

NON-TIMBER FOREST PRODUCTS SUB SECTOR ANALYSIS VIETNAM

Mission report prepared for IUCN Vietnam and NTFP-RC by:

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1. INTRODUCTION

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Tuy were commissioned by the NTFP project to carry out an analysis of the NTFP sub-sector in Vietnam. The analysis was intended as a precursor of the formulation of a development strategy for the NTFP-RC and it comprised of the following components:

- To develop a framework for the collection and analysis of relevant information.
- To identify and describe the main stakeholders in the sub-sector.
- To describe the roles and capacities of these stakeholders.
- To identify priority issues in the sub-sector and the extent to which the capacity to address these issues is available in Vietnam. (Including conservation & management and R&D).
- To identify opportunities for the NTFP-RC and formulate recommendations regarding:
 1. Potential clients;
 2. Potential services that could be provided by the NTFP-RC;
 3. Potential issues/research themes to be addressed by the NTFP-RC; and
 4. Further work on the sub-sector analysis.

The mission took place between April 3rd and May 1st, 2000. A survey was carried out on the basis of semi-structured interviews with key informants. The interviews were carried out with the help of a checklist of key questions (see Appendix V). In addition, written documentation was collected and studied. Finally - to a limited extent - observations were made of facilities and activities (e.g. library/database, production facilities, and cultivation trials).

1.1 Scope and limitations

If only because of the limited time available to the team, this report cannot pretend to be anywhere near comprehensive. Mr. De Beer visited a few key contacts during a short stay in HCMC. All other interviews took place in and around Hanoi. Even in the Hanoi region it was only possible to meet with a small segment of each stakeholder group. Clearly under-represented are stakeholders close to the forest, particularly local communities and representatives of the local administration (see further introduction to Appendix 1).

1.2 Framework of the report

Chapter 2 gives short characteristics of the sub-sector in Vietnam and it identifies fields of interest related to different groups of stakeholders. It further recognises trends in the current NTFP discourse in Vietnam and presents perceived constraints among stakeholder groups. Chapter 3 discusses existing capacities to address the broader issues identified in Chapter 2. The chapter further assesses weaknesses and strengths of the current capacities and formulates priorities for future development.

In Chapter 4, conclusions and recommendations are formulated, with respect to needs and capacities in Vietnam in general, and specifically relating to the NTFP-RC's future role in NTFP research and development.

In Appendix I, information can be found on the organisations contacted (including acronym and full name), while for some of these organisations highlights of the discussion with the team are presented.

In Appendix II, suggestions are given for follow-up interviews with some relevant organisations not contacted during the mission. Appendix III contains a list of documents collected during the mission; Appendix IV presents some additional notes on processing technology related to NTFPs. Appendix V contains the checklist used during the interviews, and finally, in Appendix V the terms of reference of the mission can be found.

It should be noted that a draft of this report has been discussed with the director and staff of the NTFP-RC and has been circulated among a number of key resource persons.

2. NTFPs IN VIETNAM: ISSUES & CONSTRAINTS

2.1 Nature of the NTFP sub-sector

2.1.1 Rural households

The importance of NTFPs for rural households in Vietnam cannot be overestimated. This applies in particular

to the 8.5 million people of ethnic minorities, who mainly live in upland areas. In these societies, gathering, hunting and fishing are traditionally all vital adjuncts of forest farming. For ethnic minority and other rural households, NTFPs fulfil several functions. They provide food security, health care, materials for implements and construction, fodder, fuelwood, and last, but not least, a source of income.

2.1.2 Trade

The NTFP sub-sector as a whole, including collecting, cultivation trade and processing, gives employment to hundreds of thousand of people, including inhabitants of urban areas (Van Tien 1991:14). A significant part of the NTFPs harvested is entering the home market for direct consumption or for use in industries, which produce for the home market. It is impossible to assess the real total value of NTFP exports from Vietnam, as most of it - including a large volume of endangered plant and animal species - leaves the country unregistered (see Donovan, 1998). The picture is further complicated by the fact that a considerable part of Vietnam's NTFP export is in fact re-export from Laos and Cambodia. The overall trade is in the hands of a few state and provincial companies and numerous small private traders (see further Raintree, 1999; De Beer, 1992).

2.1.3 The forest resource

In the past, Vietnam disposed of vast forest reserves of different types and characterised by high species richness. About 12,000 species of plants are estimated to occur in Vietnam of which only 7,000 have been described, while up to 1,000 plant species are known to be endemic to the country. (Vo Quy, quoted in Ministry of Forestry, 1991:42). Vietnam's richness in terms of biodiversity is mirrored in the plethora of NTFPs collected for manifold purposes from the country's forests (see Petelot, 1952). However, in the last decades the total area under closed forest cover has declined rapidly. The main causes of forest degradation and destruction have been poorly controlled logging and shifting cultivation. Shifting cultivation in particular is a major cause of deforestation, where lowlanders with agricultural practices inadequate for upland plots, got involved in upland agriculture in large numbers. Forest decline and other factors are leading in many locations to over-exploitation of NTFP resources in the remaining areas, and to a decline in the abundance and quality of those resources (i.e. decreasing forest biodiversity) with consequent hardship for rural populations.

2.1.4 Interest in NTFP development

Since independence, there has always been occasional interest in Vietnam among policy makers, foresters and scientists in NTFP development. However, these products were defined as 'minor forest products' and as such also got minor attention. Furthermore, NTFPs were almost exclusively approached under the aspect of the potential contribution to the national economy in terms of industrial uses and as a source of export revenue. From this perspective, primary concerns are such issues as: securing a sufficient supply of raw materials; improved post-harvesting technology in order to produce higher standards of semi-processed materials or end products; and finally, a better understanding of foreign markets and the development of more sophisticated marketing skills. These legitimate concerns today certainly still play an important role behind the renewed discussions relating to NTFP development. A relatively new angle from which NTFPs are approached in Vietnam - although closely linked to the supply of raw materials concern - is the issue of incorporating selected NTFPs in large-scale reforestation programs.

Meanwhile, interest in the potential of NTFP development is increasingly driven from other perspectives as well. The latter approaches, while not necessarily antagonistic to the former, tend to give high priority to either biodiversity conservation and/or to local people's livelihood concerns. These approaches are discussed in the section "NTFPs in conservation and upland development".

Below, we will in some detail present the broader concerns that drive the NTFP discussion in Vietnam and relate these to the major stakeholders involved.

2.2 Policy development

While the different departments under MARD are involved in a heroic struggle to try to integrate new and old approaches concerning NTFP development in its policies, these efforts appear to be seriously hampered by a lack of (access to) reliable data. In addition, there seems to be a lack of direction for further development - different departments work with different objectives and these are not always consistent. Weak feedback and linkage with centres of expertise in Vietnam appears to further aggravate the situation. Not surprisingly, some of the confusion is transmitted to the lower echelons, where it results adds to an already great diversity of interpretations of the national policy. All in all, there is doubtlessly a crying need for general and more specific information to reach the policy decision making level. Perhaps even more urgent is the demand for expert input into the formulation process for an all-compassing NTFP development strategy at the national level.

2.3 Supply of raw material

The perceived shortage of raw material of certain NTFPs is primarily a concern of enterprises and institutes involved in processing (e.g. National Institute for Traditional Medicine). It seems that awareness of threatening shortages often becomes a concern too late, because of a lack of monitoring of NTFP resources, as well as a lack of contact with the primary producers, i.e. collectors and cultivators. (One telling example is the history of the short-lived sassafras 'success': see appendix I: EnterOil). The catchword for addressing the supply constraints is large-scale ex situ cultivation. However, plans for encouraging the cultivation of certain assumedly valuable species tend to be launched without previous extensive site specific trials and with little previous consultation of farmers. Sometimes, the bottleneck may lay at the other side: cultivation is promoted, but without previous scouting of the market and hence the danger of oversupply in relation to weak demand. (For an interesting example of farmer - factory - market linkage see Appendix I: Son Ha Company).

2.4 NTFPs in reforestation

The on-going reforestation effort in Vietnam has entered a new phase with the launch of the 'national five million hectare reforestation programme' (1998-2010). The program has been designed and will be largely implemented by MARD. Several international donors (such as ADB, UNDP, the Netherlands Embassy) and other international organisations (WWF, IUCN) have established a partnership with the government in support of the programme. The programme's objectives are:

- To increase the forest cover up to 43% in the country.
- To establish areas for raw material production combined with the development of forest product processing capacities in order to meet the need of domestic market and export.
- To enhance the forest's contribution to social economic development by providing increased income and employment for forest-dwelling people.

Contrary to the previous national reforestation plan, the current programme contains a substantial NTFP component, covering about 10% (480,000 hectares) of the total land area affected.

The inclusion of NTFPs into the plan seems a positive development, as compared to earlier large reforestation efforts, which almost exclusively focused on the planting of a few exotic tree species. However, the range of NTFP considered is rather small and, as the plan seems quite ambitious, one can only hope that implementation will be preceded by thorough studies into particularities. A major challenge will lay in the integration of the objectives of hunger alleviation and biodiversity conservation into these plans. Meanwhile, seen the large scale of the plan, it is a puzzling question from where the massive expertise will be mobilised to prepare, implement and monitor the scheme (for more details please refer to Appendix I: 'government agencies').

2.5 Market information and post harvesting technology

The need for up-to-date information relating to international markets, including trends, quality standards and access requirements, is another concern, primarily expressed in trade circles, but increasingly also in the 'conservation and development' initiatives discussed below. It is widely felt that Vietnam is at a considerable disadvantage in this field as compared to major competitors such as China.

Another disadvantage is believed to apply to the standards of post-harvesting technology, including storage, grading and primary processing. The main bottleneck here seems to lay in the limited capacity for extension of appropriate technology to small and medium industries located in the countryside.

2.6 NTFPs in conservation & upland development

In this section we consider the interventions in rural areas, which - often with foreign donors involved - have in common that they in principle contain a strong community focus. These interventions can be roughly divided into:

- A. Interventions directed at upland development, involving ethnic minority communities and with either as primary objectives to contribute to hunger/poverty alleviation and/or to the stabilisation of shifting cultivation in watershed areas and elsewhere. Some of these interventions - particularly those in the watersheds - may also have a conservation component (although not necessarily directed at biodiversity conservation).
- B. Interventions which are primarily directed at biodiversity conservation, but with a component involving

the population living in or adjacent to the forest area to be conserved. This type of intervention applies particularly to projects in buffer zones, which aim at diminishing the pressure on biodiversity resources in national parks and reserves through development assistance to the population in the zones around the protected areas. Currently, there are at least projects on-going in a dozen locations and more projects are in the pipeline. As such this is a big issue in its own (also in terms of money invested). A concept, which is widely used in this context, is 'Conservation & development'. The concept refers to projects, which aim at combining conservation with development objectives and it certainly has relevance beyond the buffer zone context per se (see further Gilmour & Nguyen Van San, 1999).

NTFPs, including game and wildlife, are widely seen as a key element in buffer zone management and upland development alike. Most projects tend to pay some attention to NTFPs, at least on paper, but it seems that so far the effort to address NTFP development in practice is very much at the beginning.

There appears to be immediate demand in the projects mentioned for input/assistance with NTFP-related participatory research and expert backstopping in the fields of:

- Resource management, including access rights, joint management, cultivation/enrichment planting, harvesting techniques and assessment of maximum harvest volumes.
- Food security and income generation ('marketing'). Those projects that seriously intend to explore the potential of sustainable NTFP harvesting for improving local peoples' welfare, will also need technical assistance in the field of local capacity building and skill development, as well as for the transfer of appropriate post harvesting technology.

Major stakeholders in conservation and upland development are:

- **Beneficiaries:** upland communities and communities living in buffer zones, local administration, park management, local entrepreneurs;
- **Supporters:** MARD (Departments of Forest Protection, Settlement and Shifting Cultivation), development and conservation agencies, research and extension institutes.

Finally, exchange of information and experience among the mayor C&D players takes place at an ad hoc basis or not at all. One promising vehicle to encourage exchange may be the fledgling 'Integrated Conservation & Development' Project' (ICDP) network.

2.7 Conclusion

The interest in NTFP development has slowly increased during the last decade. The interest reflects different perspectives, as it is triggered by perceived shortages of raw material, increased competition from abroad, needed input in reforestation programs and needed input in efforts directed at poverty alleviation, upland rural development and conservation.

In Table 2.1, the main concerns and needs from the perspective of different stakeholder groups are summarised. For this purpose, stakeholders are divided into two categories: those, which are located close to the forest on the one hand, and those, which are town based on the other hand.

Table 2.1 The stakeholders in NTFP development and their major concerns

Near the forest base	Main concerns & needs
Local communities	Access to forest, food & income, being consulted about interventions
Local authorities	Strengthen the local economy, improve living conditions
Rural development projects	Strengthen the local economy, improve living conditions
Park management	Decrease pressure on resources in national parks, reserves
Conservation projects	Decrease pressure on resources in national parks, reserves
Rural enterprises	Access to market information, processing technology
Town based	Main concerns & needs
Policy makers	Access to information and input for strategy development

Town based enterprises	Supply of raw materials, product development, export markets
Research institutes	To be able to strengthen capacities for new challenges
Funding agencies	See projects

3. INSTITUTIONAL CAPABILITIES IN NTFP R&D

3.1 Introduction

This chapter offers a preliminary overview of relevant expertise available in Vietnam in the fields of NTFP-related research and development, including a rough assessment of current strengths and weaknesses. Furthermore, priority areas to be strengthened are identified and indications are given for potential collaboration between various organisations and NTFP-RC.

Chapter 2 did present the demand for expert assistance in rather broad terms and as such reflected the points of view of major stakeholder groups. The present chapter attempts to make a breakdown of institutional capabilities in NTFP research and development, which need to be addressed in order to attain a comprehensive understanding of the potential role of NTFPs in sustainable rural development. That understanding will eventually allow for appropriate advice and assistance towards the concerns expressed by various stakeholders.

Identified on basis of discussions with these stakeholders, institutional capability aspects in the following areas will be covered below: strategy development; basic information (biological, product information, social economic and trade); community development; income generation; subsistence use; legal aspects; resource management; product development and post harvesting technology.

3.2 Strategy development

NTFP-related issues are addressed in a segmented way and at an ad-hoc basis (e.g. in projects). A comprehensive overview of the sector is nowhere available. In the view of the authors of this report, enhancing capacity to contribute to strategy development on different levels, but most urgently on the national policy making level, is a top priority.

3.3 Basic information

Biological (species identification, reproductive biology, dispersion, abundance, etc.):

At present, specific NTFP-related expertise is limited, but there is a sound basis to expand this expertise on request. The institutes FIPI and IEBR are important backstopping contacts for NTFP-RC and most willing to co-operate in the future and develop a research agenda together with the centre. IEBR, among other things, boasts a well stocked library - incl. flore d'Indochine, etc, a mature herbarium and an organised biodiversity database

Product information (identification of physical and chemical properties of raw materials, actual and potential applications):

Potentially can be carried out at Institute of Chemistry and Institute of Biotechnology (both under the National Institute of Science and Technology) and Department of chemistry, University of Hanoi (UoH). Good personal contacts between the Research Centre and the institutes mentioned do already exist.

Social economic (role of NTFPs in rural households):

Overall capacity to carry out (participatory) surveys is small. However, the Marketing Unit of NTFP-RC itself and some of the newly established research NGOs, such as CREDEP and RTCCD, have built valuable experience in this field over the past few years. The said NGOs expressed willingness to team-up with NTFP-RC in a common effort to improve methodologies, adapted to the on-the-ground situation in different parts of Vietnam.

Trade (statistics; valuation of NTFPs; market information (domestic, regional and overseas):

The statistics that are produced, relating to NTFPs, are very unreliable (underreporting, double counting, etc.) Some market information relevant to NTFPs is available in the Ministry of Trade, with various companies/traders and with NedCen (which has an export information database, among other things, covering such information as potential markets, market development, market access issues, trade regulations, importers in the various markets, etc.).

3.4 Community Development

Community Development in relation to NTFPs aims at possible interventions to enhance local management and use of NTFP resources through the strengthening of local organisational capacities and through facilitating skill development of the people involved. Such intervention, in order to be viable, must be based on an understanding of local peoples' existing social and cultural values and incorporate traditional knowledge systems and practices. In Vietnam, with its great ethnic diversity and the vast differences in local circumstances and customs, one cannot assume that what works in one place, automatically will work elsewhere. Special attention is needed to secure equitable distribution of benefits from NTFP exploitation, particularly to see that the poorest segments of society and women are not excluded from these benefits.

RTTCD and a broad range of national and international agencies are involved in community development one way or another, but in terms of promoting forest related economic development on the community level, it mostly seems to be at an initial 'experimental' stage. These experiments can only hope to grow into full maturity and hence find wider application elsewhere in the country, if a major investment is made in the capacity for social economic and applied ethnological expertise.

Meanwhile, regular exchange of experience within Vietnam and with initiatives elsewhere in Southeast Asia, is key in this complex, but important field.

3.5 Income generation/marketing

Linked to the former issue. Many projects in buffer zones and in the uplands to a certain extent do address income generating through the sale of NTFPs. However, the expertise involved tends to be minimal. NTFP-RC itself has a small, but competent marketing unit, which gives research input to the two project sites and does consultancies for WWF and has been asked by others. CREDEP also has a fledgling marketing unit, focusing on the market for phyto-medicines. However, the said units are, however, not equipped to sustain long-term/routine monitoring of market trends; carrying out analyses of the efficiency of marketing systems or to be aggressively involved in product promotion. In this field, sharing of experiences and joining forces is not only a possibility, but also an urgent need!

3.6 Subsistence uses including food and fuel

Food security (or broader livelihood security) related to hunger alleviation, is a stated priority of MARD. In relation to NTFPs, it implies - among other things - considering subsistence needs in forest rehabilitation. The aspect is addressed in passing in surveys carried out by the Marketing Unit of NTFP-RC, SIERES and others. A subsistence aspect that is relatively well covered (e.g. by FAO's RWEDP) is the collecting of fuelwood for household energy needs. However, in general there is still little experience in incorporating subsistence uses of food from the forest and other NTFPs into forest management and rehabilitation plans.

3.7 Legal aspects

Legal aspects concerning NTFPs, include the capacity for understanding customary arrangements for access to forests and usufruct rights to specific products and how these relate to the framework of government regulations for the same. Special attention is needed for understanding the impact of the current system of forest land allocation on ethnic minorities in general and minority women in particular. (See Sowerwine, 1999). Other relevant legal aspects refer to restrictions, rules and regulations, affecting the trade in NTFPs and to laws regulating bio-prospecting.

The allocation of forestland to local communities or individuals is a focus of the new phase of the SIDA-funded 'Integrated Upland Development Programme' in 5 northern provinces of Vietnam. Developing models that secure the rights and responsibilities of local people in relation to NTFP collecting will be part of the programme. A comprehensive study into the land and forest tenure relationships that effect NTFP management has been carried out in collaboration with NTFP-RC in Ba Be and Ke Go (Brinkman, 2000). The

Ford Foundation is funding one researcher, who - in collaboration with the Institute for Folk Culture Studies - works on customary law in relation to forest land in the Western Highlands. It is a key subject, for which expertise should be further developed.

3.8 Resource management

May be defined as the process of making and enacting decisions with regard to the use and conservation of forest resources within a certain territory. Apart from the in Section 3.7 mentioned access arrangements, aspects that are attributes of sustainable forest/NTFP resource management are:

- basic understanding of forest ecology (including the role of the fauna);
- insight in local knowledge, values and traditional practices referring to the forest in general and the NTFP harvest in particular;
- insight in the processes locally of planning, decision making and monitoring;
- insight in other activities and land uses that affect the NTFP resource;
- technical information relating to the introduction of best harvesting techniques and assessment of maximum harvest volumes under particular harvesting regimes;
- technical information relating to natural regeneration, enrichment planting, agroforestry, cultivation in home gardens.

Organisations which cover one or more of the aspects above mentioned, are - apart from NTFP-RC itself: FIPI; SIERES; CREDEP and the Medicinal Plant Research Centre, Tam Dao. However, much more work in this respect is required.

3.9 Product development

Several institutes are successfully involved in NTFP-related product development. But all together, they focus on a rather narrow range of products. Among others these are: phyto medicines, essential oils, bamboo and handicraft items (see also Table 3.1).

Table 3.1 Selected institutes involved in NTFP-related product development

Involvement in NTFP-related product development	Institutes
Phyto medicines	National Institute for Traditional Medicine and Institute for Materia Medica
Bamboo & 'agricultural residues'	Xuan Mai Forest University
Essential oils	Enteroil; Institute of Chemistry
Handicraft	CraftLink, NedCen

3.10 Post harvesting technology

In general, technologies of grading, cleaning, drying and package are very simple. Small-scale producers of NTFP often lack access to improved technologies that could increase their productivity and competitiveness. Because of poor pre-processing, income of NTFP harvesters is reduced. For example, inferior quality of some herbs can lower the product price. Storage techniques are backward due to lack of facilities (drying is mainly done in the sun, some medicinal tree parts are deteriorated when the weather is not favourable, e.g. rain). Moreover, many harvesters often sell NTFP unprocessed because they either need money immediately or because of the lack of knowledge of processing techniques. Organisations involved in this field are NedCen and NTFP-RC. See also Appendix IV for technical details on the processing of selected NTFPs.

3.11 Conclusions

It appears that for some aspects relevant to the concerns identified in Chapter 2, capacity in Vietnam is quite well established, while for other important aspects capacity is either weakly developed or almost non-existent. Meanwhile information is scattered and interdisciplinary linkages appear to be dormant or weak.

In Table 3.2 below, capacities, priorities and potential for collaboration with NTFP-RC are summarised.

Table 3.2 Capacities, priorities and potential for collaboration

Aspect	Institutions involved	Weaknesses/Strengths in Vietnam	Capacity Development Priorities	Potential for Co-operation
Biology	FIPI, IEBR	NTFP expertise limited, but sound basis for expansion	++	Very good, personal contacts exist
Market research	RC-MU, CREDEP, FSI, NedCen	Sufficient skills, but no resources for in-depth studies	++	Potential for collaboration to be further explored
Community development	RTCCD, BRDC	At initial stage	+++	Willingness to share experiences
Income generation/Marketing	NTFP-RC, Craft Link, BRDC	Most projects want quick results. For success long term involvement needed	+++	Willingness to share Experiences
Subsistence Uses, incl. food & fuelwood	Fuelwood: FAO, SNV	Aspect included in surveys, but no follow-up	++	To be further explored
Legal aspects	Ford, Inst. for Folk Culture studies, SIDA	Process of land allocation is not always transparent. Limited knowledge about customary access rules	+++	To be further explored
Resource management	NTFP-RC, FIPI, SIERES, CREDEP, MPRC	At initial stage	+++	ICDP exchange = Promising
Product development	NITM, Xuan Mai University, Craft-Link, NedCen	Expertise available for medicines, bamboo and handicraft	+/-	Good
Post harvesting technology, quality control/improvement	NTFP-RC, NedCen, UoH, Inst. of Chemistry	Relatively strong. Good basis for development of intermediate technology	+	Good. Contacts already established

+++ High priority
 ++ Medium priority
 + Low priority
 - No immediate priority

4. CONCLUSIONS AND RECOMMENDATIONS

In this chapter conclusions and recommendations are formulated, with respect to needs and capacities in Vietnam in general, and specifically relating to the NTFP-RC's future role in NTFP research and development.

4.1 Issues and constraints ('demand')

Conclusions

- The interest in NTFPs is slowly growing during last decade.
- This is to a certain extent reflected in MARD policy documents, but inconsistently.
- The increased interest so far hardly affects the overall research agenda in the country.
- The interest is triggered from different angles: perceived shortage of raw material, competition from abroad, needed input in ambitious reforestation programs, and increasingly within poverty alleviation/upland development efforts and 'Conservation & Development' projects.
- The importance of NTFPs in relation to support local people's livelihood, as well as, the need to better understand and improve local resource management are particularly mentioned in 'Conservation & Development' project documents, but often with minimal allocation of expert time to address the issues.

Recommendations

- Building capacity for assisting strategy development at different levels and as a continuous process is a top priority. The NTFP-RC is in the best position to assume this role. Initial major target group to focus on is MARD and other national government agencies.
- NTFP development and NTFP-RC interventions should be based on linking Conservation and Development. Primary target groups/clients, apart from policy makers, are therefore to be found in the fields of 'Conservation and Development' and of upland development.
- Linkage to other 'secondary' clients, such as processing plants and trading companies should take place on the basis of compatibility with the objectives of the Conservation & Development approach.

4.2 Capacities in the NTFP sector (expertise available and lacking)

Conclusions

- In general, information is scattered and interdisciplinary linkages are dormant or weak.
- Biology, product development and post harvesting technology are relatively strong.
- Resource management: limited, particularly detailed knowledge is missing on what works where and with whom.
- Legal aspects: overall still weakly developed, but increasingly gets attention. Some institutes and individual researchers work on tenure-related aspects.
- Market research: the marketing unit of NTFP-RC is competent, but smallish in relation to its future tasks. Other organisations, which have marketing units, meet the same constraint.
- Food security in relation to the forest and subsistence uses of NTFPs by local communities: underdeveloped.
- Socio-economic development, extension to village level, improving functioning of first chain in production channel: at an embryonic stage.
- Some specialist institutes, notably the Bee Research and Development Centre, dispose of integrated expertise and know-how of a broad range of aspects relating to the product group they cover.

Recommendations

- A process should be initiated, in which the development of directions for future research, and capacity development for research, is linked to the demands from 'the field'. An option would be to establish a Task Force/Working Group, facilitated by NTFP-RC.
- Capacity building is urgently needed particularly in the field of community-based social economic development, as well as in the field of site-specific resource management. This could become a specialisation of NTFP-RC, because –as was mentioned under 4.1- the link between Conservation and Development is still weakly developed in Vietnam.
- Interdisciplinary methodologies are to be further developed for participatory research and for collaborative management.

4.3 Co-operation/Networking

Conclusions

- Co-operation between stakeholders does take place on a limited scale and on an ad hoc basis. However, some promising initiatives have emerged recently, such as the 'Integrated Conservation & Development Project' (ICDP) network.
- Willingness for collaboration with NTFP-RC is great, notably among other centres of expertise. Most of the institutes, which were contacted, see their expertise as complementary to NTFP-RC.
- General interest exists to participate in future workshops organised by NTFP-RC.

Recommendations

- The NTFP-RC should maintain regular contacts with key partners in the network:
 1. Specialists;
 2. Policy makers; and
 3. People working in 'the field' (national parks, districts, farmers unions, projects, NGOs).
- While it may seem obvious that co-operation with stakeholders in totally different fields of expertise will be mutually beneficial, it can also be productive to share experiences with other initiatives working more or less along the same lines. As such one can learn from another and together develop innovative

approaches.

- Instruments to further the above: newsletter, workshops, working groups. Where possible, the centre should join existing initiatives, or initiate new mechanisms, such as the earlier mentioned Task Force/Working Group, joint activities/consultancies, etc.
- As follow-up of the work of the team: staff of NTFP-RC on a routine base visit or invite potentially interesting organisations beyond the core network to present the centre, share information and explore possible collaboration. It is further recommended to put some effort particularly in establishing good working relations with contacts in the south and centre of the country. All the relevant information thus acquired is to be stored systematically in the database of the centre.
- While it will be wise, to initially focus on strengthening the network in Vietnam itself, it is recommended to also foster contacts abroad, particularly in the Southeast Asian region. One could start with building a database of addresses, contact persons, relevant web sites, etc.

4.4 Role of NTFP-RC

In order to be able to develop a strong core of expertise within the institute and in order to present a clear profile to partners and potential clients, the centre will have to carefully reflect on the direction that it wants to go in the future. It will be more productive to focus on a circumscribed set of functions for which the centre has the potential to become really excellent, then to be involved in too many different things a little bit.

On the basis of an assessment of current needs versus existing capacities in the NTFP sub-sector and considering NTFP-RC's present mission, as well as the in-house capacity it has developed in recent times, the team sees the following option as the most viable:

A. The RC defines its primary role as intermediary/go-between/facilitator, and as such:

- becomes the place where all relevant information is available;
- takes an active role in the dissemination of information to people working in the districts, primarily those working in a C&D context (for instance in the form of a series of technical booklets); the fact that they receive information will provide an incentive for people to give information in return;
- monitors and evaluates new developments in research & development;
- initiates discussions and exchange of experience (e.g. through organising workshops; series of lectures);
- plays a role in identifying priorities for future research;
- contributes to strategy/policy development at different levels. In principle from the national policy level all the way to project/commune realities and back;
- is involved in developing new approaches/models and promotes approaches that work.

B. The RC's second role is in research and development, carried out by its own staff. Activities include:

- besides the more 'traditional' research (chemistry, botany, silviculture, processing) more attention is needed for innovative multi-disciplinary research, which aims at developing new or more refined participatory approaches in order to deal with the community-based conservation and development link. The centre needs to set a long term agenda for this type of research - in collaboration with partner specialist institutes;
- applied research and technical backstopping on contract basis for others. Certain minimum standards have to be formulated for this type of work.

The NTFP-RC seems fortunate to dispose of a nucleus of capable staff with basic expertise to address two larger issues - community-based resource management and livelihood assessment/income generating. These are major issues in a 'conservation & development' approach, wherein the role of local communities constitutes the major concern. This is the more relevant, as demand for this type of expertise is growing, while indigenous expertise in Vietnam at present is still scarce. In addition, it seems very well feasible, to integrate NTFP-RC's established expertise in the field of processing technology in the package of expertise. A major forte! It is also acknowledged, that some of the staff show a remarkable talent to prepare themselves for new challenges and it has been observed that the individuals concerned tend to carry out their duties in a committed and broad-minded way. Having said that, it is obvious that this nucleus of expertise is still in an embryonic state and - in the light of the increasing appeal on the Research Centre's good services that may be expected in the near future - it appears wise to further invest in strengthening these comparative advantages. Therefore, it is recommended, that the centre allows for an increase of its knowledge base in core areas, that is:

- Allow for permanent staff development, e.g. through study visits abroad, attendance of workshops, organised by other organisations in Vietnam, etc. These should take place on the basis of a training

- needs assessment for the centre as a whole and focused on individual staff members needs as well.
- Budget constraints permitting, allow for a small increase of staff, particularly for the marketing unit.

Information management

Meanwhile, in order for the NTFP-RC to be able to play a pivotal role as the centre of excellence for NTFP research and development in Vietnam, the one most urgent priority is to immediately introduce a simple, but effective system of information management into the institute. Therefore, it is recommended, at the soonest, to hire a qualified person to be in charge for information management and to send the librarian - as his/her assistant - for additional on-the-job training elsewhere to improve her skills (e.g. WWF). The information manager (IM) would have as her/his short-term duties:

- To establish a specialised effective library (with links to other libraries) and
- To organise and maintain a rudimentary database of contacts/addresses, etc. which will become the backbone of the centre's network.

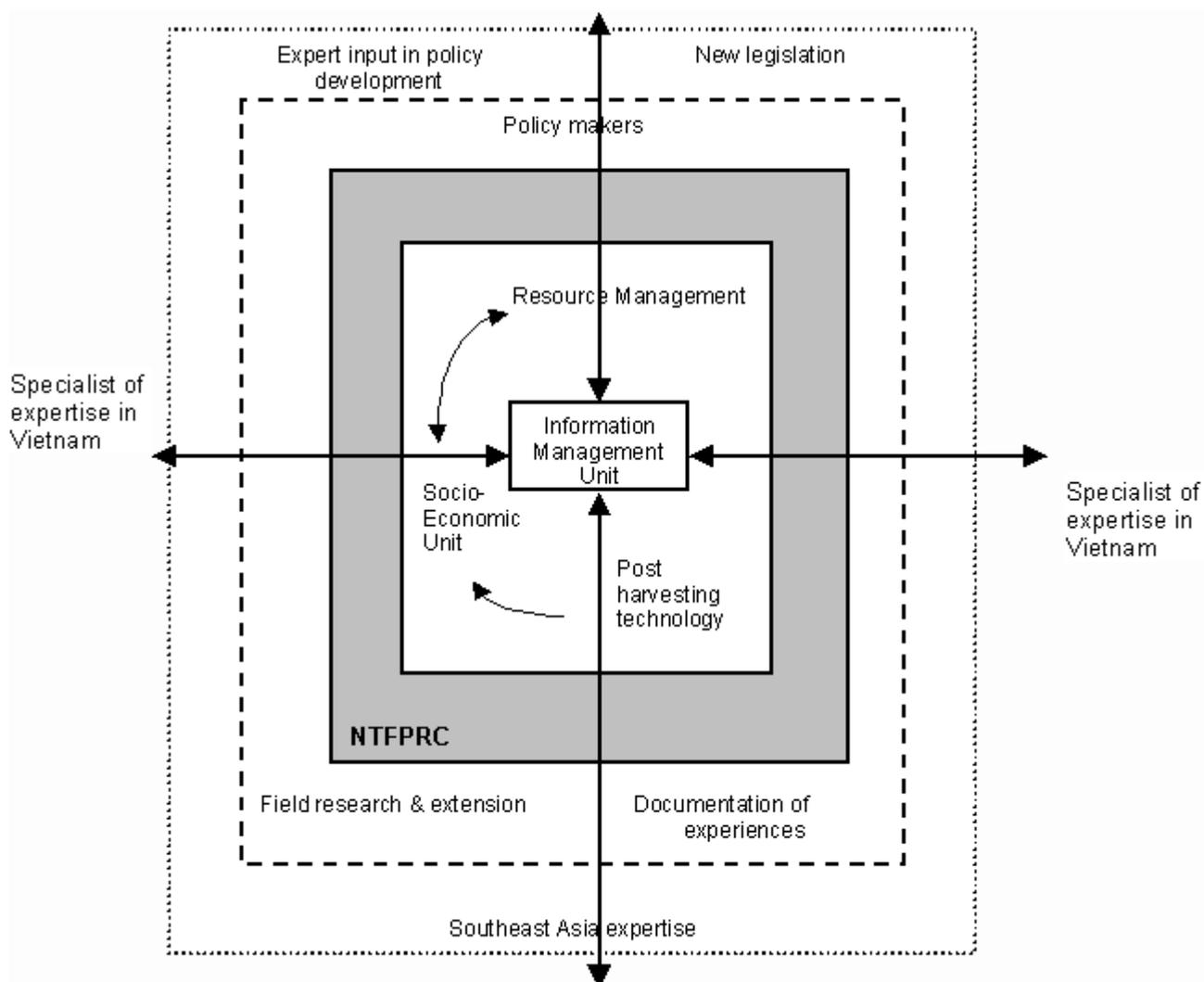
The IM is to be in regular contact with the director, the project co-ordinator and the heads of the different units within the centre in the capacity of his/her particular responsibility to see that all relevant information routinely comes into the centre and that it is stored there in an easily accessible form. In a later phase the IM could become the person first responsible for organising the dissemination of well packaged information (e.g. newsletter).

Organisation structure of NTFP-RC

Figure 4.1 below schematically suggests a possible structure for improving networking/interaction with partners outside - and information management within the centre.

In the proposed structure, the Information Management Unit gets a pivotal role, while the centre's core/frontline activities are further organised around two intensively collaborating main units, that is, a Resource Management Unit and a Social-Economic Unit. 'Post Harvesting', the 3rd unit, would primarily act as a support facility to the Social Economic Unit. Finally, a 4th unit (not represented in the figure) would contain financial, administrative and other services to the centre as a whole.

Figure 4.1 Possible organisation structure of NTFP-RC



5. REFERENCES

- Beer, J.H. de (1992). Non-Wood Forest Products in Indochina; Focus: Vietnam. FAO/AidEnvironment, Rome/Amsterdam.
- Beer, J.H. de & M.J. McDermott (1996). The Economic Value of Non-Timber Forest Products in Southeast Asia. Netherlands Committee for IUCN, Amsterdam.
- Brinkman, L. (2000). Forest and Land properties in Ba Be and Ke Go. (Working Title). In Press, Hanoi
- Broekhoven, Guido (2000). Discussion Paper about the Development of a Strategic Plan for the NTFP Research Center. NTFPRC, Hanoi.
- Donovan, D.G. (Ed.) (1998). Workshop on policy issues of transboundary trade in forest products in North Vietnam, Lao PDR and Yunnan, PRC. Volume I Proceedings. East west Center, Honolulu
- Gilmour, D.A. & Van San Nguyen (1999). Buffer Zone Management In Vietnam. IUCN, Hanoi.
- Ha, Chu Chu (1997). Non Wood Forest Products. Forest Science Institute, (Unpublished), Hanoi.
- Le, Thi Phi (2000). Report on Study of the Role of Non-Timber Forest Products in Household Economies and Proposed Strategies for Sustainable Development in Vu Quang Nature Reserve. NTFPRC, Hanoi.
- Ministry of Forestry, SRV, UNDP, FAO (1991). Forestry Sector Review, Tropical Forestry Action Plan, Hanoi.

NTFP-RC (1998). Sustainable Utilization of Non-Timber Forest Products. Forest Science Institute of Vietnam, Non-Timber Forest Products Research Center, Hanoi.

Petelot, A. (1952). Les plantes Medicinales du Cambodge, du Laos et du Vietnam, Tome I-IV. Centre de Recherches Scientifiques et Techniques, Paris.

ProFound (1999). Marketing Guidelines for NTFPs, Working Paper, Utrecht.

Raintree, John (1999). A Proposal for a Market Analysis Component for the NTFP Project. Forest Science Institute of Vietnam, Non-Timber Forest Products Research Center, Hanoi.

Salemink, Oscar (2000). Customary Law, Land Rights and Internal Migration. (In Press), Hanoi.

Sowerwine, Jennifer (1999) New Land Rights and Women's Access to Medicinal Plants in Northern Vietnam. In: Tinker, I & G. Summerfield (ED.): Women's Rights to House and Land; China, Laos, Vietnam. Lynne Rienner Publishers, Inc., Boulder, Colorado

APPENDIX I: ORGANISATIONS CONTACTED DURING THE MISSION

INTRODUCTION

Scope and limitations

Contacts have been selected as to the best knowledge of the team and on the basis of input given by RC-NTFP staff and other resource persons with knowledge of the sub-sector. Meanwhile, the team was commissioned to cover a broad field of stakeholders in a rather limited period of time. Therefore, it was decided to focus on contacts in and around Hanoi and in HCMC. With the possible exception of universities, the categories of 'scientific institutes and NGOs', as well as 'international conservation and development agencies' have been covered quite extensively. (As these are mainly based in either Hanoi or HCMC). The section 'Government agencies' covers several branches of MARD and MIP, arguably the most relevant actors in this category. Furthermore, a relatively small selection was made of the numerous actors in the enterprise sector - including private and state companies; and enterprise support organisations. Systematically underrepresented are the stakeholders close to the forest, particularly communities and the local administration. However, the team hopes, that it has achieved in partly compensating for this shortcoming through extensive discussions with resource persons, which are in regular contact with the said stakeholders.

The extent of information in the sections below varies considerably, depending on either the relevance of the information acquired, or the time available during the particular interview. Meanwhile, contacts varied from:

- Extensive interviews carried out by the whole team, and on the basis of a checklist of key questions.
- Short 'lunch appointments' by individual members of the team.
- Interviews by telephone.
- (In a few cases), information derived from written documentation only.

GOVERNMENT AGENCIES

MARD & Ministry of Investment and Planning

This section has been written on the basis of the study of various documents and of discussions with a senior officer of the Ministry of Investment and Planning (Mr. Truong) and with representatives of the following departments within MARD:

- Department of Forest Protection (Mr. Ha Cong Tuan, vice-director)
- Department for Science, Technology and products quality (Mr. Dang Van Dam)
- Department of Forestry Development (Nguyen Ngoc Binh)
- Department for settlement and fixing shifting cultivation (Ma Chuong Tho)
- Dep. of Planning

General

In Vietnam, before the "economical renovation" the coping strategies dealing with NTFPs read as follows:

"Non- timber forest product include among many things those produced by both plants and animals besides what is refereed to as wood and timber products. They play a very important role in the economic life of people, in export, in the industrialisation of the country and even in national defence. The urgent task by now is to build up the forest resource, including of NTFPs, to carry out rational extraction of forest products to ensure forest regeneration to develop forest product processing not excluding that of NTFPs to meet the demands of domestic market and then those of specific international markets. To promote the production and the business of NTFPs is to carry out the short term farming for the benefit of long term development, integrated land farming, better utilization of al forest products and sustainable forest lands, to enhance the strengths of tropical forest, to create much more economic value from all products, on a unit of forest land area for accelerated capital formation and more foreign earnings to purchase new equipment, contributing to modernization of forestry". (MARD policy document, 1997)

The policy makers, apparently, may appreciate the NTFPs potential to contribute to the national economy. The government has realised the potential for industrial utilisation of NTFPs. However, in fact, NTFPs production in Vietnam is very small in comparison with other countries in the Region - at least according to official statistics. According to the data of Ministry of Forestry before 1995 Vietnam produced every year 7,500 tons of NTFPs of various kinds and very limited quantity of bamboo, rattan and palm leaves.

Table A.1 Average annual registered production of selected NTFPs in tonnes 1993-1999

Pine resin	3,500
Anise star	2,000
Cinnamon bark	1,500
Tung oil	170
Tea oil	100
Canarium resin	100
Cashew nut	1,500
Shellac	20
Some medicinal species:	
Ba kich (Morinda officinalis how)	20
Sa nhan (Amomum Xanthiodes Wall)	50
Thien nien kieu (Hemalomena AFF Sagittaefolia Jungh)	200
Thao qua (Amomum Tsao - Ko Crev Et lem)	80
Ha thu (Polygonum Multiflorum Thumb.)	50
Dang Sam (Codonopsis Pilosula Franch)	20
Tram Ky (Aquillaria Agallocha Roxb)	
Bamboo and rattan (canes/pieces):	
Big size rattan	25,000
Small size rattan	7,000
Palm leaves	50,000
Mangrove bark	300

Source: FIPI

Export of these products officially reached only US\$ 40 million annually between 1986-1990. So far there is not concentrated area of NTFPs , beside some area of resinous pines. Investment for the production and

establishment of resource base NTFPs are lacking. There is no systematic management of NTFPs in Vietnam. NTFPs management for sustained and improved production suffers from much slackening and inconsistent strategy. That situation has prevailed over time with "state commodities-buying" stations being set up in all places, where an interesting source of NTFPs can be detected, with all local people there trying to get as much as they can from the forests, and with no investments and efforts by state agencies to protect the resources base and cultivate the species most promising and valuable for economic development. It was only in 1984, when a transfer of responsibilities took place from the Ministry of Industry, and when the forestry sector and provincial authorities were entrusted with the management of existing NTFPs, but not much has been achieved since then to stop negative impacts of mismanagement in particular at the commune and village levels.

The technology for the breeding of plants and that of these products processing are underdeveloped plantation and breeding of the right species. On the other hand outlines for priorities setting in NTFPs production and research have not been shaped out so to point out the main lines for capital investments. So far the results of research works are some technical prescription relating to exploitation of some NTFPs categories. There is the need to strengthen the research capacity on NTFP for developing the immense potential of these resources.

Policy development

Since the mid-1980ies, the policy renovation on forestry sector has an important impact on the forest management and the forest resources development. The general policy had implications in promoting forest protection and accelerating reforestation. The main policies are:

- Forest and forest land allocation
- Fixed cultivation and settlement
- Socio-economic policy in mountainous regions
- Multi-sectored economic policy in forestry.
- Hungry reduction and poverty alleviation
- Forest resources and land use takes
- Law on forest protection and development

The essential components of the policies applied in forestry could be summarised as following:

- Decentralisation of planning and de-collectivisation of farms to individuals. Adopting the policies in order to create dynamic in production for the farmers, the favourable conditions for households and forestry workers policies the farmers can get more benefit from forestry: Granting 20 year leases for farmer used for annual crops 50 year leases for forestry lands. Farmers do not have to pay rent for allocated lands, enjoy the benefit brought about by public works on forest protection and improvement. Farmers are encouraged to use the allocated land by agroforestry system planting NTFPs and enjoy totally the obtained products.
- Transition from planning economy to market economy from state forestry to social forestry. The government encourages co-operatives and people all economic sectors to bring into full play labour, land materials, in forest protection and development. Increased prices obtained for natural forest products as a result of market mechanism providing incentive for people to develop plantation. The state invests budget for promoting afforestation in watershed areas and developing protective forests.
- Improving the income of farmers by involving them in forestry production and forest management. Implementation of "hungry reduction and poverty alleviation" is first step of the long-term strategy, intending to achieve sustainable forest management through rehabilitation, enhancement of productivity and expansion of forest resources with the participation of local people.

NTFPs in conservation & development

The natural forests consist mainly of a mixture of wood and non- wood species, dominated by broad-leaved association. Despite deforestation and degradation, the Vietnam forest flora is still species rich, comprising endogenous, endemic and exotic families and genera, of which many non-wood species are of high economical value. Out of 12,000 higher plant species so far inventoried, there are:

- 76 species giving aromatic resin
- 600 species giving tannin
- 93 species giving dyeing stuff
- 160 species giving essential only
- 260 species giving fat oils
- 1,498 species giving pharmaceutical products.

Both the non timber and non timber regeneration products obtained from trees are useful, and long time ago have been the source of food, and some kind of these products are supplying the goods to the population, consumed within country or exported. According to the findings of the institute of ecology and biological resources the number of the species used in Vietnam will be increased by studies and detailed field surveys in the future. Several new species of plants and wildlife have been identified recently. As a result of deforestation and loss of habitat, ecosystem degradation and wildlife erosion have taken place. According to the 'Biodiversity Action Plan' (1995) about 28% of animal species, 10 % of bird species and 21% of reptiles and amphibians, are facing danger of extinction, while some 350 plant species are endangered. Over exploitation of resources, poaching, illegal trade in wild animals and bio-piracy are serious problems. Thus, conservation of biodiversity in general and forest biodiversity in particular is of great importance and urgency.

The conservation of forest ecosystem is based on a system of protected areas and national parks. The basis of decision No- 194/CT of the council of the Ministers (9th August, 1986) a system of "special use" forest was built up and on the accomplishing process. This system consists of 10 national park, 46 nature reserves and 31 cultural/historical sites having total area about 1 million hectares. The Vietnam Red Data book has been published in two volumes. The first one is devoted to presenting 347 endangered animal species and the second one to some 350 rare and endangered plant species.

In 1993, Vietnam representative signed the biodiversity conservation. The biodiversity action plan of Vietnam formulated by Ministry of science and technology and environment has been approved by the Prime Ministry in the decision No 845/TTg, 22nd December 1995. Vietnam has participated in some international programs for protection of environment and biodiversity, such as Man and biosphere Program, RAMSAR conservation CITES; INBAR agreement, etc.

Several international organisations have been providing assistance to Vietnam in study on biodiversity conservation and in implementing the National Action plan for protection of environment and biodiversity, such as WWF, GEF, IUCN, UNDP, JICA, etc.

Conservation of NTFP is included in biodiversity conservation in general. However, towards the NTFPs, which are the object of production, the conservation policies should be different in comparison with biodiversity protection.

The components of NTFPs conservation policies should be recognised as:

- Sustainable utilisation/harvesting of NTFPs. Harvesting NTFPs is usually not carried out in the protected areas (national reserves, national park), but in the buffer zones conservation is combined with some system of NTFP harvesting. The same way is application for other categories of special use forest. In production forests harvesting of forest production is allowed, however the principle of sustainable development should be adopted in Vietnam NTFPs harvesting methods may depend on the value of the product. A major challenge is how to apply sustainable management and sustainable development principles in NTFPs production.
- NTFPs conservation and development are two aspects of the same objective: Conservation could be realised only on the basis of development of NTFPs when the resource was conserved. Rule and mechanism for effective and practised on a regular basis to rescue the regeneration, the improvement and the conservation of the resources under management and other rare and precious species.

Poverty alleviation

National program on hunger eradication and poverty alleviation (information supplied by department for fixing cultivation and settlement).

Scope of the program

The program shall be implemented nation-wide, including 9 projects as following:

- Development of non- farm employment
- Project infrastructure construction and settlement
- Development for the poor
- Education
- Public health
- Extension for income generating and promoting agriculture, forestry, fishery (including NTFP)
- Cadres capacity
- Support of ethnic minority.

Program will be implemented in 1,715 communes. Among them, in 1,535 communes 452,000 households (2.6 million people) are a target group to be settled; most of them are ethnic minorities living in seriously difficult conditions.

Key method of the settlement program is creating condition for more effective land use. Special attention is paid to cultivation for food crops and forest non timber production; providing extension service to inhabitants such as good quality and high field agriculture varieties, forest species and livestock; applied research on sloping land agriculture technologies; land allocation and forest protection. Priority in the settlement program is given to infrastructure development and the improvement of household economies.

Extension activities:

- Strengthen and expand the extension network to mountainous, remote and isolated areas.
- Establishment of agro-forestry demonstration models and nurseries for providing good quality seedling.
- Promoting dissemination activities, training provided to village and commune extension workers to involve inhabitants to advanced technologies.

The project of support to production and professional development focuses on:

- To supply means of production, improved tools to households for production service, establishing small scale processing units in the commune for coffee, cinnamon, anise, medicinal materials, cardamom, as well as fresh fruits and vegetables.
- To provide households and communes technicians.

NTFPs in Reforestation: The national five million hectare reforestation program (1998-2010)

The objectives of the above mentioned project are:

- Increasing the forest cover rare up to 43% in the country.
- Establish the areas for raw material combining with development of the forest product processing in order to meet the need of domestic market and export.
- Enhancing forest's contribution to socio-economic development by providing increased income and employment for forest - dwelling people.

The program is expected to achieve the following:

- Creation of 2 million ha of special use and protection forests, including 1 million ha naturally regenerated.
- Creation of 3 million ha of production forests, including 1 million ha of cash crops and fruit bearing trees.

By plan, the areas developed to NTFPs production is about 480,000 ha.

Table A.2 Planned areas devoted to production of NTFPs, in ha

Cinnamon cassia	65,000
Anise star	20,000
Pinus Khasya	140,000
Tung oil tree, tea oil tree	155,000
Bamboo of various species	200,000

Source: classified MARD, Dep. of Planning, 5MHRP document

The above mentioned plan could be adjusted according to the market demand and investment possibility. The total investment is previously estimated at VND 3,620,000 million.

According to the Department of Planning's 5MHRP document, some problems should be taken into consideration:

- Forest lands almost monocultural eucalyptus or accasia – silvicultural system variety of trees and plants, specifically non-timber species.
- The most part of people seeks: To take advantage of the situation by focusing their activities on the production of marketable products such as apricot, cinnamon, tea, and litchi.
- Forest and forestland have been allocated to rural households. They choose species for planting according to market demand. The sources of non-timber products are diverse and thus are of small quantity and of different quality, difficult to be raw material for industries.
- Market development for non-timber products is an urgent need. Issue policies which support exports of forest products, including non-timber products.

On the technological aspect, some suggestion could be raised:

- Gradually establish concentrated and large-scale production areas for non-timber forest products, securing the raw material for industries.
- Improve product quality. Diversifying products, increasing labour productivity and reduces cost.
- Develop handicraft from non-timber forest products. Bamboo, rattan, medicinal products, palms and leaves.
- Standardisation of non-timber products should be promoted.
- NTFP taken as priorities: pine resin, cinnamon, anise, alleviate, cashew nut, medicinal plants.

SCIENTIFIC INSTITUTES & NGOS

Forest Science Institute of Vietnam (FSIV)

The Forest Science Institute of Vietnam is the mother institute of NTFP-RC. It was established on the basis of merging the three institutes: the Forest Research Institute, the Forest Industry Institute and the Forest Economics Institute. It is the main research organisation on forestry and is subjected to direct guidance of the Ministry of Agriculture and Rural development.

The institute is divided into a number of divisions and centres. Some of them has co-operated with the NTFPRC, however, not very intensively. The director of the institute expressed his wish that NTFP-RC will contribute to the development of a long-term development strategy for NTFPs in Vietnam.

Forest Inventory and Planning Institute (FIPI)

Specialisation: NTFP inventories: identification of species, distribution and biological characteristics.

Particularly bamboo and rattan, medicinal plants and resins. For future edible oils are considered.

An increasing focus is on NTFPs in buffer zones, with a special interest in ethnic minority use and knowledge of forest products. Interest in NTFP is rather new within FIPI and from the 700 total staff, only a few have deep knowledge about the subject. Therefore, training for the staff is needed and a database on products is to be developed.

Major constraint in relation to NTFPs: no national co-ordination in the research effort.

FIPI welcomes collaboration with NTFP-RC to jointly develop a model for an integrated approach. There will be no competition, as the two institutes do have complementary expertise.

Institute of Ecology & Biological Resources (IEBR): Dr. Le Xuan Canh (Deputy Director); Dr. Tran Minh Hoi (Deputy Director)

The mission of IEBR is primarily directed at fundamental biological and ecological research.

The institute disposes of a large, well-maintained herbarium, a well-stocked library, including major botanical handbooks; it is the Vietnamese partner in the Plant Resources of Southeast Asia (PROSEA) project and it maintains close relations with scientific institutes abroad, such as the Jardin des Plantes in Paris. In Vietnam the institute is regularly consulted by IUCN, WWF and others in biodiversity matters. New is a unit which specialises in ethno-biology.

Linkage between IEBR and NTFP-RC is so far rather weak, but there is great willingness from the side of IEBR to intensify co-operation in the future.

National Institute of Traditional Medicine: Professor Tran Thuy (Director)

The institute, established in 1957, gives technical support to 43 traditional hospitals, spread over the country. While it is the national co-ordinating body for research and development of traditional medicines, it works closely with the Institute of Materia Medica and with the Medical College of the University of Hanoi.

Furthermore, the institute produces medicines based on the traditional Vietnamese pharmacopoeia.

The components of the medicines are derived from plants, minerals and animals.

Many of the plants are collected in the forests. Problem: dwindling forest and over-exploitation (open access). [Together with IUCN?] a list of endangered species is being composed. Discussions with MARD and Ministry of Health. Cultivation is needed and the institute fosters an ambitious plan for a countrywide campaign to promote about 30 species of medicinal plants - both for local use and for export - to be planted in home gardens. Some studies have been carried out in the past near Hanoi, but at present no staff and money available to continue. Q.: Perhaps the NTFP-RC can study how to do it?

The problems with animal components are even worse, related to the strong demand in China

National Institute of Materia Medica

The institute (also known as the Institute of Pharmacy) is located in Hanoi and involved in production, processing, marketing and R&D of medicinal herbs. They have developed a variety of biodiversity conservation methods including in situ, ex situ, on farm, in vitro and cold storage methods.

Departments of the National Institute of Materia Medica
• Medicinal resources
• Phytochemistry
• Pharmacology and biochemistry
• Chemical analysis and standardisation
• Formulation
• Tissue culture

The institute has the following facilities:

- Pilot plant for extraction of active compound
- Research centre for cultivation and processing of medical plants at Vang Dinh
- Station at Tam Dao at 850 masl.
- Station at Sapa at 1600 masl.
- Research centre for Vietnamese ginseng and materia medica in Ho Chi Minh City
- Research centre for plant breeding in Dalat at 1,200 masl.

Materia Medica has a satellite factory producing crude extract, which is purified at one of its facilities. Annually, they export 1 ton of pure extracts to The Netherlands and Belgium. They are very interested in developing additional markets for pure extracts and request assistance.

Together with the World Health Organisation, the institute carried out a research on cultivation techniques for many of the herbs in Vietnam. In collaboration with the Ministry of Agriculture and Rural Development, they promote the cultivation of medicinal plants producing by the upland communities. They also co-operate with MARD for in situ conservation in areas such as Cuc Phuong and Bach Ma botanical gardens. The institute has expressed interests in extending co-operations with other organisations and in particular the NTFP-RC.

(N.B. Source of the information above: Raintree, 1999).

Xuan Mai Forestry University: Dr. Nguyen Dinh Tu (Director); Pham Van Chuong (Dean Forests Products Processing Faculty)

NTFPs are not yet specifically addressed in the curriculum, but the university sees the importance, for instance in the program of the faculty of social forestry. The faculty of wood processing has long experience with the processing of bamboo and with product development relating to bamboo and agricultural residues.

Bee Research and Development Centre: Dr Phung Huu Chinh (Head Training and Extension Department)

As its name indicates, BRDC is specialised in bees. It focuses on indigenous bees, including *Apis dorsata* forest bees. The centre is since long involved in research and extension activities, including documentation of local bee management traditions and advise on improved management, marketing of honey and wax, the organising of 'bee special interest clubs'.

CREDEP: Professor Tran Cong Khanh (Director); Dr. Tran Van Oanh (Senior Researcher)

The Centre for Research and Development of Ethno-medical Plants (CREDEP) was established in 1993. It is affiliated to the Dep. of Botany of the Hanoi College of Pharmacy. Total staff: 30, of which 5 full time. Involved in research on a broad range of topics, among which inventories of NTFPs used by different ethnic minorities, market surveys.

Plans for the future: encourage the cultivation of certain medicinal plants in home gardens. Meanwhile, CREDEP is uncomfortable with the cultivation programme as promoted by the ministry of health. That programme insufficiently considers local ecological conditions.

Main contacts: RTCCD, WWF and Botanical Garden Conservation International (UK)

Funding from McArthur Foundation and the Darwin Society

Collaboration: CREDEP was already working in BA Be, when the IUCN project and GTZ started. Would have appreciated if both projects had contacted them. Nevertheless, looking forward to information sharing and collaboration in the future.

RTCCD (Hanoi Research and Training Centre For Community Development): Dr. Vu The Long (Director); Le Quoc Hung (Vice Director); Duong Thuy Nga (Project Officer)

RTCCD was established in May 1996. Its primary objective is to increase the capacity and quality of human resources at the grass-roots level. They hope to achieve goals by implementing activities that assist people to carry out their own action research, or to provide them with the training that supports community participation in development projects. In addition, research designed and conducted by the Centre itself or in collaboration with other Vietnamese or overseas institutions aims to have an impact on the process of formulation government community development policy so that a macro-level improvement in community development can be reached. Finally, the centre has through its director very close links with the 'National centre for Social Sciences and humanities in Vietnam'.

CRES

The organisation is affiliated to the University of Hanoi and is a partner in the NTFP project, working in the Ke Go buffer zone. CRES has experience in the sustainable management of natural resources and in the development of livelihood strategies.

N.B.: Source of information: project (Guido Broekhoven)

EcoEco

EcoEco was established 10 years ago as an entity under the council for science and technology. EcoEco is also a partner in the NTFP project, working in the Ba Be buffer zone. The organisation has experience with the development of agroforestry approaches in forest rehabilitation.

Source of information: project (Guido Broekhoven).

Towards Ethnic Women (TEW) & Centre for Human Ecological Study of Highland (CHESH): Ms. Tran Thi Lanh (Founder)

TEW was established in 1994. It has a staff of 25 people. Apart from a HQ in Hanoi it has field offices in Son La and Bach Ha. Involved in community development in ethnic minority areas, including income generation, land allocation, resource management and health care. NTFPs, such as forest honey, bamboo and rattan are seen as of utmost importance for the people they work with. Would like to address the issue, but need some assistance in developing a viable approach.

CHESH promotes the exchange of experience and knowledge between farmers in Vietnam and Laos. It has good contact in Lua Phrabang.

Center for Indigenous Knowledge Research and Development: Mr Duong Quang Chau (Co-Ordinator)

A recent off-shoot of TEW, based in Dong Le Town, Quang Binh Province (Central Highlands). This Center, among other things, facilitates the establishment of Special Interest Clubs among minority people. So far, clubs have been established around livestock breeding, gardening and credit. Very interested in starting with NTFP clubs. Welcomes input from experiences elsewhere.

THE FOLLOWING SCIENTIFIC INSTITUTES WERE CONTACTED IN HCMC:

Forest Science Sub-Institute of South Vietnam: Mr. Dung (Vice-Director)

The focus of the activities of the institute is on forest rehabilitation and community forestry. There is a clear interest in NTFP related issues, but quite at the beginning.

In the past, it was involved in reforestation efforts with foreign assistance, but the program relied mainly on exotic species (Eucalyptus, Acacia). However, focus is now on Melaleuca rehabilitation in the Mekong delta. The tree thrives easily in its natural habitat and can be used for making poles, and charcoal, while from its leaves an essential oil can be distilled (for the latter co-operation is under way with the Tree Oil Research Institute, based in HCM). Finally, Melaleuca forest offer a habitat for Apis dorsata bee and as such the rehabilitation project gives potential for an extension of the area where presently A. dorsata honey production can take place.

The sub-institute is further working on bamboo (shoots). It has regular contact with HQ in Hanoi. While the lack of up-to date information (publications) has been identified as the main constraint, the sub-institute would also welcome opportunities for exposure/study tours abroad for its staff

Sub-Institute of Ecology, Resources and Environmental Studies (SIERES): Dr. Doan Canh (Director), Dr. Luu Hong Truong (Ecologist) & Dr. Truong Quang (Head of Department of Environmental Monitoring)

SIERES is a branch of the Institute of Tropical Biology. So far, research into NTFPs has been carried out on a limited scale. The focus of the institute is on biodiversity conservation. However, increasingly involved in giving scientific input to buffer zone management (e.g. Cat Tien national Park) and NTFP force themselves automatically high on the research agenda. Priority: bamboo and rattan for export. However, the institute currently is insufficiently equipped to carry out proper identification of rattan species. Other issues to tackle: destructive damar tapping techniques (fire!) in particular and the unsustainable harvesting of various NTFPs in general. SIERES recently carried out a survey of wild fruits used during the war for the history museum in Dong Nai. Priorities: learn about approaches in relation to community forestry and social economic assistance from other countries in Asia: study tours/participation in relevant workshops and access to recent literature. WWF gives some input, but not very deep.

Medicinal Plant Research Institute: Mr. Hoang Huu Cai

The institute focuses mainly on research relating to ginseng (*Panax spp.*).

Thu Duc University of Agriculture and Forestry: Dr. Bui Cach Tuyen (Rector), Pham Hong Duc Phuoc (Head of Plant Physiology and Biochemistry Division); Hoang Huu Cai (Dean of the Forestry Department)

Social forestry is becoming more and more important at the university, i.e. start looking at the forest from a

community perspective. As such, NTFPs are getting more important. So far, the university mainly focuses on bamboo and rattan, mushrooms, honey and medicinal plants. They carry out research in the framework of the Kac Vien biodiversity project and they are involved in some forest rehabilitation projects. The latter projects all entail an agroforestry component, including planting bamboo for the shoots.

University of HCM, biology department, in collaboration with the Rainforest Project Foundation: Mr. Henry Heuveling van Beek

Carrying out an EU funded project into the propagation of Eaglewood in Southern Vietnam.

N.B.: telephone/e-mail contact only

ENTERPRISES AND ENTERPRISE SUPPORT ORGANISATIONS

ENTEROIL: Mr. Nguyen Duc Hong (Managing Director); Dr. Dang Xuan Hao (Senior Officer)

The company was established about ten years ago and it operates under the umbrella of the National Centre for Natural Sciences and Technology.

The main activities of Enteroil are research and development; production, processing and export of essential oil, resins, gums, isolates, agro-forestry and pharmaceutical products; production, processing, trading and importing flavours, fragrances, detergents and chemicals; and taking agents for foreign companies. In fact, Enteroil's major activities focus on processing and trading of essential oils.

The main objective of Enteroil is to make a profit. However, Enteroil also intends to promote and support the cultivation of several valuable plants producing essential oils in some areas.

Focus of activities is on product development for commercial purpose.

The activities scope is pretty large. Enteroil is trying to expand its production and market.

Enteroil's plan for the near future can help increase NTFP-related activities. For instance, the increase in production of essential oils may result in more cultivation areas in order to keep up with demands on plant materials.

The strength of Enteroil is its available skills and expertise for carrying out its missions successfully of small-scale production, Enteroil can not play big role in the international market.

The main working contacts (information network) are currently weak and of limited level.

Up to now, Enteroil has not yet had contact with NTFP-RC. But in the interview, Enteroil expressed the wishes to collaborate with NTFP-RC in some fields of NTFP use and processing.

Enteroil also wishes that NTFP-RC could develop some valuable plants so that Enteroil can obtain large and abundant supplies of materials.

In response to additional questions put by the consultant team, Mr. Hong and Dr. Hao added some information and ideas:

- Because of the fluctuation of market prices and the shortage of a plan for material supplies, Enteroil encounters many difficulties in production and marketing.
- The seeds of some valuable plant species that came from foreign origin were rested by some institutes, but unsuccessfully.

Enteroil shares the opinion of the consultant team that the strategy for NTFP sustainable use and development should be established as soon as possible.

It's necessary to identify some key and priority species for short- term and long – term plans. If so, cultivators, harvesters, NTFPRC and Enteroil are all of mutual benefit.

The example of Enteroil's experience with sassafras oil was extensively discussed. Eight years ago, the

company got information that world market prices for natural safrol were soaring. In Vietnam naturally occurring *Cinamomum parthenoxylon* was found to be a good source of sassafras oil (see De Beer, 1993). Trade links were established, the company rapidly carried out an inventory of where the trees occurred and organised mobile units for the distillation of the essential oil.

For some years, Enteroil made a sound profit from this resource. Unfortunately, no effort was put in place to secure sustainable harvesting or to promote enrichment planting of the tree. As a consequence, the wild stocks dwindled rapidly and the trade has come to an early end, as collecting is now banned.

Enteroil would welcome if NTFP-RC in the future would provide techniques of cultivating, harvesting and pre-processing. Enteroil would then refine or fractionate essential oil due to its available apparatus and skills. This arrangement could be beneficial and suitable for both NTFP-RC and Enteroil.

Finally, both parties expressed the hope for a good co-operation in order to promote the development of essential oils and natural product specifically, and of NTFPs in general.

Hanoi Rattan and Bamboo Company (HRBC): Mrs. Nguyen Thi Son (Manager)

The company is a branch of VINAFOR (see below), and as such falls under the Ministry of Trade. Main activities of HRBC are production of products made of rattan, bamboo and wood, and trade, chiefly export for Japan, Taiwan and Latvia. HRBC is belonging to VINAFOR (Vietnam Forest Corporation), but its activities of production and trade are nearly independent. Its main objective is to make profit.

Focus of activities is on product development for international and national commercial purpose.

The products covered are tables, chairs, wardrobes, cupboards, bookcases, baskets, chopsticks, tooth picks, ornamental articles, etc. All of them are made of rattan, bamboo wood and some other materials. The activity-scope is of medium level; most goods are exported, a little is for domestic consumption due to the increasing living standard.

HRBC's plan for the near future can help increase NTFP-related activities. The increase in production of rattan and bamboo products may impact cultivation areas and research, as a result of trying to guarantee big and regular supplies of rattan and bamboo.

The strength of HRBC is its available skills and expertise for carrying out its missions successfully. Its weakness is that the material supplies are not continuous and large enough. Because of small productivity, HRBC cannot play an active role in the international market. At present superior rattan is bought from Quinhon (Centre of Vietnam, far from Hanoi). Some of kind rattan has to be imported from Laos. Another weakness is designing work. Most models base on catalogue of customers. So the products sometimes are monotonous.

Although the HRBC has a Marketing department of two people, its main working contacts (information network) are currently weak and of limited level.

So far, HRBC has not yet contacted with NTFPRC. But in the interview, HRBC would like to collaborate with NTFPRC in some fields of processing machine and chemical treatment for bleaching rattan and bamboo .

HRBC wishes that the NTFP-RC could develop cultivation techniques for rattan and bamboo. If so, this could directly help local communities and indirectly HRBC.

In the name of HRBC, Mrs. Son also expressed the wish that Mr. De Beer helps HRBC to expand the market.

Vietnam Forest Products Corporation (VINAFOR): Mr. Tran Duc Sinh (Vice Director)

A large state trading Conglomerate, which has its origins in the trade of forest products. Since a couple of years, the company is diversifying its investments in areas such as entertainment, motorcycle production, etc.

Meanwhile, the company is involved in the implementation of two forestry projects:

- Project of plantation forest for supplying raw material to MDF mills in Gia Lai province, VND 440 billion.
- Project of plantation forest for supplying material and production of MDF in Thai Nguyen province, VND 98 billion.

International co-operation: Vinafor has relations and co-operation with Russia, Myanmar, Laos and Cambodia.

Some data related to NTFPs:

- Mainly farmers, co-operatives and some state forestry enterprises carry out NTFPs production. VINAFOR is responsible for planting forest and for supplying raw material for wood - based panel fabrication, mine. For the year 2000, the company intends to plant 2,250 hectares of forest and to protect 16,523 hectares.
- VINAFOR is focusing on wood processing and on Bamboo and rattan processing as well. Under the management of VINAFOR bamboo processing takes place in Ha No and rattan processing in Qui Nhon. Things to be improved for bamboo and rattan are: Design, marketing and raw material supply(quality, transport, source, species).

Non-State Economic Development Center (NEDCEN): Mr. Ly Dinh Son (Director)

NedCen was established as an independent organisation in 1989, with the aim to further the development of non-state enterprises, covering all sectors and activities.

NedCen runs a Capacity Building Centre, which aims at promoting the integration of environmental issues in the development of small and medium-seized enterprises. Three years ago this was a totally new concept. Now, with assistance from SNV/Netherlands embassy, a pilot project is underway with 5 cases: rattan & bamboo, medicinal plants, mulberry paper and wood. They give support to enterprises in relation to product development, marketing and improving processing technology.

- Condition: sustainability.
- Example rattan overexploitation: NedCen, developed ceramic/rattan products to reduce the use of rattan, while on the other hand, it promotes the growing of rattan in the Central Highlands. As such, it invests in the establishment of linkages between the industry and forest areas.
- Constraint: different concepts used by various stakeholders.
- Positive development: getting government support (MPI; MTSE)
- Co-operation: yes, because active in networking and perhaps especially in the field of processing technology.

Son Ha Company: Mr. Hoang Phan Son (Product Manager) + Pacific Basin: Mr. Marc Barnett

Son Ha is a provincial export company. It mainly deals with cassia and staranise, but it also explores the potential for other products. Grading, primary processing and packing is done at its facilities near the province capital.

Son Ha works closely with the Pacific Basin Company, which does the international marketing, as well as extension to farmers. (See for the extension activities below: 'communities')

Craft Link: Mrs. Tran Tuyet Lan (General Manager)

Craft Link (a Vietnamese NGO) interested in the production and sale of handicrafts as a means of generating income for poor and marginalised people. A board of independent Vietnamese individuals and representatives of NGOs guides its activities. Some of the international NGOs currently involved on the board are Mennonite Central Committee (MCC), Oxfam Hong Kong, Oxfam Quebec, Ford Foundation, Nordic Assistance to Vietnam, and the Netherlands Development Organisation (SNV).

Craft Link assists small craft producers to develop their business and find market opportunities in a changing economy. It provides producers assistance with the design and adaptations of products and management (quality control, basic accounting, price-setting, marketing). It acts in the best interest of traditional craft producers by linking and building self-sufficiency and self-reliance for producers.

The organisation mainly operates as a shop and participates in 2-3 handicraft trade fairs a year. It also focuses on wholesale and exports. Exports to USA, UK, Belgium, Singapore and Malaysia still are increasing. Sales profits are used to fund various craft development activities. Producers receive fair wage and work in conditions that do not threaten their health or environment.

Craft Link does not work with state-owned enterprises or joint ventures since these organisations already have access to market opportunities. It prefers working with producers who are marginalized or disadvantaged such

as ethnic minorities in remote areas (Black Thai, Nung, Ta Oi), street children, and disables.

Another Vietnamese organisation, VISCOOP, has the same aims as Craft Link. However, it is mainly active in the field of training. Currently, Craft Link is not linked up yet with other organisations. In collaboration with the Chamber of Commerce & Industry (VCCI), Craft Link participated in international trade fairs. For environment expertise, it consults with CRES.

INTERNATIONAL CONSERVATION & DEVELOPMENT AGENCIES

WWF: Mr. Eric Coull, Mrs. Hoang Phuong Thao

In general, WWF contribution is to supplying small grants for research - particularly towards the role of NTFPs in local people daily life, indigenous knowledge etc. CREDEP does most of the NTFP research for WWF. NTFPs certainly play a role in the different buffer zones, such as in Cat Tien, Vu Kwang, Phu Nha, where WWF is involved together with partner organisations. However, attention for NTFPs so far has been scattered. It is expected in a new project in the pipeline, which will be more directly focusing on local communities that NTFPs will get more stress.

WWF intends to involve local expertise as much as possible. Therefore, it is welcoming technical assistance from the Research Centre in the future. In fact, WWF recently hired the marketing unit from the Research Centre to carry out a survey "*The Role of NTFPs in Household Economies and Proposed Strategies for Sustainable Development in Vu Quang Nature Reserve*".

IUCN

Is a partner of NTFP-RC in the NTFP project since 1,5 year. IUCN has, among many other things, further been involved in developing guidelines for bufferzone management and the formulation of a Biodiversity Action Plan for Vietnam. One section of the IUCN-Vietnam office is involved in environmental economics. It conducts research on NTFP trade and consumptive use related to wildlife/endangered species (bird's nests, snake meat). The section is further involved - together with professor Le Quian - in 3 projects in collaboration with UNCTAD, i.e. 'Commercialisation of genetic resources and traditional knowledge'; 'Access and Benefit Sharing Mechanisms in relation to Biodiversity Resources' and finally, 'Exploring Opportunities for Organic Products'.

FAO: Mrs. Fernanda Guerrieri and Mr. Steffen Weidner

FAO is currently involved in projects directed at sound watershed management in Quang Binh province. Community participation, community forestry (including reforestation/agroforestry and land allocation) are all part of the program, which also aims at reducing poverty in the up lands of this province. Activities include livestock, bee keeping and nurseries for acacia.

If proper assistance would be given, NTFPs could certainly also play a role. But so far, this aspect has not been addressed in the project.

FAO is also planning a project to develop uniform models for decision making.

Finally, FAO is also involved in the partnership for the 5 million reforestation program. In principal, NTFPs will play a role in this program, for instance in Quang Binh province.

FAO's regional program 'sustainable development of non-wood forest resources in tropical forests of Asia, which was formulated 2.5 year ago and was to include activities in Vietnam: The perspectives of this program do appear rather bleak, as the donor (the government of The Netherlands) in principal is not willing to fund regional programs anymore.

FAO would welcome an overview of NTFPs in Vietnam today.

SNV: Mr. Henk Peters and Angelica Senders

SNV is involved in separate activities, relating to: 1. income generation; and 2. resource management. The former activities include support for the establishment of a Capacity Building Centre for small and medium enterprises involved in NTFP processing. The centre is to strengthen the performance of small and medium enterprises, while reducing their negative impact on the environment. The focus is not on the source of raw material, but on improved processing (waste reduction, etc.). Partner organisation: NedCen (see above).

As for resource management, the focus has so far been on agricultural extension, but forest and biodiversity are getting more attention, e.g. in a new project, that is starting-up in the Bach Ma- Hai Van Bufferzone (Thua Thien-Hue Province).

NTFPs: until now, only fuel wood (renewable energy).

SNV is already in touch with NTFP-RC and is happy to intensify the contact.

UNDP: Mr. Graig Leisher; Oystein Botillen; Mr. Ngo Si Hoai

Co-funding 3 buffer zone projects under the so-called PARC Project. As, until now, the focus has been on weaning local people from an orientation to the forest - in offering them alternatives - NTFPs have not yet been seriously considered. Maybe this will happen in the future.

So far - not only in Vietnam, but world wide - the bufferzone approach seems to be not too successful. In Vietnam, there has been little exchange of experience between agencies, involved in this field. Therefore, UNDP, together with IUCN and SNV, is now facilitating the ICDP network. In June 2000 a workshop is planned for this purpose.

Finally, UNDP is an active partner in the 5 million hectares reforestation programme.

World Bank: Christopher Gibbs; Chris Turtle

Carrying out 2 buffer zone projects: Conservation of Chu Mom Ray Nature Reserve, US\$ 5 million, this a grant supported partly by the government of The Netherlands to Vietnam's WB loan project entitled: Forest Protection and Rural Development, covering the buffer zones of Cat Tien National Park and Chu Mom Ray nature reserve in 5 provinces: Kon Tum, Dong Nai, Lam Dong, Binh Phuoc and Dak Lak. It aims at the effective protection and management of the Chu Mom Ray nature reserve, management of remaining natural forests outside the nature reserve, establishment of community development planning capacity and the strengthening of capacity of the Government.

Several years involved in Cat Tien, in collaboration with WWF. The project in the central Highlands is wholly managed by the WB. Mr. Turtle expressed interest in using the Centre's expertise, e.g. for making livelihood surveys.

ADB: Mr. Bart Dominicus (Community Development Consultant)

Involved in forestry, but no special interest in NTFPs, apart from fuelwood (in the planning) and bamboo (a processing plant). Also involved in reforestation, aiming at a mix of exotic and indigenous tree species. Finally, ADB is an active partner in the 5MHRP.

Helvetus: Barlow Paul

Involved in curriculum development in collaboration with 5 forestry faculties in Vietnam. NTFP still minor, but very much interested for input from RC in future.

European Union: Mr. Hans Green (Co-Director / Team Leader); Mrs. Giulia Buscosi (Development Co-operation Adviser)

In 1997, the EU has implemented together with the Ministry of Agriculture and Rural Development a project in three districts in Vietnam aiming at the conservation and management of the forests covering the Pu Mat Nature Reserve. The wider objective is to reduce the destruction and degradation of the forest resources including its buffer zone. The programme mainly focuses on the population of the buffer zone, with a special attention to ethnic minorities and women.

Immediate objectives
<ul style="list-style-type: none"> Sustainable resource management techniques to be adopted by people living in the buffer zone
<ul style="list-style-type: none"> Strengthening of the capacity of the local forest administration to design, implement and monitor

forest conservation and management plans
<ul style="list-style-type: none"> • Preparation and adoption of an appropriate conservation and management programme for the Pu Mat Reserve
<ul style="list-style-type: none"> • Sustainable management of forest resources by state and non-state forest enterprises
<ul style="list-style-type: none"> • Strengthening of forest policy, organisation and legislation

The executing agency is the Ministry of Agriculture and Rural Development assisting by:

- A Steering Committee chaired by MARD
- The People's Committees of Nghe An and the three involved districts
- The provincial Forestry Department
- The Department of Agriculture
- The Commission of Ethnic Minorities and Mountain Affairs
- Representative of the forest enterprises and the project
- The project co-directors

In 1999, the ALA 97/17 - Cao Bang - Bac Can Rural Development Project was implemented. The overall objectives are to improve living standards and environmental sustainability for poor households in Vietnam's Northern Highlands.

The specific objectives of the project are to enable the residents of poor communes in Cao Bang and Bac Can Provinces to increase food production, sources of supplementary income and access to markets and to assure water supply and conservation of soil by re-establishing the forest cover.

The EU has been for three years in Vietnam, however, they have not yet actively involved with issues on NTFPs. They know that NTFPs are an important source of income to the local population, but they have no experience in this field and would like to link up with other organisations for assistance.

Embassy of The Netherlands: Mr. Wijnand van IJsel (First Secretary Forestry-Environment)

The assistance of the Netherlands embassy to Vietnam focuses on the three sectors: forests/biodiversity, water management and health care. The embassy is funding the current NTFP project with NTFP-RC and IUCN.

GTZ: Mr. Martin Geiger

Involved in 2 buffer zone projects, in Ba Be and in Yok Don National Park, Dak Lak (as sub-contractor of UNDP = the PARC project). Did not see the purpose of contact, because NTFPs only marginally involved (apart from fuel wood). However, GTZ/WWF Yok Don Technical Proposal of March 1999, states:

"One component focuses on the sustainable use, processing and marketing of NTFPs. These NTFPs are fuel wood, honey, medicinal plants, tannin oil used for lighting, wildlife, bark, rattan, bamboo, fruits, nuts and other products. The project can help them to validate traditional uses or find new non-destructive uses of the forest, by extracting and cultivating NTFPs. The focus of this component would be the households and individuals in villages near the boundaries of the National Park who are still largely depending on the forests to meet daily food needs and cannot decrease this dependency through agricultural activities. In addition, business people who use and market NTFPs would be included."

The document further says: "The subcontractors would establish close co-operation with the NTFPRC. This would increase the joint learning process from both PARC subcontractors. In addition, the GTZ-assisted Integrated Food Security Project in Quang Binh developed an approach for the management of NTFP and successfully established producer groups as a starting point for small business development. The personnel trained in these activities would be used to test and promote this approach in Yok Don project."

Vietnam-Sweden Mountain Rural Development Programme: Mr. Bjorn Hansson (Team Leader)

Funded by SIDA. The programme started in 1996 and is implemented in 5 Northern provinces. Its focus is on land allocation planning. In the past mainly addressing agricultural land, but now a shift to protected and

production forest. Aims at promoting a model in which responsibilities and utilisation rights referring to the forest are vested in local communities or individuals. It is believed that such an approach will motivate local people to be involved in the forest protection and rehabilitation effort, as it gives them security of access. Unlike 5MHRP, which gives people some money to plant trees.

NTFPs will be key in the effort and the programme will also address marketing and processing. Highly motivated to involve the NTFP-RC. In fact, discussions already are taking place on possible co-operation in the future.

FORD FOUNDATION

Together with the Institute for Folk Culture Studies (Vietnam Institute of Social Sciences), Ford is supporting research into customary law relating to forest land in the Western Highlands.

COMMUNITIES

Tay Thien Commune

With the help of Mr. Chien, who is working as an extension officer for the Pacific Basin company (see above: 'enterprises'), the consultant team visited Tay Thien Commune, Tam Bao Buffer Zone of Vinh Phuc Province, on 23 April 2000, to carry out a fact finding investigation at a community. Mr. Vuong (chairman) and Mr. Than (vice chairman) of the Farmers Association of Tay Thien Commune received warmly the team. They provided some information on community economic activities:

- Tay Thien Commune belongs to the Tam Bao Buffer Zone. Agriculture is the key activity in local economy. In addition, villagers also engage in NTFP-related activity, mainly planting some tree species.
- The Commune Farmer Association was established three year ago. It consists of about 600 farmers and its goal is to find jobs for poor farmers. It also has its own fund that is derived from farmer's contribution and support from the State Bank for the poor. The fund's aim is to assist poor rural people in way of credit (lending) with low interest rate.
- At present, the Association collaborates with Pacific Basin in cultivating various aromatic plants, which after pre-processing can be used for exports. Although the area of planting and yield per one unit of land are still small, the said aromatic plants appear to have good potential for the future. Meanwhile, the effort seems economically and technically feasible for farmers because they have the skills to plant and they get support from the Pacific Basin's capital. In fact, Acacia was planted before, but that turned out to be not very profitable.
- Mr. Vuong added that the area of land above a level of 100 m high is belonging to the national park, and the area of land that is below this level is fallow. Some forests were thick and dense 40 years ago, but depleted now.
- The farmers try to plant short-term medicinal plants and fruit trees to get cash income immediately. Mr. Vuong said that the rural people in the commune have good skills to plant, therefore, they would like to have assistance to develop with the aim of earning living. So far, NTFP-RC has not contacted yet with this area to develop on cultivation and processing.

OTHERS = Tan Dao National Park

Medicinal Plant Research Institute: Mr. Pham Minh Thang (director)

The institute manages 5.7 ha, among which there are 1.5 ha for organic cultivation of traditional medicinal plants in garden conditions and 4.2 ha for enrich planting under forest cover. All together, they have experience with 15 species of medicinal plants, suitable for cultivation in gardens and with about 60 species for natural growth generation.

Tam Dao National Park Management: Mr. Nguyen Huu Tho (Deputy Director); Mr. Ha Cong Khai (Head of Planning, Technical Department of the National Park)

The National Park manages a total of 36,881 ha forest land. Among this, there is 17,298 ha on the core areas, 17,300 ha is re-growth-generation. More than 15,000 ha is buffer zone, 661 ha is areas of pine- planting and indigenous species. Up to now, the National Park has been co-operating in a rather small way with a number of projects, such as GTZ and SIDA, focussing on forest planting and the development of infrastructure. They also have participated in a number of surveys on biodiversity and natural resources, with FIPI and WWF. Considering the fact, that the National Park is nearby Hanoi, it should have potential for biodiversity research, integrated with NTFP development. NTFP-RC may come up with suggestions on how to co-operate and

support networking with a number of organisations, such as the National Park and the Medical Research Institute. The selection and introduction of suitable NTFPs species for the buffer zone and re-growth generation areas is important for eco-conservation development. This matter is not a duty of the National Park itself, but NTFP-RC could consider to become involved. Having said all this, the most urgent need the NP currently has is assistance with developing a proper strategy plan for the buffer zone and the core of the park.

APPENDIX II: OTHER RELEVANT ORGANISATIONS

Below follow a few organisations for which follow-up interviews are suggested:

- Ethnic Minorities Working Group (Oxfam Hong Kong, Mrs. Hanh or Mrs. Hopkins Leisher). Tel. 8328076. Invites NTFP-RC for one of its meetings to give a presentation.
- Ministry of Trade
- Committee for Ethnic Minorities and Mountainous Areas (CEMMA)
- Hanoi Chamber of Trade and Commerce
- Care (community forestry)
- BirdLife (buffer zone management)
- Social Forestry Departments of several universities.

APPENDIX III: DOCUMENTATION COLLECTED DURING THE MISSION

Title	Author	Organization	Date of Publication
Non-Wood forest product in Indochina	Jenne H.de Beer	Food & Agriculture Organization of the United Nations(FAO)	May 1993
Our life depends on nature; NTFP in conservation &community development in Lao PRD: a preparatory study	Jenne de Beer Kamphanh Polsena, Wim Bergmans, Phung Huu Chinh, Sounthone Ketphanh, Bert Jan Ottens.	ProFound	May 1994
Growth & development of Agarwood (<i>Aquilaria crassna</i>)	Dr. Diep Thi My Hanh Tran Thanh Tam	TRP Viet Nam	6/1997
Brochure		Research and Training Center for Community Development (RTCCD)	
Brochure		Forest Resources and Environment Center (FREC)	
Voices from the forest, Nr. 2 Bulletin of the NTFP exchange programme for Southeast Asia	Editors J. de Beer, P. Wolvekamp, M. Rikken,	ProFound - Advisers in Development	No. 2 October 1999
Brochure		Netherlands Development Organization	
Project summary project European Union		Social Forestry and Nature Conservation in Nghe An Province (SFNC)	
Project summary EU		Cao Bang- Bac Can Rural Development Project	
Brochure 'Greening the plain of Reeds towards Sustainable Agro-Forestry Use'		FSIV & MARD with Japan International Cooperation Agency(JICA)	

Brochure 'Essential oil & natural products company'		Enteroil	
Brochure		Social Forestry Training Center (SFTC)	
Brochure		Craft link	
Brochure		Viet Nam Institute of Traditional Medicine	
Annual Activities Report		Hanoi Research & Training Center for Community Development	1998
Science Activities Magazine		Ministry of Science, Technology and Environmental	
Compendium of Environmental Projects in Viet Nam, 1999	Mr. Edouard A.Wattez	United Nation Development Programme	11/1999
Summary of NTFP Researches and Grants	WWF	WWF	1/1995 to 1/2000

APPENDIX IV: PROCESSING TECHNOLOGY

This appendix contains some technical information during interviews and earlier research, as an indication for priority products and technology required.

Based on the main purpose of end-uses and economic importance, attention can be temporarily paid to four main NTFP groups (plants and trees) in Vietnam:

- bamboo and rattan (see Interview with rattan & bamboo Company)
- essential oils (for example cassia oil)
- resin (pine resin, sticklac)
- medicinal plants.

It is noted that trees producing cashew nut shell oil, coffee nut and spice belong to agriculture and not forestry.

Technologies for pre-processing of medicinal plants

In general, technologies of grading, cleaning, drying and package are very simple. Small-scale producers of NTFP often lack access to improved technologies that could increase their productivity and competitiveness. Because of poor pre-processing, income of NTFP harvesters is reduced. For example, inferior quality of some herbs can lower the product price. Storage techniques is backward due to lack of facilities (drying is mainly done in the sun, some medicinal tree parts are deteriorated when the weather is not favourable, e.g. rain). Moreover, many harvesters often sell NTFP unprocessed because they need money immediately and lack of knowledge of processing techniques.

Technologies for processing selected NTFP

Pine resin

Pine resin can be processed into turpentine oil and rosin by distillation. Equipment requirements for a pine resin factory includes: resin tank, dissolver, settler, filter, distiller, condenser, separator and storage bin.

There are two main operations in technological line: cleaning resin and distilling. In Vietnam there exist two factories processing pine resin, one in Quangninh with a processing capacity of 2,000 tons/ year, another in Quangbinh with a capacity 4000 tons/ year. In general technology and equipment of both factories are rather modern. Product quality is good for export. However, they encounter the difficulty of material supplies.

Sticklac

Before 1985 sticklac was an important commodity, due to its high value and yield, but production is depleted

now. Two processing methods are applied: manual and autoclave.

Sticklac processing equipment of heat-press method importing from India under project VN-81-018/ UNDP, liquidated one year ago.

Essential oil (e.g. cinnamon oil from bark, leaves and branches)

The most common production process of essential oil is carried out by distillation, mainly steam distillation and water distillation. Steam distillation is most suitable and effective for many plant materials. Steam is fed into coil of chamber below perforated tank holding closely packed cassia bark and passes through the tank. The volatile oil are driven off by the steam and carried through the piping to a condenser, where they cooled to 20-35° C degree. After that, water and oil are collected and separated in a separator based on their difference in density. The by-product, left after removal of the steam and essential oil, may be marketable after grinding for production of spice. Water distillation is used to obtain essential oil from leaves and branches of cassia tree, even from the bark due to lack of equipment for steam distillation. With this process, the plant material is covered with water and boiled and then the vapour is captured. Disadvantage of water distillation is slow and of low yields. Several water distillation equipment have already been designed and tested for local processing but yet proved successfully.

Quality control

Quality control of some products has been done at VINACONTROL in terms of physical and chemical properties. Sometimes, the essential oils are also tested at institutes such as the Natural Compound Research Institute and Chromatography Center. Some standards on essential oil were established as a base to control quality and serve as tools for trading.

APPENDIX V: CHECKLIST FOR INTERVIEWS

1. Main activities of the respondent are in the field of research/development/education/training/ policy development OR collecting, trading, processing.
2. The main objectives of the organisation/individual is/are: to enhance poverty alleviation/promote forest conservation/to make a profit/to make a living/other.
3. Focus of activities is on: resource management/forest rehabilitation/income generating/food security/processing/product development/other.
4. To what extent are local communities involved in the activities?
5. What products/product groups are covered?
6. What are the locations/is the scope of activities?
7. How long involved in NTFP-related activities and has there been any major shift in focus? If so, why?
8. Plans for the near future: increase/decrease of NTFP-related activities; shift in focus; on what considerations?
9. Capacity: what are the strengths and weaknesses of the organisation for carrying out its mission successfully in terms of available skills, expertise, access to relevant information, etc..
10. What are currently the main working contacts?
11. Are you interested in collaboration with NTFP-RC. If so, on what issues?
12. Do you have specific expertise/experience that could be shared with others, in particular with NTFP-RC?
13. On what issues could you use assistance from others, in particular NTFP-RC?
14. Do you have written documentation related to your NTFP work available?
15. Do you have a library/maintain a database?

APPENDIX VI: T.O.R. MISSION

CONSULTANCY TO CARRY OUT AN NTFP SUB SECTOR ANALYSIS

1. INTRODUCTION

1.1 The project

The goal of the project is *to promote biodiversity conservation through the sustainable use of Non-timber Forest Products (NTFPs)*.

Its objectives include:

- To strengthen the Non-Timber Forest Products Research Centre (NTFP RC) and make it the pre-eminent national centre for NTFP development and management
- To organise in each pilot site appropriate collaborative management systems, which will promote and maintain sustainable use of NTFPs
- To develop and implement an effective awareness raising campaign, specifically directed at NTFP users within the pilot sites
- To establish and maintain effective management systems

IUCN collaborates with the Non-Timber Forest Products Research Centre (NFPRC) of the Vietnam Forest Science Institute, Ministry of Agriculture and Rural Development in the implementation of the project. In addition, pilot sites activities are being carried out in collaboration with two Vietnamese NGOs:

- The Centre for Natural Resources and Environmental Studies (CRES) of the University of Hanoi works in the buffer zone of the Ke Go Nature Reserve (Ha Tinh Province);
- The Institute of Ecological Economy (ECO-ECO) carries out activities in the bufferzone of Ba Be National Park (Bac Can Province).

Activities focus on, amongst others, building the capacity of the NTFP RC in NTFP management and marketing research. Work in the two field sites will focus on exploring practical solutions to NTFP conservation, development, management and marketing. More specifically, the activities in the field site will:

- Generate an understanding of current NTFP uses by local communities; management strategies, and the social and economic values derived from them;
- Design improved methods for sustainable harvesting and cultivation of NTFPs;
- Develop, test and apply a management and organisational framework for sustainable use of selected NTFPs; and,
- Develop marketing strategies, processing infrastructure and technical skills, which will generate cash income for local communities, while providing incentives for maintaining forest biodiversity.

Lessons learned from the pilot activities will be fed back through the NFP RC to influence, amongst others, government policy and for replication in other areas. Other stakeholders will be involved in awareness building activities as well.

The government of The Netherlands funds the project for a period of three years. The project started in the second half of 1998.

1.2 Context of the review

An important part of the capacity building component of the project is the provision of support to the formulation of a development strategy for the NTFP RC. The strategy will strengthen the ability of the NTFP RC to respond to its rapidly changing context (i.e. changes in government policy, in the economic situation of the country).

A precursor for the formulation of the development strategy is a sector analysis, which will provide an analysis of the key stakeholders and their roles and needs.

2. TERMS OF REFERENCE

2.1 General Terms of Reference

The general Terms of Reference include the implementation of an analysis of the NTFP subsector in Vietnam with the aim of providing information for the formulation of the development strategy for the NTFP RC.

2.2 Specific Terms of Reference

The NTFP subsector analysis will comprise of the following components:

2.2.1 To develop a framework/method/checklist for the collection and analysis of relevant information

2.2.2 To identify and describe the main stakeholders in the NTFP subsector, including:

- Government agencies, state enterprises, universities and other government affiliated institutions
- Private sector (producers, processors, traders)
- NGOs
- Programmes and projects
- Communities and other NTFP users
- Identification of gaps, in particular in relation to NTFP conservation and management and R&D
- Identification of R&D issues, as formulated by stakeholders

2.2.3 To describe the roles and capacities of these stakeholders

2.2.4 To identify key issues in the NTFP subsector and the extent to which the capacity to address these issues is available in Vietnam, including:

- Conservation issues
- Research & Development issues

2.2.5 To identify opportunities for the NTFP RC and formulate recommendations regarding:

- Potential clients
- Potential services provided by the NTFP RC
- Potential issues to be addressed by the NTFP RC
- Further work on the subsector analysis

2.3 Activities

The team will carry out the following activities:

- To develop a workplan and framework (See 2.2.1) at the onset of the assignment
- To obtain information through the study of documents and through interviews with key individuals in Hanoi, HCMC and, if need be, in other places, including "the field"
- To collect and make available to the library of the NTFP RC as many as possible copies of relevant documents (reports, articles, books, and leaflets) on relevant institutions and their initiatives related to NTFPs.
- To carry out the sector analysis as described in section 2.2
- To conduct regular consultations with the staff of the NTFP RC and the NTFP Project to exchange views about the study
- To write a report on the subsector (See chapter 3).

3. OUTPUT

- *A report presenting:*
 - A brief description of the NTFP subsector in Vietnam
 - A description and analysis of key issues for the NTFP subsector
 - A description and profile of key stakeholders and initiatives in the NTFP subsector
 - To identify opportunities and to formulate recommendations for the development strategy of the NTFP RC and, if need be, for further work on the sector analysis
 - The method applied and activities carried out during the consultancy
 - *Increased awareness amongst staff of the NTFP RC and the NTFP Project of the NTFP subsector and of subsector analysis itself*

4. ORGANISATION OF THE WORK

4.1 Composition of the team

The consultancy will be carried out by a team of three people, including:

- An independent consultant, expert in strategic planning and capacity building in the forest sector or related field (team leader)
- A representative of the NTFP Research Centre, expert in NTFPs and the NTFP sector in Vietnam (team member)
- A representative of the FSIV, expert in forest research and forest issues in Vietnam (team member)

The team leader will be responsible for:

- The task division and coordination amongst the team members
- Liaison between the team and the Project Secretariat
- The final outputs of the consultancy

4.2 Mode of operations

The team will be working under the guidance of the Project Secretariat (National Project Director and Senior Technical Advisor), to which the final report will be submitted. Adjustments to the Terms of Reference for the consultancy will be discussed and agreed with the Project Secretariat before the changes become effective.

4.3 Timing and duration

The consultancy will be for four weeks and will include:

- 1st week: Workplanning and Study of documents
- 2nd & 3rd week: Consultations and interviews with institutions
- 4th week: Presentation of draft findings, writing of report