “sustainable livelihoods” appear to provide a good basis for discussions during village-level monitoring and assessments within local communities. It also provides a useful way of analysing and including both socio-economic and environmental impacts.

2. Introduction

2.1 Background to the Case Study

During the 1990s, fuelled by Sweden's ratification of the Convention of Biological Diversity (December 1993), Sida has been actively giving attention to biodiversity issues. This was initially done through targeted support to a number of biodiversity-related projects and programmes, in four broad areas:

- Longer-term support to *plant genetic preservation, research, and seed supply programmes*, e.g. Plant Genetic Resources Centre (SPGRC) and national genetic centres in the SADC region, the Zambia Food Crop and Seed project, and the global Community Biodiversity Development and Conservation programme (CBDC).
- Longer-term support to more *natural conservation-oriented activities* e.g. core support to IUCN, and programme-support to Birdlife International.
- Support to basic biodiversity surveys, e.g. surveys of the floras in Ethiopia and Somalia.
- Support to *policy-development, networking and advocacy*, e.g. through supporting third-world participation in various biodiversity conferences and meetings, programme-support to the Genetic Resources Action International (GRAIN), and the above-mentioned core-support to IUCN.

From 1997 and onwards Sida has also decided to more actively mainstream biodiversity aspects into all programmes, starting with the programmes involving natural resources management – agriculture, fisheries, forestry² etc – since these to a large extent include both utilisation of biodiversity and have a direct impact on biological diversity.

The overall objective of the biodiversity mainstreaming work³ is to ensure 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”.

² I.e. basically the programmes and projects at Sida's Department for Natural Resources and the Environment (DNRE)

³ As formulated in a Sida-memo in September 1998

In the first phase the mainstreaming work focuses on strengthening Sida's own capacity and understanding. It is expected that this will result in an increased awareness and knowledge among Sida-staff about biodiversity-issues, as well as development of practical tools and methods for biodiversity mainstreaming.

As part of the mainstreaming work three case studies have been commissioned, that will form the main in-put for developing the tools and guidelines.

2.2 Terms of Reference for the Study and Study Methodology

2.2.1 Scope of the Study

The case studies are expected to analyse to what extent – and how – biodiversity issues have been considered within the programme contexts (including biodiversity issues that may have been overlooked), and with this as a base provide recommendations and suggestions on:

- methods for biodiversity mainstreaming within both preparatory and implementation phases of projects/programmes; and
- monitoring biodiversity aspects in the projects/programmes.

Three main criteria for selection of the case studies seem to have been applied. Firstly, they should be “typical”⁴ Sida NRM-programmes, with no particular focus on biodiversity per se⁵. Secondly, the case studies should reflect different NRM-sectors. Finally, they should be selected from different countries and regions, where Sida is involved in bilateral co-operation⁶ programmes in the NRM-sector.

The three case studies chosen were: a) A preparatory phase for a Joint Forest Management (JFM) – programme in the State of Orissa, India^b). A crop-breeding and seed supply programme in Zambia⁷. c) A broad, integrated rural development programme in northern highlands of Vietnam (present case)⁸.

According to the ToR (see Annex I), the case studies shall include:

- 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 programme and Sida.

2.2.2 Approach to the Study

As will be evident (see chapter 3) the MRDP is a complex and multi-faceted programme that operates in a context influenced by a large number of factors. Biodiversity issues can – and should – therefore be addressed from a number of different perspectives. This includes techni-

⁴ If such a thing exists

⁵ I.e. with no clearly defined biodiversity-conservation objectives.

⁶ I.e. so called country-frame countries

⁷ “The Food Crop and Seed Project (FCSP), Zambia.

⁸ The Mountain Rural Development Programme (MRDP)

cal 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.

The case study has therefore attempted to analyse the activities of MRDP in relation to four main issues:

- Identifying impacts on biodiversity from programme activities: What are the anticipated (or likely) biodiversity impacts of programme-interventions (in different phases).
- What are the policy implications and linkages?
- Who are the key actors and stakeholders
- Analysing importance: How crucial is each particular biodiversity issue identified, and to what extent have or have not different biodiversity aspects been acknowledged in the programme context.

The first three will result in an overview of the biodiversity issues identified, as well as the concerned stakeholders. The last will analyse the relevance and importance of each issue to the programme), and also discuss how each have been addressed. See Table 1 for a more detailed presentation of the type of questions that will be considered.

Note that with this approach –i.e. identifying issues and their relevance for the programme – the result will not be lists of actual species affected or status of particular biodiversity hot spots. The focus is instead of generating a tool –or a simple analytical framework – for analysing what biodiversity issues that need to be considered within MRDP-type of programmes.

Table 1. Summary of analytical framework and issues considered in the case study

Issues	Questions
<ul style="list-style-type: none"> • 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)
<ul style="list-style-type: none"> • Policy issues: 	<ul style="list-style-type: none"> • Property-rights • Relation to policy-framework and legislation • Support and control mechanisms
<ul style="list-style-type: none"> • Stakeholders 	<ul style="list-style-type: none"> • Who are concerned and/or affected • What are their roles and responsibilities • Knowledge and information of the various stakeholders • Areas of conflicts
<ul style="list-style-type: none"> • 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?

2.2.3 Methodology

Information and data has been collected from a number of different sources, which broadly have included:

- Interviews with staff within MRDP and MARD at different levels (see Annex II)
- Village case studies, using PRA-methodology
- Interviews with other actors and stakeholders in Vietnam (see Annex II)
- Documentation and reports; including Sida general policy-documents, programme
- Documents and reports, and other relevant documentation (see Annex III)
- Web-sites (see Annex III).
- A workshop on environment and MRDP within MARD, in April 2000.

3. Description of the programme

Both policy and programming decisions within a broad rural development programme such as MRDP are influenced by a large number of factors. Some of these factors directly influence the way biodiversity issues are handled within the programmes. In other cases the link may be more indirect. A summary is made in Annex IVa-c of the more important policies and trends in Vietnam regarding rural development and agriculture & forestry, and more specifically regarding biodiversity and environment. A summary of the key institutions in Vietnam of direct concern for environment and biodiversity is attached in Annex V.

3.1 Brief Programme History

Sweden has been co-operating with Vietnam in the forestry sector since the early 1970s, a cooperation that was initiated through the support to construction of the Bai Bang Pulp and Paper factory. Making paper and pulp requires wood. Bai Bang needed a steady wood supply of 250,000 tons/year, which was to come from the designated Raw Material Area (RMA) in northern Vietnam (see Figure 1). In 1974, when construction of the pulp and paper plant was about to start, the supply of wood was far from assured. The issue was a crucial one during the Vietnam-Sweden negotiations 1974, and resulted in an agreement giving Sweden two roles in forestry. The most important one was to support development of infrastructure for transporting the wood to the factory. The second was a research-oriented programme on silviculture and harvesting technology. The RMA then designated for Bai Bang have since this time remained the focal area for the Sida-supported activities in the forestry sector.

During the period 1986–1991 these components were developed into a general support to capacity building in the forestry sector, with plantations and soil conservation as important parts. Community-focused tree-planting and local participation were issues getting increasing attention during this period.

This was further consolidated in the Forest Co-operation Programme (FCP), 1991–1996, that preceded MRDP. During this phase, socio-economic development in rural areas through sustainable and improved forestry and land use was further emphasised. FCP was operated through a number of projects, including:

3.2 The Present Phase

MRDP builds on the experiences of FCP, but has a wider scope, and clearer emphasis on poverty alleviation and rural development. Institutionally, the merger in 1995 of forestry and agriculture into one ministry (MARD) facilitated the broadening of activities undertaken within the new programme.

3.2.1 Trends and Conditions in the Programme Area

MRDP works in five provinces (Lao Cai, Ha Giang, Yen Bai, Tuyen Quang and Vinh Phu provinces) in mid- to upland areas in northern Vietnam (see Figure.1). A description of the programme area is attached in Annex VII.

In summary, the MRDP area is characterised by:

- A high level of diversity and variability (culturally, bio-physically, and agro-ecologically).
- Population increases as well as immigration (by Kinh people) from lower areas.
- Increased agricultural production & productivity and economic growth, particularly in the areas close to markets and road systems (i.e. low- and midland areas primarily).
- Intensified resource utilisation, increased pressure on natural resources (land, water, forests), and rapid changes in land use systems and socio-economic conditions.
- An increasing role of external institutions and forces outside the village (central policies, government agencies, market forces) (see also Annex IV).

3.2.2 Aims and Objectives of MRDP

The overall vision of MRDP during the 1996–2000 period is described in the Programme Document and the specific agreement between MARD and Sida as follows:

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”.

The main focus of the programme is to “create an environment¹⁰ in which poor households in mountain communities (pilot areas) are able to benefit from sustainable and diversified economic activities, such as primary production, processing, services, trade and employment in the context of an emerging market economy”. In order to achieve this, the programme has three main objectives:

- *Objective 1:* 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.

¹⁰ Environment in a wide sense including technology, infrastructure, information, financial services, adequate support institutions, government policies and regulations.

- *Objective 2:* Development and testing of working methods and production systems to sustainable (from both economic, ecological, social and cultural points of view) convert the barren uplands and mountains in the five provinces to productive land use.
- *Objective 3:* 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.

At the beginning of the present phase, a number of expected so-called End Results were established – both by each Provincial project, and for the overall programme (in relation to the programme components). With the new planning system (see 3.2.4), the overall programme End Results have been revised in order to more clearly reflect the current reality and learning from the programme. The present End Results are summarised in Annex VIII.

3.2.3 Stakeholders

The MRDP programme explicitly aims at supporting capacity building (through development of appropriate methods, policies and organisations/institutions) for sustainable rural development in the mountain areas. Hence, a number of different stakeholders, who are more or less directly affected, can be identified.

MRDP differentiates between capacity building of the so called “Demand Structure”, which basically refers to the land users and farmers in the programme area, and strengthening of the “Support Structure”. The former includes activities at Village and Commune levels and encompasses a wide range of issues – including support to improved land use, processing and marketing and business development (see 3.2.4). It need to be stressed that the local communities are very diverse in all respects (poverty/wealth, gender, ethnic groupings etc), see. 3.2.1, with e.g. different access to natural resources (including access to crop and forest land¹¹), different possibilities to influence decisions, and different levels of education and knowledge (traditional and formal).

The support structure consists primarily of staff in the communes, districts and provinces covered, plus staff and departments at the ministry¹². In the former two (communes, districts and provinces) activities include:

- support to direct field level implementation, i.e. activities organised by the district and province levels respectively to support the communes and villages to make and implement their own plans (e.g. technical training courses, study trips, leadership and management training, support for commune and village planning and review activities, production of extension materials etc)
- capacity-building of own staff and method-development to build up their own knowledge, staff skills, working methods, organisational

¹¹ Note though, that complete landlessness is very uncommon in the programme area, but quality and quantity of land may vary considerably between households (and between communities). Source: MRDP, 1999, “Participatory Poverty Assessment in Lao Cai province”

¹² To some extent also other Government agencies and/or institutions at primarily district and province levels may be involved.

capacity etc. (e.g. trials and methods development, special surveys, HRD, documentation, monitoring).

At the ministerial level, MRDP works with a number of working groups and departments within MARD – e.g. extension, gender, forestry, policy etc. Methods- and policy development is the main focus of these activities. Apart from these direct stakeholders, a number of others can be identified, including People’s Committees at District and Province levels, other Government agencies, Sida, and other projects and programmes. An overview of is given in Box 1.

Box 1 Overview of stakeholders in relation to MRDP

People in villages and local communities (the “demand-structure”)

- different wealth-ranking categories
- women – men
- different ethnic groups

Staff within the DARD/MARD “support-structure”:

- Commune-district-province-ministry level
- Different departments and subject matters (forest protection, forest development, State forest enterprises, extension, irrigation etc) within DARD/MARD

Government agencies and functions outside DARD/MARD-structure at various levels:

- commune/district/province peoples’ committees
- other government agencies

Business and services

- middle-men
- Government-owned companies (State Forest Enterprise, seed supply companies etc)

Other projects, programmes and donors

3.2.4 Programme Activities

MRDP actively supports village development in 260 villages, in a total of 18 Districts. Activities in the comparatively wealthier (low- and midland) areas are presently being phased out. The programme consists of the five provincial projects, and central project designed to building up the capacity of MARD in policy and strategy formulation.

Between 1996 and 1999 the programme was planned around a number of specific components, several of which had been continued from the earlier FCP-phase. These components included:

- land use planning, land allocation and forest management
- extension and applied research
- strategic research
- rural finances (savings & credits)
- market information and business development
- gender balance
- human resources and organisational development
- internal and external communication.

Practically all the above components included a range of issues. Extension for example, encompasses activities such as provision of high-breed varieties and fertilisers, tree planting, establishment of demonstration models and trials, promotion of PRA and encouragement of village management groups.

From 1998 and onwards, the programme has been attempting to give more attention to processing and marketing issues, as well as increasing its focus on upland areas. Case studies and trials on Community-Based Forest Management (CBFM) and the potential of Non Timber Forest Products (NTFPs) also became more important. Boxes 2–3 illustrate some specific activities and their relation to biodiversity.

During 1999/2000 a new area-based planning system was introduced, and the above components are no longer the basis for planning. A diagram of the planning process is attached in Annex IX. A major difference (as compared to the earlier component-based planning) is that basically all village-level activities (earlier undertaken mainly under the components “land use planning, land allocation and forest management” and “extension and applied research”) now are financed under the so called Commune and Village Development Budgets.

Box 2. Opportunities for managing and marketing NTFPs:

Nam Lanh and Gie Xu Phing communes in Yen Bai¹³

In two communes in Yen Bai – Nam Lanh in Van Chan District, and Gie Xu Phing in Mu Can Chai District – MRDP has supported development of local capacity to sustainably manage, utilise, and commercially market different products, including NTFPs. In a series of workshops, suitable products have been identified, interest groups established and activities initiated.

In *Nam Lanh* the following products were identified:

- H’mong apple – interest group with 55 households
- Honey – interest group with 50 hh
- Local (shan) tea – interest group with 54 hh
- “lzi” (a local medicinal plant) – interest group with 43 households.

In *Gie Xu Phing* four products were selected:

- Honey – interest group with 62 households
- Shan tea – interest group with 214 households
- Bamboo shots – interest group with 217 households
- Cinnamon – interest group with 203 households.

Box 3. Alternative income opportunities reducing pressure on wild forest products:

Ta Phin commune, La Cai

One of the MRDP-supported activities under the business development component is support to a handicraft (embroidery) project in one Hmong and one Dao village, in Ta Phin commune, Sa Pa District, Lao Cai. Through the project women have received assistance to design, produce and market embroidery products, thereby increasing their income.

An evaluation made in September 1999¹⁴ noted that “women no longer have to go into the forest to search for medicinal plants and firewood.... when households now are in immediate need of money”.

¹³ Source: Lecup, I., 1999, “Market Analysis and Development: lessons from field experiences in two pilot communes from Mu Can Chai and Van Chan Districts in Yen Bai Province”, MRDP

¹⁴ Source: “Dai Pham, 1999, “Embroidery, Economics and Empowerment: An Evaluation on the Impact and Sustainability of the Ta Phin Ethnic Minorities Handicraft Project”, MRDP

3.2.5 Programme Monitoring

Programme monitoring consists of several parts; e.g. financial monitoring, activity reporting, technical monitoring, and participatory village monitoring. The technical monitoring presently includes technical and policy workshops, and special studies. From 1998/99 the technical monitoring concentrated more on including environmental issues through specific in-depth studies on relevant issues (e.g. changes in vegetation and forest coverage).

The participatory village monitoring has also been developed during the last year, both regarding socio-economic and environmental aspects. The present monitoring system takes the concept of sustainable livelihoods (developed by e.g. IED and others) as a starting point for discussing and analysing changes in wealth and well-being. Annex X summarises the conceptual thinking behind the present village monitoring.

3.2.6 Environmental Impacts of MRDP

In the formulation of MRDP, the programme was explicitly expected¹⁵ to have positive environmental impacts. Activities such as tree planting, soil conservation and improved land management, were expected to contribute to improved land use and environmental sustainability. During the FCP-phase some environmental monitoring was undertaken. A number of proposals for environmental monitoring were developed for MRDP, of which none were found to be adequate. In September 1998, an environmental impact analysis was undertaken, identifying potential major environmental effects of MRDP. This study noted that

- Environmental impacts of MRDP-interventions are often indirect and cumulative. Several interventions, e.g. training activities, models and various physical in-puts, may take place in a village, and may all affect the environment directly or indirectly.
- Other factors, outside of MRDP (e.g. agricultural policies, marketing possibilities, other programmes), also influence the land management decisions and actions of land users in the programme areas. Occurring changes in land use and related environmental changes, may therefore not necessarily be an effect of MRDP.
- The same MRDP-interventions may lead to different environmental changes in different villages and communes, due to the high variation in e.g. local land-use systems, and socio-economic and cultural conditions
- Credits, reforestation efforts, commercial fruit trees, and possibly land allocation are likely to be the MRDP-activities that so far most clearly have contributed to land use and environmental changes.

The study analysed six main issues: biodiversity, soil/land, water, carrying capacity, resource use, and health. Anticipated positive and negative environmental impacts of MRDP are summarised in Box 4.

¹⁵ See e.g. Sida-decision-memo regarding support to MRDP

Box 4. Likely environmental impacts of MRDP

Likely positive environmental impacts include:

- Increased diversity of the managed landscape; including both reforestation and development of more diversified farming systems.
- Slowing down conversion from natural forests through contributing to decreased pressure on forest areas and hill sides, due to higher production and increased income from intensified agriculture (mainly irrigated rice production).
- Reduced run-off & increased water retention, may occur if areas are properly managed – which is particularly likely for home-and forest gardens.
- Watershed protection of larger areas – particularly through natural regeneration and enrichment planting.

Likely negative environmental impacts include:

- Increased pressure on water resources including:
- Increased water use (primarily from expanded fish pond systems, irrigation and extra cropping season due to wider spread of faster maturing HYV);
- Water pollution (through e.g. sanitary problems caused by increased livestock); and
- Decreased water availability and high erosion levels (e.g. in poorly managed forest plantations with mono-cultures of exotic trees, e.g. Eucalyptus spp. and Pinus spp.¹⁶)
- Health and sanitary problems:
- Fish diseases spreading through the water system (due e.g. to increase in fish ponds)
- Other animal diseases (due to increased number of livestock, in combination with sub-optimal conditions)¹⁷
- Sanitation and human health (due primarily to declining water)
- Reduced species and genetic diversity (crops & livestock)

¹⁶ Other MRDP-activities may contribute positively to watershed management and erosion control

¹⁷ Lack of veterinary services and advice, feeding conditions, stalling conditions (particularly pigs and cattle/buffaloes)

4. Biodiversity pre-MRDP

4.1 1974–1986 Bai Bang Construction

During the years of construction of the Bai Bang pulp and paper mill (1974–1986), the following biodiversity concerns can be noted in relation particularly to the raw material supply component¹⁸:

- Road construction and logging – increased access to and clearing of natural forests
- Establishment of plantations (monocultures) with exotics.

Biodiversity was basically not an issue discussed at the time. No monitoring of impact on biodiversity (or environmental consequences generally) was undertaken. However, attention to environmental consequences of the pulp and paper mill gradually increased¹⁹. At the same time, deforestation at large became increasingly discussed in Vietnam. Some concerns were raised, regarding e.g. suitability of species provenances used in tree trials. See Table 2.

4.2 The Plantation and Soil Conservation Project, 1986–1991

During this phase the main potential impact on biodiversity can be identified in the following areas:

- Exotics still largely used in large-scale plantations – but indigenous trees become more common.
- Monocultures
- Introduction of fruit trees, basically a few species and varieties

No particular monitoring of biodiversity was undertaken. However, impact monitoring was increasingly being discussed, and several proposals and suggestions were developed, which fed into the design of the environmental and socio-economic monitoring during FCP. See Table 2.

¹⁸ Environmental and biodiversity impacts of the construction and running of the pulp and paper mill itself are not analysed in this report.

¹⁹ Note that social and economical conditions for the Bai Bang workers, including in the forest plantation areas, received a lot of attention and media-debate in Sweden in the mid-80s.

Table 2. Overview of biodiversity issues and aspects 1974-1991

Project phase: and components of relevance	Institutional arrangements	Development rationale from the Sida-perspective	Possible biodiversity issues	Issues on the agenda and monitoring
1. Bai Bang Construction 1974-1983 <ul style="list-style-type: none"> • Infrastructure/-roads • Plantation trials and research 	Part of overall agreement regarding Bai Bang. MoF given responsibility for wood supply, though not being party to the agreement.	<u>General considerations</u> <ul style="list-style-type: none"> • Support to reconstruction in Vietnam after the war • Large-scale industrial investment to boost economic development²⁰ <u>Specific objective</u> <ul style="list-style-type: none"> • Raw material supply for Bai Bang 	<ul style="list-style-type: none"> • Road construction and logging – opening access to clearing of natural forests • Establishment of plantations (monocultures) with exotics 	<ul style="list-style-type: none"> • No environmental monitoring • Gradually increasing concerns regarding environmental consequences of the pulp and paper mill • Some concerns regarding suitability of species (and provenances) used in trials
2. The Plantation and Soil Conservation Project, 1986-1991 <ul style="list-style-type: none"> • Research • Industrial plantations • Social Forestry • Training 	Separate component from Bai Bang. Agreement directly with Ministry of Forestry	<ul style="list-style-type: none"> • Social issues on the agenda • Strong interest in the international community for “area development” and “social forestry” • Raw material supply for Bai Bang 	<ul style="list-style-type: none"> • Exotics still used in large-scale plantations (but increasing attentions on indigenous trees) • Monocultures • Fruit trees (fairly few varieties) 	<ul style="list-style-type: none"> • Some discussion on use of exotics • No biodiversity monitoring

²⁰ Vietnam also wanted a large industrial venture involving modern technology

4.3 Forest Cooperation Programme, 1991–1996

The biodiversity issues during the FCP-phase remained essentially the same, as during the earlier phase. Fruit trees were becoming more important though, with expanding number of villages, and increased attention on farm-level tree planting. Scope of extension-related activities broadened with time to include agricultural extension, e.g. livestock, and intensified rice and maize cultivation (through provision of credits, broadening of training, and wider variety of models etc)

Biodiversity was basically not discussed during the FCP-phase and no particular biodiversity monitoring was undertaken. A general environmental monitoring was undertaken through the Forest Research Component (looking at e.g. soil conservation and forest regeneration). See Table 3.

Table 3. Overview of biodiversity issues and aspects during FCP 1991-1996

Project phase: and components of relevance	Institutional arrangements	Development rationale from the Sida- perspective	Possible biodiversity issues	Issues on the agenda and monitoring
<p>3. Forestry Cooperation Programme, 1991- 1996</p> <ul style="list-style-type: none"> • Farm Level Forestry Project • Industrial Plantations and Soil Conservation • Land use and Land Management project • Forestry Research project • Forestry Training Project 	<p>Agreement with Ministry of Forestry</p> <p>The different components/- projects are based at different institutions (e.g. Forest research Centre, Forest Training Centre etc), with own budgets</p>	<ul style="list-style-type: none"> • Focus on sustainable forest management and environment • Social concerns, and “participation by local population” are important issues • Raw material supply for Bai Bang still important 	<ul style="list-style-type: none"> • Basically same issues as above • Village-based extension work (i.e. the “Farm Level Forestry Project) broadening to include credits, livestock and agricultural extension 	<ul style="list-style-type: none"> • Some attention on promoting indigenous tree species • Reducing pressure on natural forests and forest regeneration “barren hills” considered important. • Biodiversity “per se” basically not discussed • No specific biodiversity monitoring • Environmental monitoring undertaken through the Forest Research Component (soil conservation, forest regeneration)

Table 4. Overview of biodiversity issues and aspects during MRDP 1996-2001

Project phase: and components of relevance	Institutional arrangements	Development rationale from the Sida-perspective	Possible biodiversity issues	Issues on the agenda and monitoring
<p>4. Mountain Rural Development Programme 1996-2001</p> <ul style="list-style-type: none"> • Land use planning, land allocation/ forest management • Extension and applied research • Rural finances • Market information and business development • Gender balance • Human resources and organisational development • Communication. 	<p>Agreement with Ministry of Agriculture and Rural Development.</p> <p>Five province-based projects, and one Ministry-based project, with own budgets.</p>	<ul style="list-style-type: none"> • Sustainable forest management and environmental stability • Poverty alleviation in rural areas 	<ul style="list-style-type: none"> • Supporting introduction of new higher-yielding varieties, of e.g. crops, fish and livestock (Fig. 3, Boxes 6-7). • Supporting an intensified agriculture in general, e.g. fertilisers, pesticides etc. (Fig.3, Box 6). • Development of income opportunities (Box 3) • Supporting introduction/dissemination of forest and fruit trees - for home and forest gardens (Fig.4, Box 9). • Limited support to larger tree plantations (Fig 4). • Forest management models (Fig.4, Box, Box 11) • Utilisation and marketing of Non-Timber Forest Products (Fig.4, Boxes 2, 13, 14). • Trials on upland agriculture, e.g. fodder trials with indigenous species. 	<ul style="list-style-type: none"> • High attention from Sida to improve environmental monitoring generally. • Biodiversity not regarded as a major issue within MRDP (by either Sida or MARD). • Biodiversity-related issues somehow recognised include: <ul style="list-style-type: none"> - Problems associated with dissemination of few fruit tree varieties - Opportunities with NTFPs - Declining agrobiodiversity • Biodiversity-issues introduced in village monitoring 1999/2000, e.g.: <ul style="list-style-type: none"> - Agrobiodiversity - Wildlife (plants and animals) - NTFP role and utilisation

5. MRDP and biodiversity

Biodiversity issues in relation to MRDP is here discussed from three different angles:

1. Biodiversity issues recognised by MRDP and Sida.
2. Biodiversity monitoring within MRDP
3. A more detailed discussion of relevant biodiversity aspects relating to different sectors (or components) of MRDP

Table 4 summarises the two first issues, and can be directly compared with Table 2 and 3 above.

5.1 Recognised Biodiversity Issues

The environmental impacts of MRDP has been a concern of Sida for several years, and is also receiving increased attention within MRDP, particularly at central levels of the programme. However, biodiversity per se has never featured prominently on the agenda, and have for example not been explicitly raised either by Sida or by MARD during programme discussions and negotiations²¹. Considering all the “forces” – policies, processes and trends – in Vietnam influencing the policy and institutional framework of MRDP (see Annex IV), this is far from surprising. An equal number (almost) of policies, strategies, guidelines set the support-agenda from Sida.²²

With the overall objective and focus of MRDP being on poverty alleviation and rural development it is thus not unexpected that biodiversity has not received much (if any) attention during overall programming discussions on either side. MRDP is further institutionally quite “far” from the policies and institutions primarily dealing with biodiversity in Vietnam (Annex IV) and there are no direct links between key biodiversity institutions in Vietnam and the departments at MARD primarily involved with MRDP²³.

However, within the programme’s on-going work, biodiversity-related issues have been raised in different contexts, including:

²¹ Sources: Report from missions by the Permanent Advisory Group (PAG), and Agreed minutes from Semi-Annual and Annual Reviews.

²² Including the four action programmes on poverty, gender, democracy, and sustainable development.

²³ Note however, that MRDP, is involved in cooperation with e.g. Forest Protection Department at MARD (which is responsible for the protected areas network), but so far to a fairly limited extent.

- The EIA from 1998. For biodiversity, the following factors were primarily considered (See Box 5):
 - genetic diversity (varieties), and species diversity
 - habitat and landscape diversity
 - conversion
 - ecological services
- An early proposal (see 4.2.6) for environmental monitoring of MRDP activities
- Sustainable natural resource management generally, including e.g.:
- Method development work with JFM/CBFM (basically Yen Bai and Ha Giang)
- Marketing groups for forest products (Box 2), in Yen Bai
- Concerns regarding the mono-cultures of fruit trees in some areas (Ha Giang, Lao Cai)
- Discussions on environmental suitability of all models and land use practices promoted²⁴ (including anything from new rice varieties and pigs to fodder trials and home garden systems) – all provinces
- A proposal for joint pilot activities with IUCN on eco-tourism in Sa Pa District, Lao Cai province (which never were initiated though).

Biodiversity has not featured as the main concern (except in the eco-tourism proposal), in any of the above activities, but have been discussed as one of several issues.

Box 5. Summary of main impacts on biodiversity identified in EIA 1998

- Reduced species and genetic diversity (crops, fish and livestock)
- Increased diversity of – and within –the managed landscape; including both reforestation and development of more diversified farming systems.
- Regeneration and increased biodiversity of degraded areas (through both decreased pressure on forest areas, and watershed protection of larger areas – particularly through natural regeneration and enrichment planting).

5.2 Monitoring Biodiversity

Monitoring of programme impacts has been one of the key issues discussed during the two last phases of the programme (FCP and MRDP). The need for monitoring of socio-economic and environmental impacts has been consistently raised by Sida. Programme staff (primarily the international advisers) have heatedly debated monitoring. Different proposals have been put forward both from within the programme, and from external parties contracted.

Basically, two vastly different views on – or approaches to – monitoring have been taken. One approach is based on devising systems which are quantifiable and statistical, using clearly set indicators, which are uniformly monitored throughout the programme are. The other approach is to primarily build on more qualitative and participatory village monitoring – using a framework of PRA-tools and broader

²⁴ A documentation and analysis of the various models and trials undertaken will be made during 2000, which will include an assessment of their socio-economic and environmental relevance.

issues/criteria identified – and link this both to information on programme activities and out-puts and other factors and trends possibly influencing changes at local levels.

During the FCP-phase both approaches were tried. The Forest Research Centre (FRC) in Phu Ninh undertook monitoring basically based on the former approach (see 5.1). The problem with the information generated (e.g. on run-off and soil erosion) was its limited use and lack of relevance to programme operations. At the same time a number of participatory studies were undertaken (primarily in Yen Bai and Tuyen Quang provinces), focusing on changes at village level. The advantage of the latter is that it both provided analysis and information that fed directly into the planning at both local levels and the support structure, and at the same constituted a possibility of direct learning.

Biodiversity was not considered in either the statistical nor the participatory monitoring.

The present impact monitoring is based on participatory studies in MRDP-supported villages. During 1996–1999, environmental changes were basically not monitored, though MRDP early did commission a proposal for environmental monitoring²⁵. This proposal was primarily suggesting a monitoring system based on set criteria, following a number of sample areas. Biodiversity monitoring was included in the proposal and focused on two issues:

- Monitoring crop varieties (mainly rice) – i.e. monitoring changes in agro-biodiversity.
- Monitoring forest species and wildlife, through regular monitoring of selected plots/areas.

This proposal was rejected by both MARD and Sida, being regarded as too “scientific”, costly, resource-demanding, and possibly not being able to generate relevant information for the programme (i.e. basically the same objections as to the earlier FRC-monitoring undertaken)

Starting 1999 and based on the recommendations from the 1998 EIA, environmental issues are now being more deliberately addressed within the village monitoring (see Annex X), including specific biodiversity issues such as:

- changes in agro-biodiversity
- changes in availability of forest products (timber and NTFPs)
- changes in wildlife
- landscape changes
- fodder sources.

Biodiversity is also being addressed in specific on-going documentation and studies of MRDP, e.g. documentation and analysis of experiences with JFM/CBFM-trials.

5.3 Sectoral Analysis

One way of analysing biodiversity issues in relation to MRDP would be to utilise the programme’s planning framework as a starting point.

²⁵ E.g. a proposal from ESSA-CARE.

However, both the two relevant End Results (ER2 & ER6, see Annex VIII) and the earlier programme components (see 3.2.4) are too broad (and overlapping) to serve as a meaningful basis for discussion. Instead the sectoral approach (though not ideal in a broad, integrated programme such as MRDP) of both Sida's EIA guidelines and the EU/BDP strategic framework have been utilised as a starting point. The work of MRDP then basically falls into the following sectors:

- Agriculture
- Livestock/Aquaculture
- Forestry
- Small-scale infrastructure (local roads, extension houses).

The support by MRDP to infra-structure development has not been a major activity so far, and has mainly constituted of some support to upgrading intra- and inter-village roads, and building of village extension houses. The impacts on biodiversity of both these activities are likely to be marginal. Therefore, the detailed analysis of biodiversity issues has been done for the three land-use related sectors: agriculture, livestock/aquaculture and forestry.

It is also important that the following specific features of MRDP are kept in mind during any impact analysis of the programme:

- A large part of programme funds and efforts (more than 50%) is focused on methodology and policy development. Most topics (e.g. CBFM, credits) further include both direct support to implementation at village level, methodology development and trials, capacity-building and training (i.e. human resources & institutional development) and policy development.
- The weak causal link between programme interventions and any changes in either environmental and socio-economic trends (3.2.5) even at village level. Changes may often be due to other factors outside of MRDP.
- The complexity and variety of programme activities (see 3.2.3) which enhances this trend.
- The support to direct implementation is scattered over villages in a large area. This makes larger scale impact (above village level) more difficult to assess.

5.3.1 Agriculture and Biodiversity

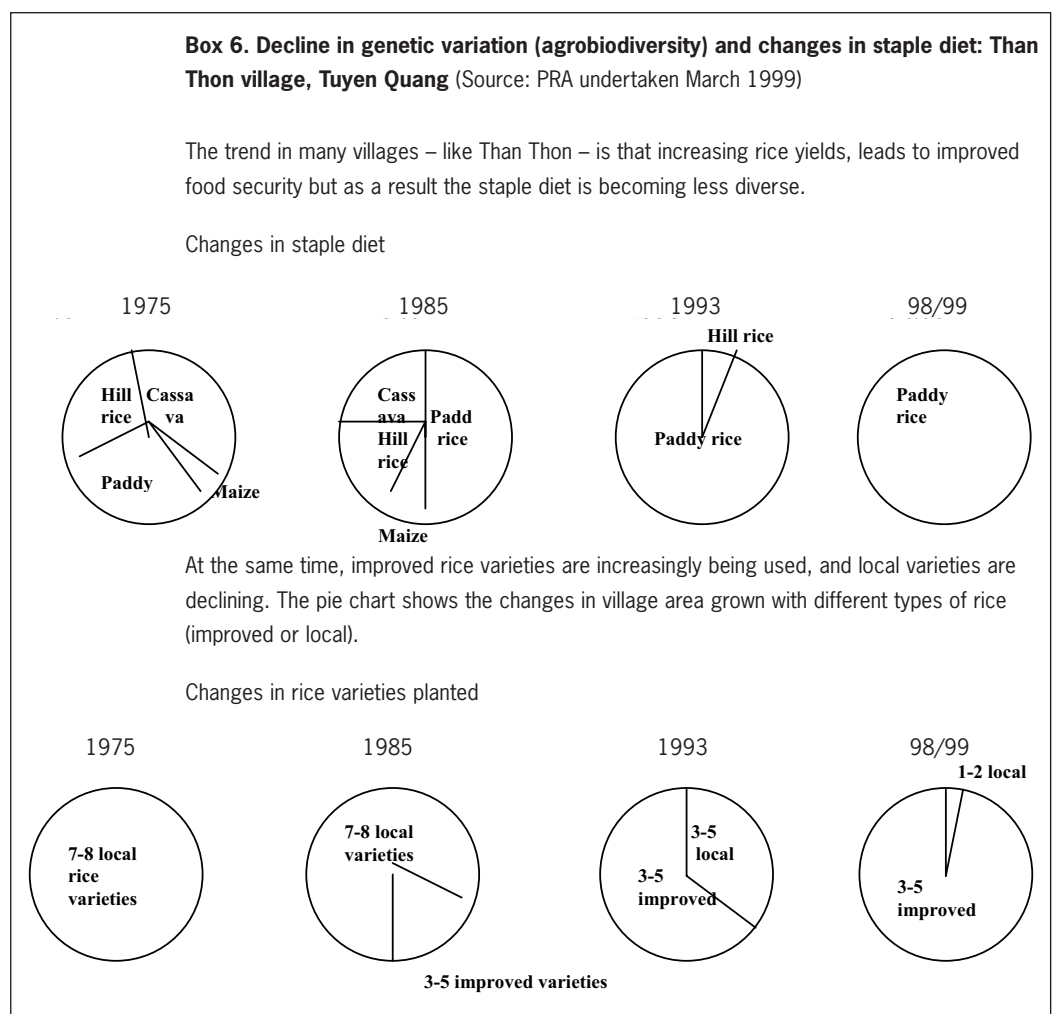
MRDP supports an intensified agriculture in several ways:

- Subsidising (or providing free) improved seeds (basically rice and maize), and fertilisers and pesticides
- Some support to up-grading of local irrigation systems
- Training
- Establishment of models at household level. These models can be simple, constituting of a new rice or maize variety – or more complex soil conservation types of models, e.g. SALT.

- Credits – about 20% of credits provided by MRDP are used for agricultural purposes²⁶.

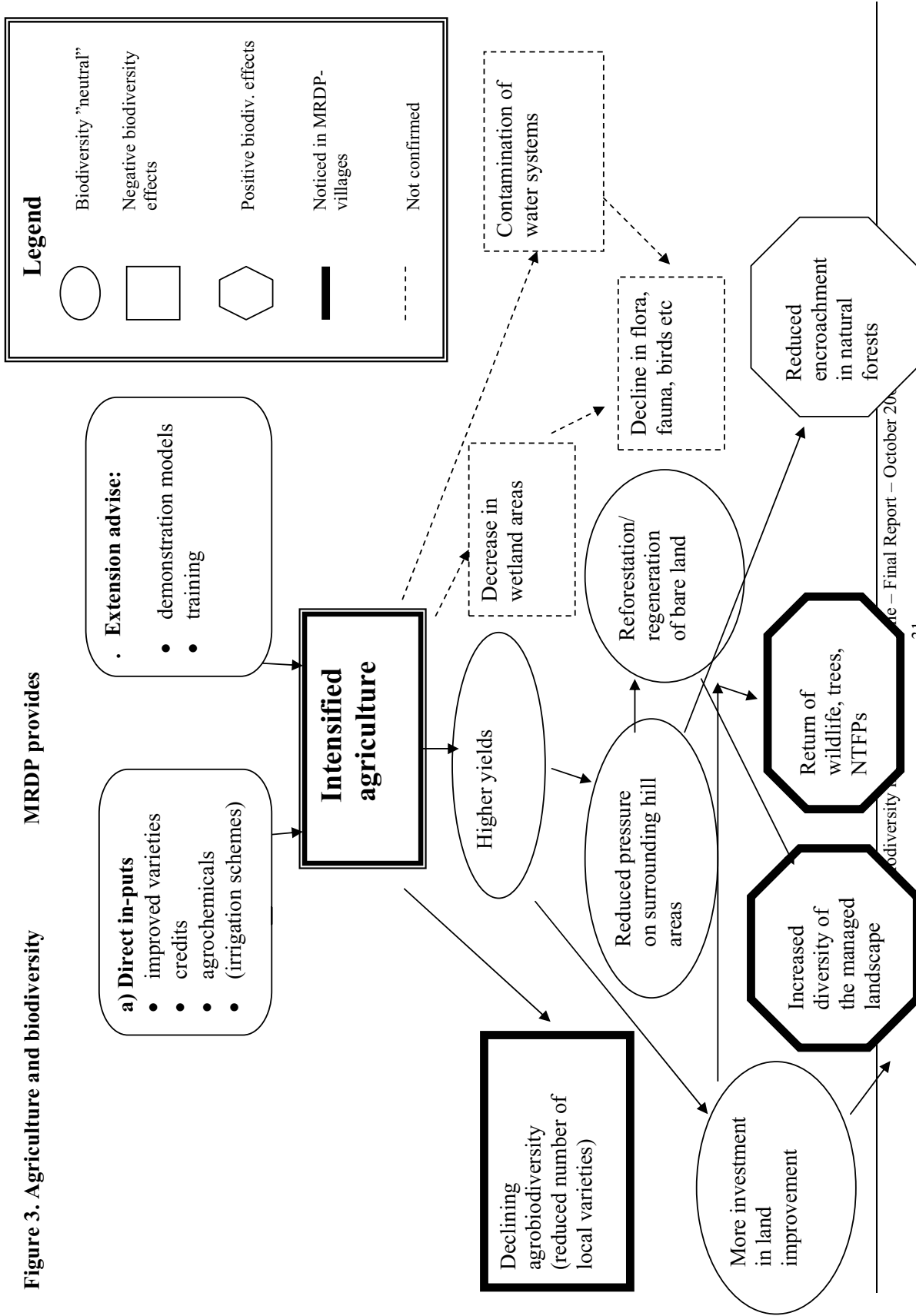
Figure 2 summarises the main impacts on biodiversity noted in the MRDP-area. Impacts confirmed in the MRDP-monitoring and PRAs have been marked with thicker lines. Boxes 6, 9 and 10 give examples from different villages in the MRDP programme area which illustrate the trends noted. In all cases (and perhaps particularly regarding the declining agro-biodiversity) it needs to be stressed that MRDP is far from the only “force” that has influenced these changes at village level. The three main impacts found are:

- Declining agro-biodiversity (both at species and sub-species/variety levels),
- Increased diversity of the managed landscape, and
- Some increase in NTFPs and trees.



²⁶ Source: MRDP, 1998, “Village Monitoring and Review Summary Report”

Figure 3. Agriculture and biodiversity MRDP provides



5.3.2 Livestock/Aquaculture and Biodiversity

The support by MRDP to livestock development, including establishment of fish ponds, is summarised in the flow diagram in Figure 3. Some specific examples from MRDP are given in Boxes 7 and 8, illustrating the consequences of fish farming on wild fish populations, and the diversification of fodder sources that has taken place. Note that a large part of the credit schemes are used for livestock investments, e.g. pigs, ducks and fishponds²⁷. These investment appear to have several consequences:

- The number of both small and large livestock have increased
- Fish farming (in ponds) has increased
- Capital accumulated from quicker maturing livestock (pigs, ducks/chicken, fish) is probably an important source for larger investments.

Important impacts on biodiversity and land use include:

- Increased diversity of the managed landscape,
- Diversification in fodder sources, and
- Decline in wild fish populations.

Box 7. Aquaculture and biodiversity: Deo Hoa village, Tuyen Quang

"In 1988 a few people in the village including myself started a trial with inter-cropping fish ponds in the rice fields. The water comes in a channel, and the time when it's enough rain and water it overflows to the whole rice fields with the growing fish. Only those with a lot of water can inter-crop fish in the rice fields like this.

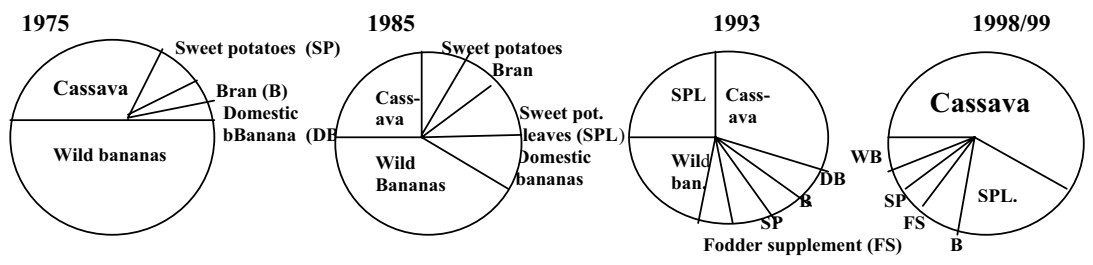
We use about 2-3 different species. Some varieties of fish were introduced from outside the village by extension workers. Some are local.

It is good to have fish ponds, it gives quick money. But the local fishes in streams are nowadays harder to find."

(Mr Dai, Head of the Village Management Group)

Box 8. Diversification in fodder sources, Than Thon village, Tuyen Quang²⁸

With declining natural forest areas, and increasing privatisation of land, fodder sources for pigs have changed and to some extent diversified. Natural forests (wild bananas) are becoming less important, and pig fodder is increasingly grown and managed as crop.



²⁷ Source: MRDP, 1998, "Village Monitoring and Review Summary Report"

²⁸ PRA-findings March 1999

Figure 3. Livestock/aquaculture and biodiversity

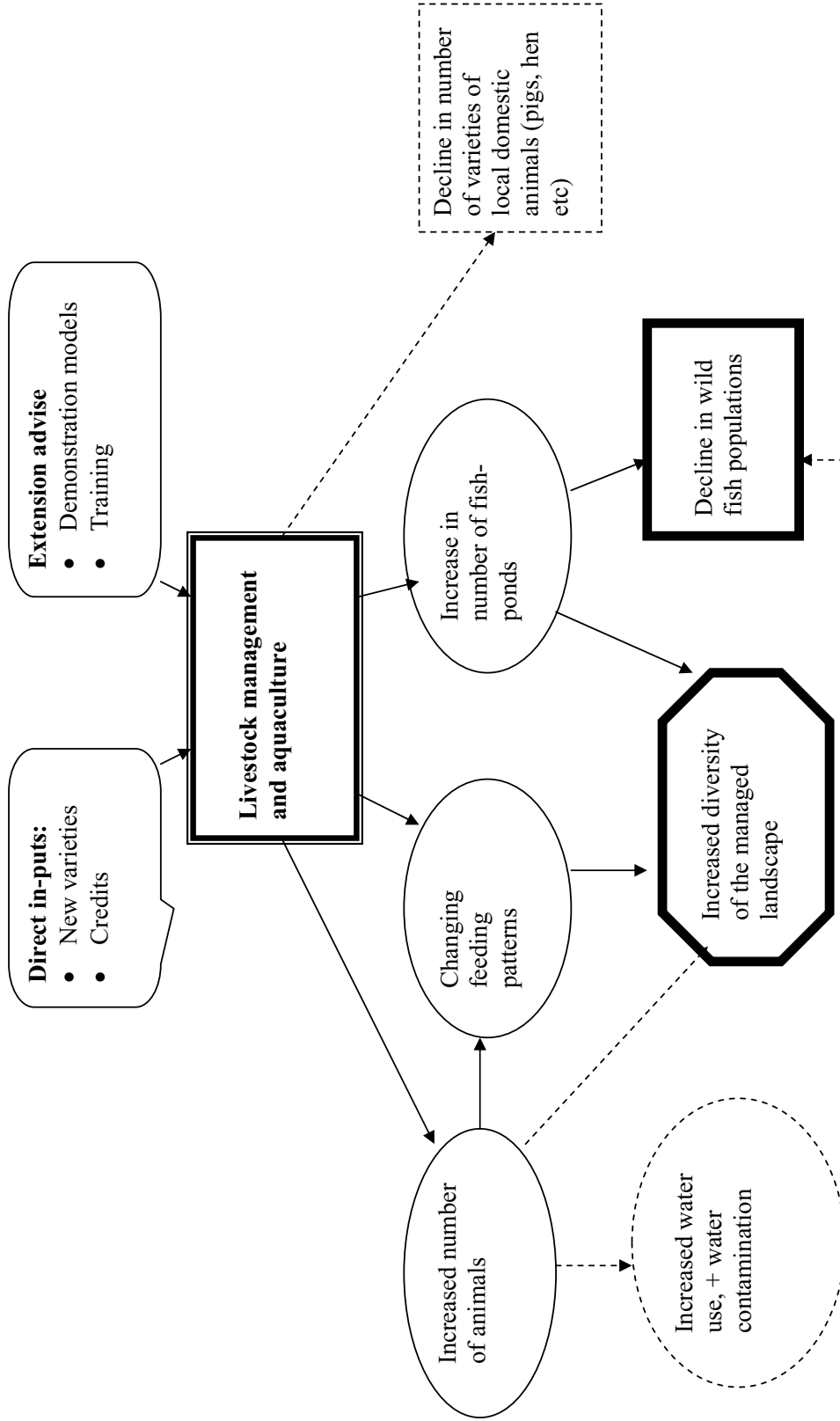
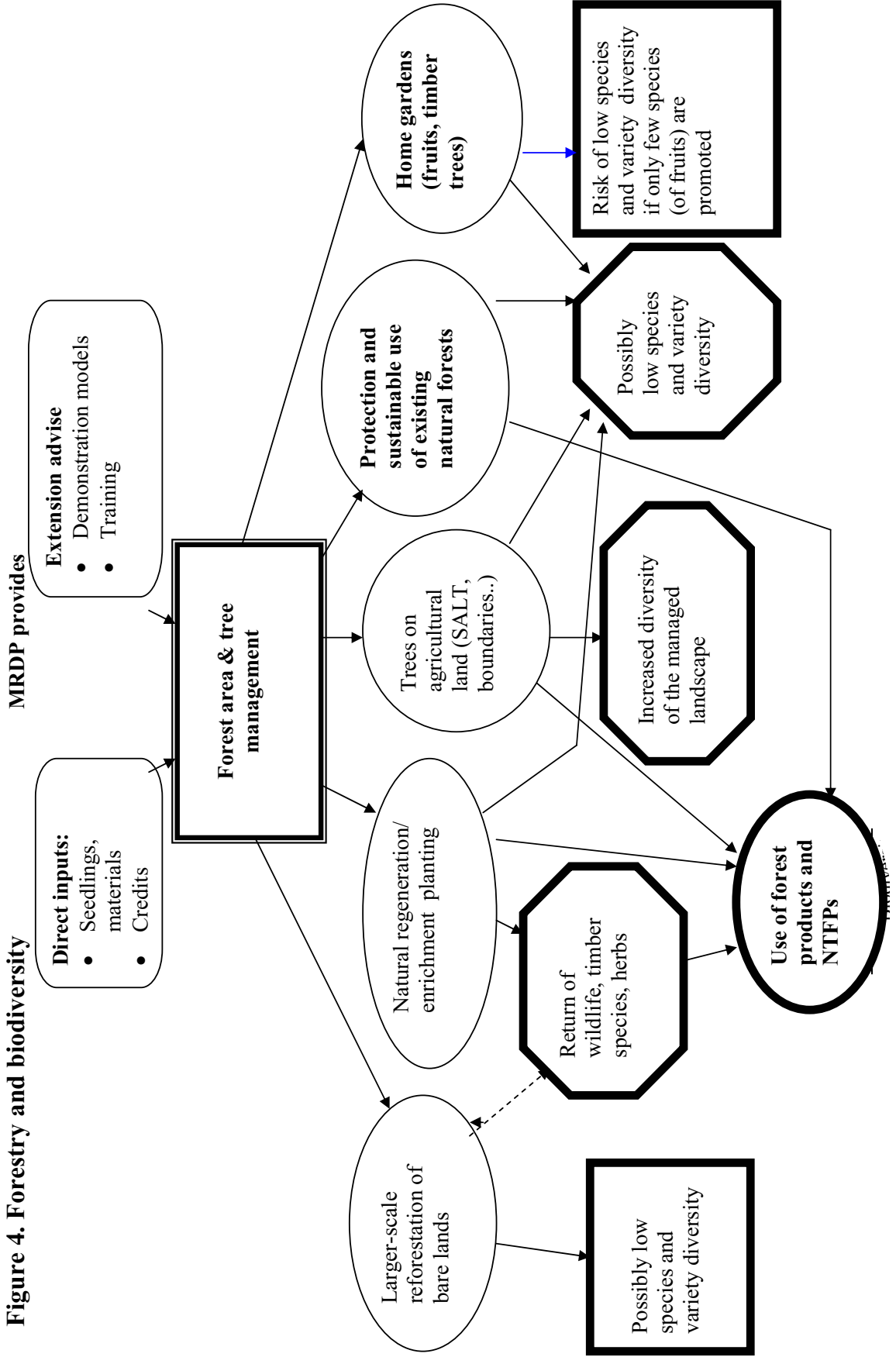


Figure 4. Forestry and biodiversity



5.3.3 Forestry and Biodiversity

Support to tree and forestry related activities was a major focus of the FCP-activities, and have continued to receive attention during the MRDP-phase. Support in the forest sector includes a variety of activities, e.g. regeneration of bare lands, through both larger-scale plantations and support to household tree planting and management; support to home gardens and fruit trees (managed by households), and joint and community-based forest management arrangements of existing forests (natural or regenerated). The flow diagram in Figure 4, summarises the main biodiversity impacts of the various tree and forest-related activities, while boxes 9–14 illustrate some of the trends found in the MRDP-areas. The main impacts include:

- Possibly reduced diversity of both fruit trees and timber trees species and variety (few provenances used)
- Possibly increased diversity of the home garden system
- Increased diversity of the managed landscape
- Return of wildlife, timber species, herbs and other Non Timber Forest Products (NTFPs).

It should also be noted that ownership of timber trees planted with support (i.e. provision of seedlings) from the program is not clear.

With increasing attention by MRDP on Community Based Forest Management, and the use of and knowledge about various NTFPs, it also becomes increasingly important to consider a number of crucial biodiversity aspects, including:

- Is harvesting and management sustainable?
- How create policies and incentives for regeneration and enrichment planting of indigenous species?
- How ensure that local knowledge (on e.g. medicinal plants) is not exploited by outsiders.
- How ensure an equitable access to forest resources, and appropriate arrangements for benefit-sharing within villages, between villages, and between communities and forest authorities.

To address these issues MRDP will continue working with selected trials in a number of communes, and also undertake in-depth studies on e.g. NTFPs and forest management.

Box 9. Fruit tree mono-cultures in Lao Cai and Ha Giang

In Lao Cai province a variety of plum trees has been supported by MRDP, and plum trees are now found all over the place. A main problem now is lack of markets for the plums.

In Bac Quang District, Ha Giang, farmers mainly grow one type of oranges, which is a main source of income. Many farmers experience problems with the so called “greening disease”

Box 10. Wildlife trends: Than Thon & Deo Hoa villages, Tuyen Quang

With the decline in natural forests during the 1980s, most of the wildlife also decrease (or disappear) during the late 1980s and early 1990s.

Trends in Than Thon²⁹

Species	1965	1975	1985	1993	1998
Gekko	***	***	***	**	*
Bear	*	**			
Fox	***	***	**		
Snake	***	***	***	**	*
Tiger	**	**	*		
Monkey	***	***	*		
Deer	***	***	**	*	
Wild pig	***	***	**	*	
Forest bird	***	***	**	**	*
Forest bird 2	***	***	***	**	*

Trends in Deo Hoa³⁰

In Deo Hoa village the same pattern is clear – wildlife has declined. However, with regeneration of forests and tree planting, several non-timber forest products and some wildlife species are now gradually becoming more common again including:

- Bees (honey can now be found and collected again in the forest areas)
- Rattan
- Edible roots
- Wild chicken
- Wild pigs

Box 11. Example of Joint Forest Management arrangement: Nam Dich commune, Ha Giang

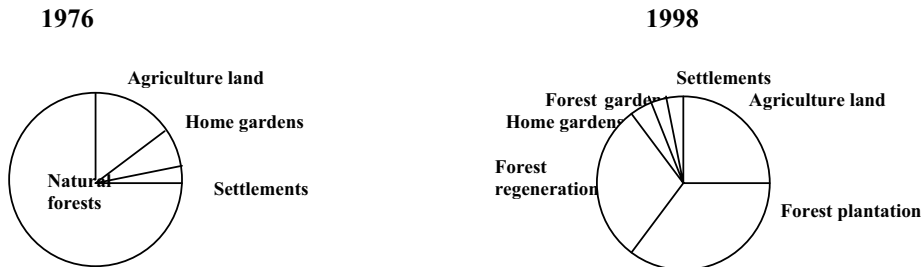
Type of forest	Arrangement	Expected benefits	Regulations
<i>Natural forest</i>	<ul style="list-style-type: none"> - Agreement between villages and commune - All hh in each village included - 5 villages involved, with total area of 30 ha 	<ul style="list-style-type: none"> - Firewood and NTFPs - Protection of spirit forests 	<ul style="list-style-type: none"> - Only hh within village may use - Dry firewood and cut branches may be collected - Bamboo shots may not be cut - Timber-cutting is prohibited

²⁹ From PRA, March 1999. Scoring is between 1 and 10, with 10 as maximum.

³⁰ From PRA-exercise, October 1999

Box 12 Diversification in land use and farming systems: Lang Cung village, Ha Giang³¹

Since the mid-70s the natural forests have decreased. At the same time the overall land use has diversified, and the diversity of home gardens have increased.



The two pie charts above from a PRA in Lang Cung village, Vi Xuyen District show how the natural forest has been depleted, and is now being substituted with various types of managed forests. In the late 1980s (not shown) almost 60% of the village area constituted of grasslands and hill cultivation, and only about 20% was covered with forests. Today managed forests cover about 80% of the village land.

Figure 7, of the land of a household in the same village gives a detailed picture of both the range of crops & trees grown and the various components of the farming system. The combination of indigenous and introduced tree crops (including fruits), medicinal herbs, annual crops and livestock is typical. Species/products obtained include:

- Crops, e.g. paddy rice
- Fruit trees such as bananas, orange, apricot, longan and lemon
- Medicinal uses, e.g. from *Pometia pinnata* or roots of *Ammomum villosum*
- Timber and poles from, e.g. *Eucalyptus* spp., *Styrax tonkiensis*, *Ormosa* spp., *Canarium album*, *Mangletia* spp. etc.
- Other products, e.g. oil from *Cinnamomum* spp., or *Lissea curbo*
- Cultivated fish (in pond), small livestock (ducks, chickens, pigs) and larger livestock.

Box 13: Examples of NTFPs found in the local market in Hoang Su Phi³²

- Bamboo shots
- Bark (different kinds)
- Wooden ladles
- Live rodent
- Nighting gales
- Mushrooms
- Beetles
- Firewood
- Mountain tea fruit

³¹ Source: MRDP, 1998, "Village Monitoring and Review Summary Report"

³² Source: Hobley, M, Sharma, R, & Bergman, A. 1998 "From Protection to Protection through Production: a process for forest planning and management in Ha Giang and Yen Bai provinces, MRDP"

Box 14. Examples of forest products/services and their use: Tu Nhan commune, Ha Giang³³

Category of forest	Main products/Use
Forest garden:	<ul style="list-style-type: none">– Bamboo/Hh use & marketed– Water/Hh drinking water– Cunninghamia spp/hh use (may not sell)– Melia spp./Hh use
<i>Spirit forest:</i>	<ul style="list-style-type: none">– Water/Group of hh– Protection of sacred forest/Village use– Fruits/Hh use & marketed
<i>Village plantation</i>	<ul style="list-style-type: none">– Poles of Cunninghamia spp./Villagers buy
State Forest Enterprise (SFE) Plantation –	<ul style="list-style-type: none">– Resin/Bought by SFE from Hh managed by individual hh on contract

5.4 Main Biodiversity Issues of Relevance to MRDP

A summary of the main biodiversity issues arising from MRDP, the stakeholders concerned, policy-implications, and the overall relevance of each issue to MRDP is made in Table 5. As noted above, some of these issues are considered within the programme to some extent (e.g. in relation to forest regeneration and CBFM), while others are not. The main technical biodiversity issues are already discussed above (4.2.1– 4.2.3), whilst policy-issues of importance include:

- Consideration of biodiversity and environmental aspects within general agricultural policy and extension work:
 - the importance of promoting a wider range of both species and varieties (of crops, fruit trees, and livestock) suitable to local conditions
 - the importance of preserving local varieties and land races
- Consideration of biodiversity aspects within the forestry-related work:
 - the importance of policies and regulations that promote natural regeneration
 - the importance of regulations that allow local communities to sustainable use forest products (timber and NTFPs)
 - possibly also watching out for bio-piracy, and exploitation of local knowledge.
- Consideration of environmental and biodiversity issues in training activities

³³ Source: Holey, M, Sharma, R, & Bergman, A., 1998 "From Protection to Protection through Production: a process for forest planning and management in Ha Giang and Yen Bai provinces, MRDP

Table 5. MRDP and biodiversity: summary of key issues, stakeholders, policy issues and relevance

Issues	Main stake holders	Policy issues	Relevance and degree of recognition within MRDP	Monitoring
<ul style="list-style-type: none"> Which level of biodiversity (BD) is primarily affected <p>1. Decline of agro-biodiversity through promoting high yielding varieties; e.g. annual crops (rice, maize), livestock, fish</p> <p>Affected BD levels: Genetic and species</p>	<ul style="list-style-type: none"> District supply companies of seeds Other suppliers Households Extension staff at all levels Farmer's interest groups and extension clubs Training centres 	<ul style="list-style-type: none"> Access to seeds (quality control and who can sell) Present agricultural policy (and extension messages) are basically commodity-oriented Strong focus on improved maize and rice – extension messages are mainly suited for low- and midland areas and not for uplands. 	<ul style="list-style-type: none"> Very relevant There is strong support within all levels of the programme for introducing and disseminating higher yielding varieties (of crops, fish and livestock) – and declining agro-bio-diversity is not a widely recognised issue 	<ul style="list-style-type: none"> General trends in use of introduced vs traditional maize and rice varieties is included within present village-level monitoring Monitoring trends in level of MRDP-support (expenditures) to more intensive agriculture and subsidised agricultural in-puts.
<p>2. Community-based forest management and NTFP-utilisation</p> <p>BD levels: Species, ecosystems and functions</p>	<ul style="list-style-type: none"> Forest authorities (e.g. State Forest Enterprises and Forest Protection Departments) at different levels Villages and communes Households Buyers and traders (very diverse) 	<ul style="list-style-type: none"> User-rights and benefit-sharing mechanisms within villages, between villages and between communities and forest authorities Technical regulations for forest management Land allocation and tenure (Bio-piracy) 	<ul style="list-style-type: none"> Very relevant Most issues are considered within on-going work, trials and studies Bio-piracy has not been seen as an issue. Strong link of MRDP-work to on-going discussions with the 5 million ha programme and the development of the Forest Sector Support Programme 	<ul style="list-style-type: none"> In-depth studies (on e.g. NTFPs) Wildlife, NTFPs and timber trees are covered within present village monitoring Documentation of field trials

Issues	Main stake holders	Policy issues	Relevance and degree of recognition within MRDP	Monitoring
<p>3. Fruit and forest trees for household plantation (home & forest gardens)</p> <p>BD levels: Genetic, species, eco-systems, functions</p>	<ul style="list-style-type: none"> Households Local tree nurseries (often households that received training and support) Extension staff/forest staff (at forest authorities) Buyers and markets 	<ul style="list-style-type: none"> Ownership of trees where households received seedlings through the programme is not completely clear Regulations for harvesting Regulations for management and use of forest land Choice and variety of tree species promoted 	<ul style="list-style-type: none"> Very relevant Ownership and regulations are now being addressed in some on-going studies Most of work in the provinces has concentrated on promoting tree planting (providing training, seedlings etc) – less attention to the broader “incentive framework” (i.e. role of harvesting and management regulations) 	<ul style="list-style-type: none"> Included in village level monitoring Topical in-depth studies Some documentation of home garden models
<p>4. Larger reforestation and/or watershed protection plantations</p> <p>BD levels: Genetic, species, eco-systems, functions</p>	<ul style="list-style-type: none"> Forest authorities (State Forest Enterprise, Forest Protection, Forest development) Villages and communes Policy-level within MARD 	<ul style="list-style-type: none"> User rights of villages/communes to the plantations Allocation to households vs community allocation Focus on natural regeneration and enrichment planting vs plantations 	<ul style="list-style-type: none"> Very relevant Increased attention in MRDP on working with various trails and models for community-based forest management Increased attention on role and importance of natural regeneration (see above). Decreasing support from MRDP over time to this 	<ul style="list-style-type: none"> Documentation of support to forestry sector Trends and changes in land use is included in village-level monitoring
<p>5. Trials and models on upland agriculture</p>	<ul style="list-style-type: none"> Extension staff at district and province level Province research stations 	<ul style="list-style-type: none"> Choice and type of trials, regarding e.g. focus, suitability in remote areas, biodiversity aspects 	<ul style="list-style-type: none"> Relevant Biodiversity aspects have generally not been considered during selection, design and content of models 	<ul style="list-style-type: none"> Documentation of models and trials

6. Conclusions and recommendations

6.1 Conclusions

With the development from the early raw-material supply programme to the present day MRDP, the biodiversity issues of relevance has changed considerably. Some general conclusions can however be made:

1. 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.
2. In Vietnam in general there is much more awareness and discussion on biodiversity in relation to the forestry sector compared with the agricultural sector. It should also 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 (including protected area management/ and wildlife protection) with forestry in Vietnam (as in many other countries). To the extent biodiversity issues have been discussed within MRDP, it is not surprising that it is primarily in relation to forestry, e.g. species diversity in forest plantations, diversity of fruit trees, and management of natural forest areas.
3. 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. In the “raw-material supply era” – the impacts were basically negative and primarily related to:
 - Effects of introducing exotics and suitability of various species (and provenances),
 - Impacts of establishment of large-scale plantations/mono-cultures, and
 - Impact of logging and expanded road networks.

The biodiversity-related issues and concerns of MRDP are by far more complex (see Tables 4 and 5 for overview).

4. 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 intensively cropped rice fields, but also among smaller livestock such as chicken and pigs.
- Potentially supporting a trend of decline in wild fish populations.

5. There are also several complicated trade-offs to make:

- *Changes in relation to biodiversity only.* The intensified agriculture leads to loss of land races (and possibly also contributes to loss of “wild biodiversity” in wetland areas) on one hand. At the same time, it has contributed to more investment in land – thereby contributing to an increased diversity of the managed landscape as well as reducing pressure on forest areas and hillsides.
- *Changes in biodiversity vs. other environmental gains and losses.* Support to forest management (e.g. JFM-arrangements, watershed protection etc) may and may not have positive effects on biodiversity (depending both on silvicultural management practices and incentive frameworks and institutional arrangements to plant/protect/manage the forests and forest products)³⁴. However, other environmental benefits may e.g. include reduced erosion and improved water retention capacity through better managed hill sides.
- *Biodiversity/environmental changes vs socio-economic gains and losses.* The intensified farming – supported by MRDP both through production in-puts, establishment of “models”, and training in “modern” farming, contributes to improved livelihoods and is an important means of economic development, and reduced poverty, in many MRDP-villages. At the same time there are clear environmental costs.

6. The approach to the village-based monitoring, using the concept of “sustainable livelihoods” as the analytical framework, has several advantages:

- It acknowledges that people are in the centre
- It allows for taking the trade-offs between environmental, social/cultural and economical changes into account, and gives a framework for doing this.
- It provides also a meaningful way of discussing and high-lighting both environmental and socio-economic changes together with local communities – i.e. a discussion based around the different form of resources (see Annex X) appear to make sense also in a village context.

³⁴ If local communities are not allowed to harvest indigenous trees (as in some MRDP-villages) – then there is less reason for people to ensure regeneration of indigenous trees species.

7. The physical location of the programme – e.g. proximity to areas with high biodiversity values (such as protected areas) – is one factor determining importance of sustainable use and conservation of “wild biodiversity”. Presently MRDP works in some Districts with so called “Special Use Forest”,³⁵ but only one commune involved in MRDP-activities³⁶ is located directly adjacent to a Special Use Forest. There has therefore been no work on benefit-sharing mechanisms for Special Use Forests, or on awareness raising for protected areas.

6.2 Recommendations for MRDP

It would be possible to make a long list of recommendations for how biodiversity issues could be addressed more comprehensively within the programme. However, the recommendations made below aim at being realistic, and take into account the relevance of biodiversity within the overall programme context in relation to other cross-cutting issues e.g. poverty alleviation. In this context it should also be noted that the present phase will last only two more years, and that the programme is cautious about initiating new activities.

1. Ensure that biodiversity aspects become part of the village monitoring as planned.
2. Ensure that biodiversity aspects are documented in on-going programme studies, e.g. the analysis of JFM-trials. Biodiversity issues 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
3. Ensure that environmental and biodiversity aspects are considered when the land-use models are being studied.³⁷
4. Employ a more cautious approach towards encouraging and subsidising HYV of primarily maize and rice, particularly in up-land areas. Care should also be taken when new varieties (crops, livestock/fish, and fruit trees) are introduced to an area, to ensure variation of both species’ and varieties (as well as economical viability and marketing opportunities).
5. Include environment and biodiversity issues more comprehensively in training activities (where relevant).
6. If MRDP had selected villages directly adjacent to parks, more offensive methods of working with community management and benefit-sharing of these areas would have to be looked into³⁸. Eco-tourism could then be an option.

Initiate broader discussion on environmental considerations (including biodiversity) in relation to agricultural and forestry strategies in general³⁹.

³⁵ Which are a form of protected areas normally under provincial responsibility as opposed to national park which are managed by Central authorities (Forest Protection Department)

³⁶ Da Vi commune, Na Hang district, Tuyen Quang province

³⁷ This is a study planned by MRDP for 2000

³⁸ Note though that the JFM-trials partly addresses these issues.

³⁹ This is also already planned for the year 2000.

7. Lessons learned

(for mainstreaming)

For Sida's general mainstreaming work it is found that:

1. Biodiversity was not explicitly considered in the planning phase of MRDP. There was further no formal or structured EIA undertaken during the preparation work. At the same time MRDP has a fairly explicit environmental goal, and "regreening of barren hills" is considered one of the important rationales for MRDP from a Vietnamese perspective. MRDP shows though that:
 - A general agreement on importance of environmental issues does not mean that biodiversity aspects automatically are considered.
 - General statements are also no guarantee for on-the-ground implementation.
 - There is thus a need to ensure a more coherent inclusion of both general environmental aspects and specific biodiversity aspects, in the actual programme activities
2. Biodiversity has not been seen as a priority issue for MRDP (neither by MARD or by Sida) – and appear to be easily overlooked in a programme of MRDPs type. Other issues – e.g. gender, poverty etc – have received more attention.
3. MRDP further shows that integration, or mainstreaming, in practice will depend on the understanding by the actors involved of the relevance of biodiversity issues in the project/programme context. Stakeholder identification is consequently an important part of the planning process (and during subsequent annual planning as well, on all levels), but also becomes complex (particularly on the institutional side) when a programme is as diverse and includes as many different activities as MRDP.
4. 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 both that the parties involved in the programme preparation:
 - Find that the EIA is a useful tool and of relevance in the planning process.

- Understands how the strategic EIA can contribute.

Sharing of lessons learnt between projects/programmes will be important in this context.

5. The sectoral approach of the Sida EIA-guidelines 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 need to be kept fairly broad, to be workable.
6. The experiences from MRDP also show that in programmes with focus on methods- and policy-development, and/or where field-level implementation is scattered, the assessment of impacts (of any kind, including biodiversity) becomes very complex. The difficulty to attribute any given changes or impacts specifically to the programme, and to distinguish and quantify the role of the project/programme from other factors becomes almost impossible. In spite of these basic difficulties it is suggested that environment and biodiversity assessments should include the following elements:
 - Identification of main biodiversity issues within the programme, and relevant stakeholders (within the framework of EIAs)
 - Assessing the relevance of the methods developed by the project/programme from a biodiversity perspective. What kind of Natural Resource Management models are being promoted (e.g. for forestry, agriculture, livestock production etc)? To what extent are biodiversity concerns met in these?
 - Assessing programme contribution to development of particular policies To what extent has the programme engaged in policy dialogue? Which issues have been on the agenda and to what extent has biodiversity concerns been promoted by the programme? What kind of biodiversity related lessons from e.g. case studies have been disseminated?
7. Choice of geographical area is one of the factors that will determine the relative importance of particularly protected area management and wildlife conservation in any type of rural development oriented programme.
8. Sida's strategic priorities in relation to the CBD⁴⁰ were found to be relevant, as were Sida's guidelines for support to biodiversity from 1994. No need to revise Sida's strategic priorities was identified in this case study. The work and scope of MRDP is directly related to two of Sida's three strategic priorities (1998), 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

⁴⁰ Sida and the International Convention in Biodiversity, 1998

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.”

9. For monitoring of biodiversity and environment issues within MRDP-types of programmes it was noted that 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.
10. The analytical framework of “sustainable livelihoods” appear to provide a good basis for discussions during village-level monitoring and assessments within local communities. It also provides a useful way of analysing and including both socio-economic and environmental impacts.

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Maria Schultz

Diarienummer:
NATUR-1998-04801

TERMS OF REFERENCE FOR BIODIVERSITY CASE STUDIES

1. Background

In "Sida and the Convention on Biodiversity" Sida assumes the responsibility for mainstreaming¹ 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 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.

¹ Mainstreaming - integrating biodiversity aspects; consequences for biological diversity shall be analysed and taken into consideration in all programmes and projects.

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 identified from Africa, and possible suggestion include the Region 3-programme in Ethiopia, LAMP in Tanzania, the agricultural sector programme 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 description 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 Undertaking 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 recommendations
- 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 exists 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 erosion 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 planning 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 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.

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 Vietnam case study

6.1 Background

The Mountain Rural Development Programme (MRDP) is a broad rural development programme, based within MARD (Ministry of Agriculture and Rural Development) working in five provinces in the upland areas of northern Vietnam. The present phase of the (MRDP) covers the years 1996-2000.

Parallel with the activities with MRDP Sida is also supporting the National Environmental Agency (NEA) with technical support from IUCN. NEA has the national mandate to coordinate Biodiversity issues.

The programme consists of the five provincial projects and one central project designed to provide support services to the five provinces as well as building up the capacity of the Ministry of Agriculture and Rural Development (MARD) in policy and strategy formulation.

The main components of the programme are:

- land use planning and land allocation

- extension and applied research
- strategic research
- rural finances (savings & credits)
- market information and business development
- gender balance
- human resources and organisational development
- internal and external communication.

Practically all programme components include a range of issues. Extension for example, encompasses activities such as handing out high-breed varieties and fertilisers, establishment of demonstration plots, promotion of PRA and encouragement of village management groups.

Programme monitoring is based on a monitoring system specifically developed for MRDP, the so called MILS (Monitoring Information and Learning System). Through MILS, financial and activity monitoring are undertaken, whereas impact monitoring (environmental and socio-economic) only is undertaken to a limited extent.

Major efforts have been made by the programme to develop a relevant and viable environmental monitoring system during the last eight years. During the annual programme review in May 1998, between MARD and Sida, it was agreed that “an additional study, evaluating the environmental effects, may have to be necessary to enable the Programme to demonstrate achieved (environmental,... authors note) results for the planned Mid Term Review in April 1999.” It was also agreed that MRDP should continue the efforts to “work out a simple and effective environmental monitoring system as part of MILS” (quotes are from the Agreed Minutes from the Annual Review, May 1998).

A process has therefore been initiated within MRDP to a) provide a framework for analysing the possible environmental effects of MRDP, and b) based on the analysis make suggestions on what environmental impacts to monitor and how this monitoring could be undertaken. A preliminary environmental analysis has already been undertaken, and tentative suggestions made for environmental monitoring. These suggestions include e.g. improvement of the in-depth village monitoring using participatory techniques to identify relevant environmental effects and indicators.

Biodiversity is one of the components included in the environmental analysis, but will not be covered particularly in-depth. However, since the broader environmental analysis already is undertaken, there are many advantages of scale of selecting MRDP as one of the case studies for the biodiversity mainstreaming project, and explicitly aim at closely linking the case study to the general process of improving environmental monitoring within the programme.

6.2 Purpose and scope

The purposes of the case study will therefore be two-fold, and include both an opportunity of concentrating more on biodiversity aspects within MRDP per se, and the more general purpose of serving as an illustrative case study for learning about biodiversity mainstreaming, within Sida at large.

6.3 Tasks

Specific tasks, apart from the general ones specified above under 3.1, shall include:

1. An assessment shall be made for the last eight years and include the FCP-phase 1991-1996, and MRDP-phase 1996-2000. The brief historical overview shall include the whole period from initiation of the Bai Bang pulp & paper mill and onwards.
2. Identification and analysis of other on-going studies and work of relevance, by different institutions and other programmes in Vietnam.
3. Where relevant, include community-based indicators specifically on biodiversity, in the work with improving in-depth village monitoring part of MILS.

6.4 Methods

The study shall be undertaken through:

- consultations with programme officers concerned at Sida-DNRE
- close consultation and cooperation with MRDP
- identification of and consultation with other institutions of importance in Vietnam
- briefly going through back-ground material (including reports and studies of the Bai Bang and subsequent plantation programmes)
- working out a format for PRA-based in-depth village studies on environment with specific emphasis on biodiversity (linked to the general process of improving environmental monitoring within MRDP).

6.5 Time frame and reporting

A total of five weeks for the case study itself is required, of which two weeks for a field visit to Vietnam.

A draft report shall be presented by June 30, 1999. The consultant shall present the results in a seminar/workshop at the Sida office in Stockholm and also in Vietnam for NEA (National Environmental Agency), MRDP, CRES and others.

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:

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.

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.

Persons consulted (incomplete version)

Centre Interministerial pour les Applications Apatiales (CIAS)

Mr Lai Huy Phuong, Director

Center for Natural Resources and Environment Studies (CRES)

Dr Le Trong Cuc, Director

Dr A. Terry Rambli, Senior fellow

Forest Inventory and Planning Institute, FIPI

Dr Nguyen Huu Dong, Director, Forest Resources and Environment Center (FREC)

Dr Nguyen Huy Dzung, Social Forestry and Nature Conservation Expert, FREC

Institute of Ecology and Biological Resources, Hanoi University

Prof. Vu Quang Con, Director

Dr Le Xuan Canh, Deputy Director

IUCN-Vietnam

Mr Sulma Warne, Biodiversity Coordinator

Mr Nguyen Cong Minh, Biodiversity Support Officer

MARD-Forest Protection Department

Mr Nguyen Ba Thu, Director

MARD-policy department

Mrs Chu Thi Hao, Policy Department, MARD

Mr Pham Xuan Phuong, Forestry Policy expert.

MRDP/MARD

Mr Pham Van Binh, Technical Section, Programme Board Office, MRDP

Mr Quet, , MRDP-coordinator, Tuyen Quang Province

Ry, Le Interpreter, MRDP

Shanks, Edwin, Adviser, MRDP

Dr Siem, Research Adviser, MRDP

Mrs Hanh, MRDP-coordinator, Phu Tho province

Mr Bui Dinh Toai, Technical Section, Programme Board Office, MRDP

National Environment Agency

Mr Tran Lien Phong, Head of Nature Conservation Division

Dr Nguyen Van Tai, Policy and Legislation Division

Other

Prof. Le Quy An, Vietnamese Association for the Conservation of Nature & Environment

Dr J. Raintree, Non-Timber Forest Products Research Centre

Ms Isabelle Lecup, consultant, NTFP-training and Market analysis
Dr Jeremy Carew Reid, Director, International Centre for Environment Management

Sida-Stockholm

Björkman, Per, Department of Natural Resources and Environment, DNRE (desk officer, Vietnam NRM-programmes)

Schultz, Maria, DNRE

Sida-Vietnam

Samuelsson, Rolf, Swedish Embassy, 1st secretary

Than Ton commune, Ham Yen District

Village 2, Yen Son District

UNDP

Mr Tran Nguyen Anh Tu, Sustainable Development Programme officer

Ms Nguyen Ngoc Ly, Unit Head, Environment and Natural Resources Management

World Bank-Vietnam

Ms Tran Thi Thanh Phuong, Environmental specialist

WWF-Vietnam

Ms Tran Minh Hien, Conservation Science & Development Manager

Ms Nguyen Thi Dao, Conservation Science & Development Officer

Mr Pham Hong Nguyen, Research Officer (information)

Workshop participants 12/4/00

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INSTITUTIONAL FRAMEWORK

a) Policies and decisions regarding rural development and poverty alleviation

During the last two years, the Vietnamese government has introduced a number of important new policies and programmes related to mountain rural development and poverty alleviation. These include:

- Decision No 133/1998 on the establishment of the programme for socio-economic development of communes faced with extreme difficulties in mountainous and remote areas. 1700 poor communes have been identified in total.
- Decision No 135/1998 on the establishment of the National Target Programme for Hunger Eradication and Poverty Reduction.
- Decree No 29/1998 on regulations on democracy in communes, which defines levels of involvement of and information to people regarding different issues (e.g. land use planning, commune level socio-economic development plans, plans for production development & hunger alleviation, local infrastructure and communication, plans on health and environmental hygiene etc).

b) Policy context regarding agriculture and forestry

Since the mid-80s the policy framework for agriculture and land use in Vietnam has changed drastically. The most important trends, government policies, decrees, and programmes affecting land use, and natural resource utilisation in the programme area, include:

- Declining role of agricultural co-operatives during the mid-80s.
- Land allocation. Most agricultural land is now allocated to individual households. Forest land is also allocated to a large extent in low- and midland parts (of the MRDP-areas), but to a lesser degree in uplands.
- Restrictions on shifting cultivation, and policy to encourage fixed cultivation and sedentarisation.
- Support to intensified agricultural production - through facilitating access to seeds of HYV, fertilisers & pesticides, improving and expanding irrigation schemes, and improving access to credits.
- Reforestation efforts and plantation programmes¹. These include e.g. the 327/556 programme, and the newly launched (decision No 661/QD-TTG of 29th July 1998) 5 million hectare programme².

¹ Initiated already 1976

² The objectives of the 5 million ha programme are:

- increased forest coverage, for environmental protection and for timber production
- increase raw material for domestic demands and export
- create jobs for local people.

Rural people are envisaged as the main driving force through an incentive package to plant tree seedlings and protect forest areas.

- Agricultural and forestry extension is combined since 1993. An extension structure is developed at provincial and district levels, but varies greatly in size and quality at lower levels. The role of the extension service is partly to supply strategic inputs and capital (HYV/fertilisers, forest management contracts) to farmers.

c) Legal framework and institutional development regarding biodiversity

Efforts aimed at focusing attention on environmental management and conservation challenges have been substantial in Vietnam, and are reflected in the considerable number of initiatives taken since the early 1980s. As early as 1981 a national research programme for “Rational Utilisation of Natural resources and Environmental protection” was initiated, which focused on conservation & rehabilitation of tropical forest ecosystems, establishment of Protected Areas and compilation of a Red Data Book for Vietnam³.

In 1984, work was initiated with IUCN to prepare one of the first conservation strategies in the region. The National Conservation Strategy for Vietnam, which was finalised in 1986 has - though never formally approved – contributed to give more focused attention to environmental and biodiversity issues in Vietnam.

In 1990 Vietnam became a party to the RAMSAR-convention, as one of the first countries in SE-Asia, and in 1994 Vietnam became a party to CITES. In 1991, in anticipation of the Rio conference, Vietnam adopted a National Plan for Environment and Sustainable Development 1991 - 2000: A Framework for Action (NPESD).

Following adoption of the NPESD, the Ministry of Science Technology and the Environment (MOSTE) was established in 1992. In 1993, the Law on Environment Protection was moved into force, and late 1993 the National Environment Agency (NEA) was set-up within MOSTE– with parallel establishment at provincial and line-ministry levels of Departments of Science Technology and the Environment (DOSTEs). A five-year National Environment Action Plan was prepared (with WB-support) during 1994

In 1994, Vietnam ratified the Convention on Biological Diversity (CBD). A Biodiversity Action Plan (BAP) was developed and adopted during 1995. This plan identified priority actions for the period 1996 - 2000 for protection and management of Vietnam’s species and natural ecosystems.

Three broad objectives were defined for the BAP, namely:

- protection of endemic and vulnerable ecosystems subject to pressure from economic activities;
- protection of biodiversity components subject to over-exploitation or ignored ;
- promotion and identification of the utilisation values of biodiversity components to serve the country’s economic targets.

³ Source: Le Trung Cuc, 1999, “ Biodiversity Conservation and Utilization Perspectives in Vietnam”

The BAP thus recognised both the cultural and economic importance of Vietnam's vast biodiversity, with main emphasis on protection and sustainable use of wild populations, habitats and eco-systems. In 1998, a national workshop was organised to assess implementation of the BAP so far, and suggest revision and priority actions for the future (see Annex IV).

Vietnam is not a party to either UPOV or WTO, but has applied for membership to the latter. A drafting committee for a Decree on "The Protection of New Plant Varieties" was established in January 1999 by MARD, and a joint workshop organised with UPOV in April 1999.

Key biodiversity institutions in Vietnam

MOSTE has the overall responsibility for policy development regarding biodiversity and environment and is by decree No 845/TTg designated as the *key institution for BAP implementation*, with the responsibility to liaise with all concerned Ministries, sectors and local agencies. *MOSTE* is further assigned the task of submitting an annual implementation report to the Prime Minister.

NEA is further the national *focal point for the CBD*.

The *Ministry of Planning and Investment (MPI)* is assigned the task of *laying out annual implementation plans* for each of the concerned Ministries and local agencies, in close co-ordination with *MOSTE*, based upon domestic and foreign sources of funding.

MARD, through Forest Protection Department, *co-ordinates protected area management* (except marine reserves), and is also the *management authority for CITES*. *MARD* also co-ordinates development of legislation in relation to protection of new plant varieties.

Ministry of Fisheries (MoFI) has the implementation responsibilities for *marine reserves*.

IEBR, National Centre of Natural Science and Technology (NCST) is the scientific authority for both *CITES* and *CBD*.

A large number of initiatives, many of them donor-supported, related in one way or another to environmental management and conservation BAP may be found in Vietnam. These include projects supported both international organisations (e.g. UNDP, FAO, EU, UNEP, World Bank, ADB, IFAD) and bi-lateral assistance agencies such as, DANIDA, Sida, the Netherlands and NORAD. International environmental NGOs such as WWF, FFI, Birdlife International, and IUCN have provided technical assistance to Vietnam's biodiversity conservation and management efforts. The relatively large number of projects is also reflected in the findings of *MOSTE*⁴, that show that some USD 150,000,000 have been invested in biodiversity conservation during the period 1993 - 1998. Box 1. shows the distribution between different types of biodiversity-related support.

⁴ Three year Performance progress report on the BAP (1996 - 1998), *MOSTE*, October 1998

Box 1. Distribution of activities in relation to biodiversity conservation 1993-1998

Establishment of nature reserves:	5.8%
Conservation of species:	0.3%
Afforestation:	72,0%
Buffer zone development:	16.1%
Policy development:	1.8%
Training and awareness:	2.0%
Genetic conservation and investigation:	1.9%
Development of species:	0.1%

Annex VI Vietnam Biodiversity Action Plan - Results of Review of Progress 1996 - 1998

Summary of Needs, Priorities, Response, Purpose, and Lead/Partners institutions

Theme	Ref	Need	P	Response	Purpose	Lead/Partner Institutions
1. Coordination	1.1	Inter- and intra-Ministerial coordination Central - Provincial coordination	P	Steering Committee	Implement provisions of decree No 845/TTg ; establishment of national priorities ; monitoring of impacts ; coordination of implementation	MOSTE/ other relevant ministries
	1.2	Donor and Int'l org coordination	P	International support group	Harmonisation of efforts ; establishment of priorities ; monitoring of impacts	MOSTE / MPI ; Int'l agencies
	1.3	Biodiversity assessment framework	P	Develop Biodiversity assessment framework	Framework for examining mutual influences of natural and human induced factors	MOSTE/ other relevant institutions
	1.4	Integrate biodiversity considerations into sectoral economic development plans for 2000 – 2010 period		Work with sectors to integrate biodiversity	Biodiversity becomes an integral part of national development efforts	MOSTE ; MPI / other relevant institutions
	1.5	Regional Coordination of Biodiversity information and conservation		Coordination with Lao PDR ; Cambodia, Thailand, China and other Asian countries	Eco-region based conservation management ; shared resources management	MOSTE ; MFA/ other relevant institutions
2. Information, Monitoring and Reporting	2.1	Updating status of biodiversity resources		Develop regular survey process	Monitoring terrestrial and marine flora & fauna ; support management and decision making	MOSTE / NCST ; MARD ; MOF;
	2.2	Improve availability of information for and on biodiversity conservation	p	Inventory of existing information and data locations ; develop information exchange protocols	Support management and decision making	MOSTE/ other relevant institutions
	2.3	Preparation of mandated reports to Prime Minister and CBD	p	Establish regular information sharing and reporting schedule and modalities	Implement provisions of decree No 845/TTg and CBD obligations	MOSTE/ other relevant institutions

Theme	Ref	Need	P	Response	Purpose	Lead/Partner Institutions	
Information and Monitoring (Cont'd)	2.4	Biodiversity monitoring system	p	Develop monitoring framework covering : habitats ; ecosystems ; species ; human use impacts ; effects of policy and experimental methodology application	Assess effects of biodiversity action, choice of protection objectives	MOSTE / other relevant institutions	
	2.5	Revised and published updated red data book - flora and fauna		Review red data information and interpretation and publish	Take necessary management measures	NCST/ other relevant institutions	
	3.1	Complete regulatory framework for : ■ Terrestrial PAs ■ Marine PAs ■ Wetland PAs	p	Develop and agree protection, management arrangements	Clarify roles and responsibilities of institutions ; define management regimes	MOSTE ; MARD ; MOF	
	3.2	Classification of PAs : terrestrial, marine and wetland	p	Develop and adopt classification system	Increase range of management options	MARD ; MOF ; MOSTE/ NCST	
3. Legislative/Regulatory Framework	3.3	Develop legislative and regulatory framework for ■ Wildlife trade ■ gathering of wild species ■ natural resources property rights ■ benefit sharing ■ ecotourism ■ collaborative management	P	Develop protection and management arrangements	Strengthen management and control of human impact on wild resources and areas ; develop participatory approaches ; create legal framework for managing human activity in PAs	MOSTE/ other relevant institutions	
	3.4	Complete legislative and regulatory framework for aquatic resources conservation		Draft and approve Law and regulations	Regulate fisheries industry and control functions	MOF	
	4.1	Complete management and investment planning for PAs		Establish priority listing for agreed PAs and promote management planning	All PAs have management plans	MARD ; MOF/ Provincial PCs ; NCST	
	4.2	Incorporate biodiversity values into sectoral EIAs	p	Work with energy, transport, tourism, and industry to develop biodiversity sensitive EIA standards	Mitigate impact of development on biodiversity	MOSTE/ Steering Cttee	
	4. Protection and Control						

Theme	Ref	Need	P	Response	Purpose	Lead/Partner Institutions
Protection and Control (cont'd)	4.3	Control domestic and int'l commerce in wild and endangered species	p	Improve control of border transit points and trade routes and markets	Prevent illegal trade ; evaluate harvest of wild products for sustainable harvest definition	MOSTE ; NCST / Customs
	4.4	Reinforce inspection and control capability of fisheries sector		Training and increase of staff to enforce Ordinance on Fishery Resources Conservation	Control fishing methods and harvest levels	MOF/NCST ;Customs
	4.5	Ex-situ collections of plant species and genetic material		Evaluate and develop strategy for ex-situ collections of important species and genetic material	Conservation of valuable species and genetic material	MOSTE ; NCST
	5.1	Systems plan for terrestrial, marine and wetlands PAs	P	Develop and adopt national PA systems plan	Systematic representation of critical habitats and ecosystems	MARD ; MOF ; MOSTE / NCST ;
	5.2	Terrestrial PA management plans	p	Prepare management plans for remaining PAs	All PAs with agreed management objectives and capacities	MARD ; NCST / Provincial PCs ; NCST
5. Management	5.3	Marine PA establishment plan	p	Finalise and approve marine PA list	Assure protection of critical marine areas and species	MOF ; NCST / MOSTE
	5.4	Marine PA management plans	p	Prepare management plans for remaining PAs	All PAs with agreed management objectives and capacities	MOF ; NCST / MOSTE
	5.5	Marine and coastal PA management arrangements	p	Develop and agree Marine and coastal PA management concept	Coordinate institutional roles	MARD ; MOF ; Provincial PCs/ MOSTE ; NCST
	5.6	Feasibility and assessment of new PAs and extension of existing PAs	P	Develop criteria and standards for assessing feasibility and monitoring PA management effectiveness	Adapt and improve PA planning and management	MARD ; MOF ; Provincial PCs/ MOSTE ; NCST
	5.7	Buffer zone integration with PAs	p	Develop zoning criteria ; collaborative development of use and compensation levels	Reduce impact of encroachment on PAs while promoting responses to basic needs	MOSTE ; MARD / Provincial PCs ; NCST
	5.8	Community involvement and support for biodiversity conservation	p	Develop methodologies and approaches for collaboration and involvement of communities in conservation of biodiversity values	Identify sustainable options for resource use and management for basic needs and development	MARD ; MOF ; MOSTE / Provincial PCs ; NCST ; Youth & Women's Unions
	5.9	Nature sensitive tourism		Develop nature sensitive tourism concept for protection and promotion	Mitigate effects of mass tourism on biodiversity values	VNAT ; MOSTE /NCST

Theme	Ref	Need	P	Response	Purpose	Lead/Partner Institutions
6. Education & Awareness	6.1	Popular version of BAP and field guides	p	Develop non-technical version of BAP and field guides	Promote public and non-specialist awareness of biodiversity services and values	MOSTE ; MARD ; MOF /MOI
	6.2	Biodiversity information for tourism sector		Develop information materials for tourism sector nationally Establish information centres in ecotourism areas	Improve awareness of biodiversity in tourism sector Inform tourists of specific values to be protected	VNAT ; Provincial PCs/ MARD ; MOF VNAT / NCST
	6.3	Integration of biodiversity into school curricula		Review school curricula	Promote biodiversity awareness amongst school children	MOE ; / NCST
7. Training & Capacity Building	7.1	Develop Eco-regional BAPs	p	Promote biodiversity management in regional development plans	Recognise local role and responsibility for Biodiversity conservation	MPI ; MOSTE / Provincial PCs
	7.2	Training of MARD ; MOF ; MOSTE and NCST personnel		Training for central and provincial personnel in biodiversity regulation implementation ; improved inventory methodologies and taxonomy	Conservation and sustainable use of biodiversity ; promote field level capacity ; gathering of more complete statistical information	MARD ; MOF ; MOSTE /NCST
8. Research & Methodology Development	8.1	Inventory of valuable species and genetic resources	p	Systematic investigation of agricultural domestic plant and animal genetic diversity Systematic investigation of medicinal plants	Conservation of domestic breeds Conservation and management of medicinal plant diversity ; trade and property rights management	NCST/MARD NCST ;MOH/ MOTrade
	8.2	Rare and valuable aquatic species	p	Study of artificial production methods of rare and vulnerable aquatic species	Identify sustainable use methods	MOF ; NCST
	8.3	Biosafety measures		Develop understanding of risks of modern bioengineering	Develop policy and technology for control of application of bio-engineering	MOSTE ; MARD ; NCST

Theme	Ref	Need	P	Response	Purpose	Lead/Partner Institutions
Research & Methodology Development (cont'd)	8.4	Sustainable use models for NTFPs	p	Evaluate demand for and productive potential of NTFPs and assess impact of varied production and marketing options	Assure sustainable off-take and satisfaction of basic needs and incomes	MARD ; MOH ; NCST /Provincial PCs
	8.5	Sustainable use models for near-shore and off-shore fisheries and aquaculture	p	Evaluate demand for and productive potential of fisheries and assess impact of varied production and marketing options	Assure sustainable off-take and satisfaction of basic needs and incomes	MOF ; NCST / Provincial PCs
	8.6	Sustainable agriculture models	p	Evaluate demand for and productive potential of agricultural lands and assess impact of varied production and marketing options	Promote integrated agricultural systems ; integrated pest management ; soil conservation	MARD ; NCST / Provincial PCs

Annex VII

Characteristics of the MRDP-area

Rainfall in the areas is seasonal, and amounts vary considerably with both time and place. Total annual rainfall can be high (1200- 2000 mm), but is often concentrated into a few intense episodes.

Half of the area is between 200 and 1000 m, with another 15% higher than 1,000 m. The terrain is steep, more than half of area is steeper than 20 degrees. Hence, level land for rice cultivation is scarce. A variety of soil types are found, many of them deeply weathered, poor and/or depleted in nutrients, and very susceptible to soil erosion when laid bare. Landslides are common.

The cultural diversity of the area is high, with 31 of Vietnam's 54 officially recognised ethnic groups represented. Different ethnic groups – speaking completely unrelated languages can be found intermixed with each other in the same village.

Population density tripled between 1960 and 1989, due to a combination of high population increase among the indigenous ethnic groups, and immigration (of Kinh people) from lowland areas. The average population density in the upland areas is about 60 inhabitants per square kilometer¹.

Levels of education vary, with higher literacy rates (80-90%) among Kinh people in low-and midland areas, and drastically lower among ethnic minorities in remoter upland areas (e.g. 5-10% among the Hmong people).

According to CRES (1997) the three major sources of food and income for people in the northern mountain region are based on utilisation of natural resources: agriculture, forest products, and livestock. But the diversity of land management systems is huge. There are also growing indications of a polarisation between rich and poor – both on a larger-scale level (upland ethnic minority communities vs. lowland groups) and within villages². Food shortage is a also key problem during 3-4 month of the year in remoter parts of the upland areas – in spite of Vietnam nowadays being a major rice-exporting country.

In general, people in the lower programme areas (low- and midlands) have closer to roads and markets. As a consequence they are more clearly drawn into a cash-based economy, and more often produce a surplus of e.g. rice for sale. Processing farm produce as well as non-agricultural and off-farm income appear to play an increasing role in household economy, particularly in low- and midland areas.

In higher and more remote areas, where ethnic minorities usually dominate, people to a large extent depend on a combination of subsistence agriculture³ and forest. Shifting cultivation is often an important part of the farming system. NTFPs (like firewood, bamboo, mushrooms,

¹ The national average is about 220 inhabitants per km²

² "Village Monitoring and Review Report", MRDP, 1998 & PPA from Lao Cai Province

³ Particularly since opium cultivation, which used to constitute a major source of income for e.g. Hmong people, was banned

herbs) also often play an important role, providing both food and income. The cross-border trade (official and un-official) with China, of e.g. medicinal plants, is significant.

The conditions for livestock are generally favourable, and pastures (temporary or permanent) are an important part of many land use systems. A report⁴ by MRDP has identified livestock keeping (poultry, fish farming, pigs and cattle) as the main household strategy for accumulating assets, and thus constituting the key entry-point to cash-based economy.

⁴ “The Village Monitoring and Review Report”, 1998

Annex VIII. Expected End Results of MRDP

Programme Vision

The overall vision of the programme is described in the Programme Document and the specific agreement between MARD and Sida as follows:

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"*.

Programme Focus and Objectives

The main focus of the programme is to create an environment¹ in which poor households in mountain communities (pilot areas) are able to benefit from sustainable and diversified economic activities, such as primary production, processing, services, trade and employment in the context of an emerging market economy. In order to achieve this, the programme has three main objectives:

- **Objective 1:** 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.
- **Objective 2:** Development and testing of working methods and production 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.
- **Objective 3:** 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.

Overall Programme End Results

At the beginning of the programme, a number of End Results were established by each project and for the overall programme. For APO 2000, the overall programme End Results have been revised in order to more clearly reflect the current reality and learning from the programme. *End Results relating to the Programme Vision and main focus*

- **End Result 1:** Improved livelihoods and income opportunities for rural people in the programme communes and villages including equitable opportunities for poor people, women and men.
- **End Result 2:** Improved land use practices and natural resources management in the programme communes and villages contributing to environmental stability in the uplands.

¹ Environment in a wide sense including technology, infrastructure, information, financial services, adequate support institutions, government policies and regulations.

End Results relating to Objective 1: Institutional Development

- **End Result 3:** Project communes and villages, and commune and village leaders, extension workers and farmer organisations have the capacity to enable people to achieve what they truly want.
- **End Result 4:** Government services at province and district level have the capacity (personnel, facilities and financing) and competence, and networks of information, research and development organisations (the support structure), to respond to the demands in the village and commune development plans as well as promoting new production systems, processing techniques and business development.

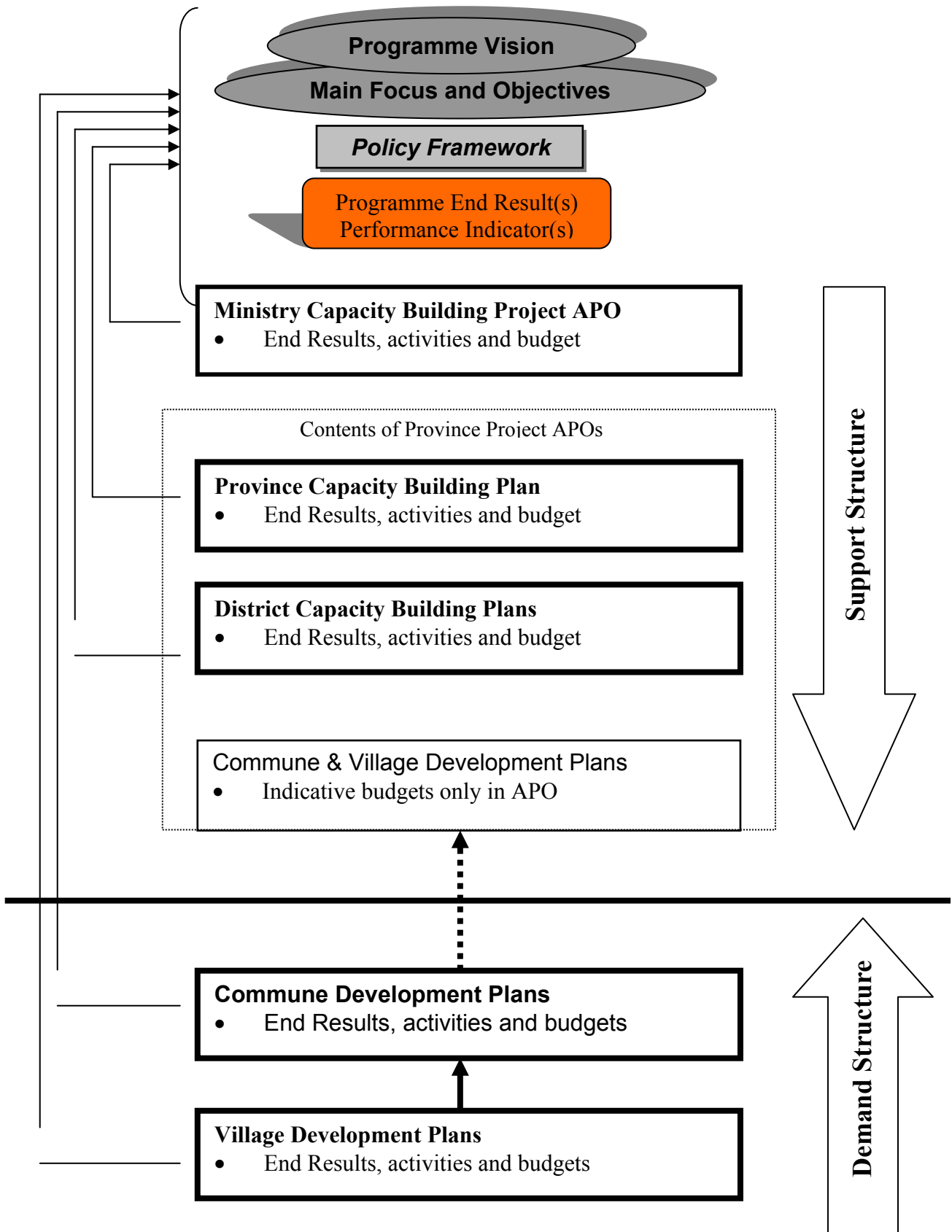
End Results relating to Objective 2: Methods Development

- **End Result 5:** Models of sustainable rural financial services that are appropriate to the needs of rural people, and to poor people in particular, tested and introduced through the programme.
- **End Result 6:** Participatory methods and appropriate technical models for land use planning and land allocation, community forest management and protection, water management etc. introduced through the programme.

End Results relating to Objective 3: Policy Formulation

- **End Result 7:** Learning from MRDP methods development and institutional development in the five provinces analysed, documented and fed into the national policy formulation process.
- **End Result 8:** MARD has the capacity to formulate consistent and clear policies and strategies on mountain rural development based on learning from the province projects as well as from other programmes.

Annex 9. Figure of planning process in MRDP



Mountain Rural Development Programme 1996-2001

Concept paper Participatory Impact (Socio-Economy and Environment) Monitoring at Village level

1. Background

The overall vision of the programme is described in the Programme Document and the specific agreement between MARD and Sida as follows:

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".

The two End Results relating to the Programme Vision are:

- **End Result 1:** Improved livelihoods and income opportunities for rural people in the programme communes and villages including equitable opportunities for poor people, women and men.
- **End Result 2:** Improved land use practices and natural resources management in the programme communes and villages contributing to environmental stability in the uplands.

The vision and the above two End Results refer directly to anticipated impacts at field level, with the first one referring to expected socio-economic improvements, and the second to expected environmental and land-use improvements.

Monitoring changes and impact at field level may have two functions:

1. Directly indicating whether the programme contributes to achieving the overall vision.
2. A "quality assurance" and "field test" of methods, policies etc developed, tested, and implemented by MRDP.

2. Brief history of impact monitoring within FCP/MRDP

Monitoring of programme impacts has been one of the key issues discussed during the two last phases of the programme (FCP and MRDP). Different proposals have been put forward both from within the programme, and from various external parties contracted either by Sida or the programme.

Basically, two vastly different approaches to impact monitoring have been taken:

- a) Devising systems, which are quantifiable and statistical, using clearly set indicators, which are to be more or less uniformly monitored throughout the programme. Several proposals have been developed – and some actually tried - with this approach. All these have been developed (and undertaken) by external (non-MRDP) organisations. Examples include the monitoring by the Forest Research Centre (FRC) during FCP, and the proposal developed by ESSA-CARE for MRDP.

Several draw-backs and limitations with this approach has been noted, including:

- Parameters/indicators used tended to be too scientific, and very detailed (e.g. on topics like run-off and soil erosion, or defining an environmental index).
 - The systems designed were often very ambitious, costly and time-consuming.
 - Feed-back and actual learning for the programme was limited.
 - Information generated was therefore scarcely relevant (hitting beside target) – and not used in programming and planning.
- b) Primarily build on more qualitative and participatory village monitoring - using a framework of PRA-tools and broader issues/criteria identified. Examples include the extension reports from Tuyen Quang and Yen Bai during FCP, the MRDP Village Monitoring and Review Report from 1998 (see Annex I), the PPA from Lao Cai, and the present and on-going round of village monitoring using PRA-techniques.

The experiences of the second, more open and flexible, approach are generally more positive, and have proved a more useful tool for learning at all levels within the programme:

- Parameters/issues identified (in e.g. wealth-ranking) are usually more relevant for each context .
- Higher degree of ownership, both at village levels and within MRDP (including District and Province staff) - and has provided possibilities for direct learning
- Has provided information that fed directly into the planning at both local levels and the support structure.

The MRDP impact (or technical) monitoring, which attempts to assess achievement of the two ERs (see above), presently includes two main components:

- Special studies & events (workshops etc)
- Participatory monitoring at Village Level

The approach is therefore also to combine external – and sometimes more quantitative – studies with internal monitoring and follow-up. The FIPI-study (presented January 2000) of vegetation changes in the programme area is one example of an external study, in this case of environmental and vegetation changes. The earlier (from 1998) socio-economic baseline studies is another example, as well as the on-going REPSI- following the village planning process in two villages in Phu Tho province.

During 1999 the internal participatory village monitoring was further developed based on the experiences from:

- the earlier participatory (ie. PRA-based) village monitoring,
- recommendations in environmental study undertaken 1998 (see Box 1)
- the Lao Cai PPA (see Table 1) and
- case studies of village environment appraisals.

Box 1. General observations relating to monitoring of impact of MRDP-activities:

- The impact and role of external factors – outside the control of MRDP- are very significant.
- Effects are highly localised, and depend upon local land-use systems and socio-economic conditions.
- The inter-relationships between the various MRDP interventions, and between and with various external factors, are complex.
- The role of local organisations (formal and informal) in managing natural resources of common interest (water, forests and vegetation) need to be given proper attention..
- Environmental monitoring should be closely linked to socio-economic monitoring, and mainly be undertaken as part of the in-depth village monitoring.

(Source: MRDP, 1998, “Environmental Monitoring: A Preliminary Assessment of Impacts And Proposals for Future Environmental Monitoring”)

3. The present MRDP approach to participatory socio-economic and environment monitoring at village level

3.1 Basic assumptions and approach

The actual design of the participatory village monitoring has been made, based on a number of key assumptions:

1. Rapid changes are taking place in the northern highlands, affecting eg. land use, livelihoods, environment and poverty (see eg CRES study). **And MRDP is NOT the major force behind this change.**
2. Consequently one CANNOT assume a direct link (cause-effect relationship) between MRDP-activities and in-puts on one hand and changes and impacts noted (environmental or socio-economic) on the other (see Box 1 above). And this in turn means that one should **not design the impact monitoring from the perspective of the programme** –i e one should NOT look at it as a chain: inputs → outputs → outcome → impact.
3. Instead, the impact monitoring will focus on trying to describe and analyse the trends and the changes taking place. And then try to get a fuller picture of the factors/forces (in general) behind the changes, including the role of MRDP inputs and activities, but only as one of several factors.
4. **Learning at all levels is emphasised.** This means that village people (VMG and others) will be directly involved in carrying out the PRAs together with district staff. (PBO/adviser pool will only participate in some of the studies.) It also means that a feedback of findings is included in the process, including village meeting at the end of each

PRA, for the VMG-staff (not the District facilitator) to directly report back to the whole village. The planned national MILS-workshop in August/September will ensure that district and province staff actively can participate in – and contribute to - the analysis at higher levels. In summary, the process itself (village PRAs, review workshops at provincial and national levels etc) is as important as the actual final monitoring report.

5. Another key aspect is applying a **stakeholder perspective**. This is important at village level - eg to describe and analyse how different groups (women-men, minority groups, poorer-richer households) have more or less access to for example crop land or may influence decisions on resource use. It is equally important to show possible differences in interpretation and experiences between village levels and eg district and province level (ie differences between the “demand-structure” and the “support-structure”)
6. Comparison and cross-checking with other types of studies are also important, including both eg earlier PRAs, and external studies.

3.2 Using the concept of “sustainable livelihood” as framework for analysis

The framework for analysis is based on the concept of “sustainable livelihoods” (an approach which was used also in the PPA-study in Lao Cai), which means that people’s livelihoods are described as consisting of (and being dependent on) five main types of resources or “capitals” (see Table 1).

Table 1. Five types of resources which are key to sustainable livelihoods

Natural capital	Human capital	Social capital	Financial capital	Material capital
Household land (crop land, home gardens etc)	Household labour and dependants	Support networks of friends and relatives	Cash income and savings	Housing and domestic assets
Community natural resources (forest areas, water etc)	Education, knowledge and literacy of household members and village/commune staff	Cooperation in production and markets	Formal and informal sources of credits and loans	Processing machinery (eg milling machines, sewing machines)
Water resources for domestic uses and irrigation	Skills and interests	Traditional events and ceremonies	Sideline income generation , eg. trading, services, non-timber forest products etc	Transportation (eg horses, motorcycles, bicycles).
Biodiversity and genetic resources, eg. NTFPs, livestock, agrobiodiversity	Psychological and physical health , and emotional well-being	Forums for sharing knowledge and influencing decision-making.		Village/-commune infrastructure (eg. electricity, markets, roads)
				Tools and other equipment Media eg TV and radio

This analytical framework makes it possible to analyse both changes in people's livelihood and well-being, and changes in the environment. It is important to stress that people's well-being depend on both the **amount** and **quality** of these different types of resources. Examples are size and quality of household crop land. Or number of healthy and educated labourers in the family.

3.3 Key questions

Key questions to be covered during the village PRA-surveys as well as during review/workshops discussions include:

1. Trends and Changes
 - a) What has happened: Understanding what changes have taken place regarding well-being, poverty, land-use and environment in the different villages and communes (see question 3 and 4 below)
 - b) Why did it happen: Understanding the main reasons behind the change.
2. Land use practices and environmental sustainability
 - a) Understanding the present land use, and how it developed.
 - b) Understanding the environmental impacts of the present land-use, on e.g. water, land/soil, and biodiversity.
3. Defining well-being and priorities of different groups
 - a) Understanding different people's definition of well-being, and criteria behind the definition.
 - b) Understanding the most important problems and needs of different groups, villages and communes.
 - c) Understanding livelihood coping strategies of different groups
4. Institutional Analysis
 - a) Understanding the role of local institutions, and how these have changed and developed over time, e.g, for village management, water resources, forest management etc.
 - b) Understanding to what extent services provided by MRDP and other organisations match priorities of people's and groups in the programme villages.

3.4 Criteria for village selection

Two villages will be covered in each district. This means that in total about 10% of all project villages will be included. Selection of villages is based on the following criteria:

1. Involved in the programme since 1996 or earlier.
2. Cover different agro-ecological zones
3. Different ethnic groups represented.

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