

**ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY
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COUNTY REPORT - VIETNAM

by

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INFORMATION NOTE ON ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY

At its sixteenth session held in Yangon, Myanmar, in January 1996, the Asia-Pacific Forestry Commission, which has membership open to all governments in the Asia-Pacific region, decided to carry out an outlook study for forestry with horizon year 2010. The study is being coordinated by FAO through its regional office in Bangkok and its Headquarters in Rome, but is being implemented in close partnership with governments, many of which have nominated national focal points.

The scope of the study is to look at the main external and sectoral developments in policies, programmes and institutions that will affect the forestry sector and to assess from this the likely direction of its evolution and to present its likely situation in 2010. The study involves assessment of current status but also of trends from the past and the main forces which are shaping those trends and then builds on this to explore future prospects.

Working papers have been contributed or commissioned on a wide range of topics. They fall under the following categories: country profiles, selected in-depth country or sub-regional studies and thematic studies. Working papers are prepared by individual authors or groups of authors on their own professional responsibility; therefore, the opinions expressed in them do not necessarily reflect the views of their employers, the governments of the Asia-Pacific Forestry Commission or of the Food and Agriculture Organization. In preparing the substantive report to be presented at the next session of the Asia-Pacific Forestry Commission early in 1998, material from these working papers will be an important element but will be blended and interpreted alongside a lot of other material.

Working papers are being produced and issued as they arrive. Some effort at uniformity of presentation is being attempted but the contents are only minimally edited for style or clarity. FAO welcomes from readers any information which they feel would be useful to the study on the subject of any of the working papers or on any other subject that has importance for the Asia-Pacific forestry sector. Such material can be mailed to the contacts given below from whom further copies of these working papers, as well as more information on the Asia-Pacific Forestry Sector Study, can be obtained:

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1. CURRENT ECONOMIC AND SOCIAL CONDITIONS

1.1 Vietnam: the country and its population

Located at the eastern part of the Indochinese Peninsula, Vietnam is in the centre of South East Asia and a tropical country of the northern hemisphere. The country is bounded on its northern side by China, on its western side by Lao and Cambodia, and on its eastern and southern sides by the East Vietnam Sea. Its coastline extends over 3,260 km, between the following geographical coordinates:

Latitude: 8°02' - 23° 23' N

Longitude: 102°08' - 109°28' E.

Its territory comprises a total land mass of 330,991 square kilometres, surrounding at its eastern side by an immense area of waters. Its territorial waters including its 12 - nautical miles area and its 200 - mile exclusive economic zone account for one million sq. km.

The pattern of landuse¹ and its coverage read as follows:

Description	Area (in sq. km.)	Percentage
Total land area	330,991	100.00
1. Farmland	73,484	22.20
2. Forest land	96,412	29.12
3. Special landuse	11,177	3.38
4. Residential area	7,740	2.34
5. Lands not under use	142,172	42.96

The topography of the country is complex, carved with many mountains rivers high plateaux and plains of different sizes; nearly three-fourth of its lands are under mountains, hills and high plateaux and carved by a dense network of watercourses, among which the two biggest ones are the Red River and the Mekong.

The climatic conditions of the country bear the monsoon characteristics of South East Asia with: the prevailing North East and South East winds an average temperature of 24-27°C (the highest temperature being found only in southern provinces of the country), and an average annual rainfall of 1,500-2,500 mm falling very often exclusively in the local rainy season from May to October.

Population density in Vietnam is found to be the highest in South East Asia reaching up to 1,000 people per square kilometre in the Red River Delta (the average figure being 232 people per square kilometre). In 1995, the population size of Vietnam reached 74 million people, ranking second in South East Asia, seventh in Asia-Pacific Region and twelfth the world over.

¹ Where year is not specified, "around 1995" should be assumed (Editor).

According to statistics, the rate of population growth from 1989 to 1994 was 2.15%, causing an increase by 1,6 million people to happen at Vietnam annually 80% of this population are living in the countryside, and 75% of same are practising agriculture and forestry, living with lands and forests.

Assuming that the above mentioned situation is still going on more or less up to the year 2000, that from the years 2000-2005, the population growth rate will be 1.8%, and that from 2000-2010, the same will be 1.7%, the population of Vietnam will reach: 83 million people in the year 2000, 87 million people in the year 2005, and 95 million people in the year 2010.

Rapid population growth has caused economic development to meet with difficulties in particular in dealing with social problems, in stabilizing and enhancing the living and educational standards of people, in providing employment opportunities to local people who are acutely suffering now from full- and part-time unemployment.

In spite of the fact that the Government has paid much attention to the running of a number of birth control programmes. The active female population affected by the way of thinking prevailing in the decades 50-70 of this century, in which birth control was not applied, has responded quite weakly, as a result the population growth rate in this country up to the year 2010 will slow down to only 1.6-1.7%.

1.2. Economic aspects

Referring to its GDP per person, Vietnam is regarded as a poor country. However, since 1986 when "doi moi"² at last came to this country, its economic recovery and development has been strongly accelerated. The main features of that economic development during the period 1986-1995 are: the commercial production of goods and commodities by all sectors of the national economy, and the functioning of a market economy macro-economically managed by the state following socialist principles. Ten years of "doi moi", the national economy has been developing at a quite high rate allowing the living standards of local people to improve the national income to increase not only to meet national outlays but also to promote further accumulation of capital. In spite of weaknesses, the recent economic and social crisis of the 50s is said to have gone.

This is quite apparent through an examination of GDPs During the period 1991-1995, the cumulative increase in GDP accounts for 48.3% with an average of 8.2% per year and annual increases described as follows: 6% in 1991, 8.6% in 1992, 8.1% in 1993, 8.8% in 1994 and about 9.5% in 1995.

² The "doi moi" philosophy encompasses the combination of policy and institutional adaptations associated with liberalization, opening up and reform. Its adoption is generally given credit for the spurt in economic performance of Vietnam in recent years (Editor).

A general description of the Vietnamese economic conditions in 1995 is given below:

Description	Unit	1995
1. Population size	Million people	74
1 GDP	Billion US\$	20.26
- Farm	"	5.58
- Non-farm	"	6.10
- Services	"	8.58
2. Increase in National Income	%	9.50
- Farm	"	5.40
- Non-farm	"	13.50
- Services	"	17.00
3. Export Earnings	million US\$	5,200
4. Imports	million US\$	7,500
5. Food production (equivalent paddy)	million tons	27.5
6. Electric power generation	million KWH	14.7
7. GDP per person	US\$	270
8. Population growth rate	%	2.0

Source: Yearbook 1995-SRV Central Statistical Office.

The contribution to GDP from farm industries (including those based on forests) amounted in 1994 to 35%, in 1995 to 28%. With the on-going process of industrialization and modernization of the national economy, that contribution to national GDP in the year 2005 will be only 20% and in the year 2010, it will be more or less the same as above.

Looking at the Forestry Sector, one can find that the forested land area of Vietnam amounts to 9.3 million hectares and its non-forested land area to 10 million hectares. Out of 9.3 million hectares of forests, there are 8.3 million hectares of natural forests, others being man-made ones. Based upon forest land use, the forests of Vietnam are categorized into special-use forests, protection forests and production forests with their area being estimated as follows: Special-use forests: 0.9 million hectares; Protection forests: 3.5 million hectares; and Production forests: 4.9 million hectares (Source - Forest Inventory 1995.)

Main forest products and their values in 1995

Description	Unit	Values/Amount in 1995
1. Values of forest products (at constant prices of 1989)	Million US\$	132
- Forest establishment and maintenance	"	32
- Wood and non-wood products	"	98
- Others	"	2
2. Amount of wood products	'000 m ³	2,754
- State-owned enterprises	"	770
- Non state-owned enterprises	"	1,984

(Source: Year book 1995. SRV Central Statistical Office)

The contribution to GCP from the forestry sector remains very low. It means that the main contribution of the forestry sector to the national economy consists of benefits from the conservation of natural environment restrictions of timber exploitation, the network of wood and forest products working and processing industries being by now poorly developed.

Economic Development Projections towards the year 2010 in Vietnam

Description	(1995 base year)	2000	2010
1 Population (million people)	74	83	95
2 National GDP (in billion US\$ at constant prices of 1994)	20.26	24.43	38
3 Contribution to National GDP in percent per sector:			
- Farm (including forests)	28	20	21
- Non-farm	30	34	38
- Services	42	46	41
4 Growth rate in percent per year:	9.5	9-10	8.8
- Farm (including forests)	4.5	4.5-5	4.2
- Non-farm	13.5	14-15	12
- Services	11.2	12-13	8.9
5 GDP per person (nominal in US\$)*	272	443	955
6 GDP per person (real) in US\$	240	290	400

* The nominal increase equals 351% and real increase 67% between 1995 and 2010.

2. HIGHLIGHTS OF LONG-TERM OBJECTIVES AND GOALS IN VIETNAM

2.1. Long-Term Objectives for Economic Development in Vietnam

Towards the year 2000

Being an important phase towards industrialization and modernization of the country the period under planning is the one meant for:

- Building up economic strengths;
- Taking advantage of the opportunities offered;
- Overcoming the challenge encountered;
- Promoting the process of "doi moi" on all fronts simultaneously;
- Helping all sectors of the economy develop their activities; and
- Improving the State management of a socialism-oriented market economy.

which is necessary for attaining the objectives and strategies already shaped out for accelerated and effective economic stabilization and development parallel with the solving of urgent social problems, the strengthening of national defence and security, the improvement of local people living conditions, the accumulation of capital to create the prerequisites for further development in the next century.

The main tasks and goals are:

- To increase the average GDP per person by 2 times as compared to that in 1990,
- To reach an average annual increase in GDP by 9-10%, with increase in Agriculture-Forestry-Fishery products at 4.5-5%, for non-farm industries at 14-15%, services at 12-13%, and for exports at 28%. At the same time, total investment will amount to 30% of GDP, to which the contribution from farm (including forestry) industries accounts for 19-10%, non-farm industries for 34-35% and that from services for 45-46%.

Toward the year 2010

The period under review should witness a further advancement towards stabilized economic growth and development, improved settlement of social problems and restructuring of economic mechanisms through the implementation of ten (10) programmes dealing with:

- agriculture and rural development;
- that of non-farm industries;
- infrastructure building;
- promotion of science, technology and environment conservation;
- foreign economic relations strengthening;
- home trade expansion;
- better settlement of social problems;
- territorial development;
- famine eradication and poverty alleviation all over the country.

The main points again are to strengthen the process of industrialization and modernization, to develop Agriculture, Forestry and Fishery parallel with produce processing, to promote non-farm industries for the production of consumer goods and exports, to enlarge home and foreign trade to expand the network of economic relations. Activities for upgrading, improving and expansion remain the core, with new establishment/construction being confined only to the most critical parts of the national infrastructure: in particular new construction is to be carried out for the development of the most important sectors of the heavy industry, for the development of research (especially applied research), technology, education and training. Cultural standards, sports, environmental protection, and for the creation of key industries dealing with the processing of agricultural produces and crude oils.

First estimates for investment during the period 1996-2000 are reported to reach US\$ 42 bn or 2.2 times higher than the same in 1990-1995. About 50% of it are taken from national incomes, with the remaining coming from foreign funds and credits.

2.2. *Development objectives of the Forestry Sector towards the year 2010*

- Activities are to be deployed for changes from a short-term and exploitative forestry to a forestry capable of sustainable commercial production of a wide range of merchantable wood and non-wood forest products for national industrialization, export and domestic uses and also ready to provide shelter and protection for the conservation of the environment, the forest, their biodiversity, and the precious plant and wildlife resources therein.
- Following these lines, it is planned to protect and manage the following assets by 2010:

+ Special-use forests:	1.2 million hectares
+ Protection forests :	8.0 million hectares
+ Production forests:	10.0 million hectares
Total :	19.2 million hectares

It is planned to reach toward the year 2005 a forest cover of 40-45% over the whole country from the current one of 29% (in 1995)³.

Development objectives for different categories of forests

- For the special-use forests, the development objectives are to protect the precious plant and animal gene resources there for further development of science, technology and tourism. Forests of this category are to be divided into 3 zones:
 - * the natural reserve zone meant for strict protection of natural resources;
 - * the ecological restoration zone (elsewhere known as the multipurpose use zone = translator) managed by competent state agencies using national budget and funds: and
 - * the buffer zone in which forest peoples used to clear the protected area for cultivation and timber extraction, are living and practising land farming following appropriate technologies or are working within the protected area as forest guardians/staff.
- Protection forests are managed for the conservation of water and soil for countering the impacts of erosion by water, wind and those of natural calamities, or more generally speaking for environmental protection. The main technology applied is to protect the existing forests for maintenance, regeneration and restoration. Denuded hillsides and barren lands should be re-afforested with multi-storied forest plantations. The main procedures for management are: allocation of forest lands to be followed by “product-rating” (elsewhere named as "responsibility") contracting with local farmers supported by financial assistance and reasonable incomes to encourage people to carry out plantations and natural forest maintenance.
- Production forests are managed to meet the objectives of both timber production and environment protection. However, as natural forests were destroyed during decades by

³ A very fast rate of forest cover increase assumes rapid increases in agricultural productivity and in industrialization, factors which can divert rural people away from dependency on extensive forest and land use. The scenario is consistent with rapid industrialization planned (See section 1) (Editor).

careless timber extraction and shifting cultivation, the government has to enact decisions to limit then to ban production therein for a period of 15-20 years for forest restoration and rejuvenation. During that period of waiting, wood products for uses in Vietnam are taken from imports and from mature plantations instead of natural forests. For denuded hillsides and barren lands found in this category (often classified as "lands not under use"), it is necessary to continue forest land allocation to people and economic units and to mobilize financial resources from within and without the country for forestry business development.

Efforts are to be made to create 5 million hectares of industrial (or commercial) forests for supply to national industries as required:

Industries and local demands	Demands in products in 2005	Demand in wood and timber as raw materials in 2005 ⁴
1. Paper	1.5 million tons	7.5 million tons = 12 million m ³
2. Wood-based panels	1.32 million m ³	4 million m ³
3. Mine timber		0.35 million m ³
4. Furniture and interior decoration	2.4 million m ³ (end-products)	4.3 million m ³
5. Building industries		3 million m ³
6. Fuelwood	8 million m ³	8 million m ³
Total		31.65 million m ³

Man-made industrial (commercial) forests should be crested to reach the following targets in the year 2005.

Description	Area (in ha)
1. Supply of raw materials to paper and wood-based panel industries	2,000,000
2. Supply to mining industries	80,000
3. Supply to furniture and cabinet-making	370,000
4. Supply to building industries (timber) and households (fuelwood)	1,600,000
5. Supply of non-wood forest products	450,000
6. Supply of bamboos of all kinds	500,000
Total	5,000,000

3. ROLE OF VIETNAM IN A REGIONAL CONTEXT

Recently, with its policy of open door to the outside world. Vietnam is going to play an important role in South East Asia. In July 1995, it joined ASEAN as the seventh member of this Association and since then has done its best to cooperate with other countries of the region for economic, social and cultural development. Vietnam is also building up capacities to join APEC in 1998 and the World Trade Organization in the year 2000.

In forestry, Vietnam is going to cooperate with ASEAN countries, in particular for the implementation of the AFTA Programme in the year 2003.

⁴ The Conversion factors used appear pessimistic at 5t/t (8 m³/t) average for paper and 3 m³/m³ for panels (Editor).

It is going to develop activities for the issuance of certificates for all forest products as proposed by ITTO in the year 2000 (probably on a trial basis). For a number of years to come, Vietnam is going to close its natural forests for timber extraction; as a result, timber goods and commodities are to be imported from foreign countries, these imports include round wood, manufactured timber, plywood, particle boards and other products.

4. SUMMARY OF MAJOR ISSUES

1. Pressure on forests and forest land come first from the increasing Vietnamese population (at a yearly rate of 1.7% during the years 2005-2010), which has strong impacts on forestry development, because:

- Food production and security have got first priority in Vietnam. To secure supply to a very big population of 95 million people, besides improvements in technologies, there should be an expansion of the farmlands for agriculture production. As a result, most lands found to be suitable for farm crop cultivation will be reclaimed and developed into farm lands.
- The demands in fuelwood and timber for construction and furniture making are going to increase (to 9 million cu.m. of timber and fuelwood and 3 million cu.m. of timber for the building and woodworking industries).

2. The speed of development in urbanization and industrialization is also accelerating. With a planned speed of development of 13-15% in urbanization and industrialization to be attained in the year 2010. Forest assets are going to experience strong impacts, because:

- Much land is needed for the building of the network of roads and of new urban areas, all of which might contribute to the shrinkage of the forest assets:
- People are going to capitalize on competition, with lesser and lesser number of them living with forestry (which provides only low incomes)

3. Foreign investments are rather scarce in forest industries and forest product processing, because of limited forest resources available in this country, while private entrepreneurs and state-owned agencies willing to get involved in forestry business have not got enough capital for investment and replacement of obsolete equipment.

5. FOREST RESOURCES

5.1. Forest and forest lands

Statistics in Vietnam show that 19.2 million hectares are forest land of which 9.3 million hectares are forested area, and 10 million hectares are denuded hillsides and barren lands.

Total standing volume is reported to reach 584 million cu.m. of wood and 6.3 billion of bamboo calms. Out of 9.3 hectares of existing forests⁵, there are 8.3 million hectares of natural forests and 1.05 million hectares of man-made ones, details of which follow:

Description	Total	Forested	Non-forested
<i>Forest land</i>	19.1	9.3	9.7
- Special-use forest	1.2	0.9	0.3
- Protection forest	8.0	3.5	4.5
- Production forest	9.9	4.9	5.0

Besides, there exist over 1-2 billion scattered trees planted in and around home gardens, along roadsides, canals. That asset of scattered trees is going to increase by some 300 million trees established every year. When converted into full plantation area, scattered trees now being established are reported to reach over 1-2 million hectares. These "outside forest" resources are of much relevance to local farmers who can find in these plantation belts (or patches) a lot of ready fuelwood and small timber for daily uses in the countryside. These resources too can contribute to the lessening of the destruction of natural forests in many areas/regions of Vietnam.

5.2. Forest cover in various areas/regions of Vietnam

The differences in climatic conditions from sub-equatorial areas to sub-tropical ones as noticed in Vietnam and its elevations from sea level to mountains of over 3,000 m high, have caused the indigenous plant and forest resources to differ in terms of tree composition, forest types and forest cover. There are the dominance of pine forests, broad-leaved forests, mixed coniferous stands, and even dipterocarp forests in the uplands; and the occurrence of lowland dipterocarp forests, mangroves, bamboos, and mixed stands of hardwoods and bamboos in lower areas, flats and wetlands. Forest resources in Vietnam are

⁵ Figures assumed to apply around 1995 (Editor).

not evenly distributed, covering in different areas different percentage of local total land mass:

Region	%
Nation-wide	28
- North West	14
- Paper raw material area (in the North)	24
- North East	20
- Red River Delta	4
- North Central Vietnam	35
- Coastal South Central Vietnam	35
- Western High Plateaux	56
- East South Vietnam	21
- Mekong Delta	5

The quality of forests varies in the same direction as their distribution in term of area, i. e. wherever the forest cover in lower, the quality of the forest resources (their composition and economic values as well), is also poorer.

5.3. Changes in forest resources and prospects in the year 2010

Looking back to the year 1943, one can find that the forest cover at that time was not less than 43%. Satellite imageries obtained in 1973 show that the forest area amounted then to 9.5 million hectares, accounting for a cover of 29%. Statistics from the years 1981 and 1982, gained through the interpretation of photos from Landsat in 1979-1981 and from KATE 140 during the same period, show that the forested area was then 7.8 million hectares covering 28% of total land. The forested area in 1995 and the forest cover during the same year look almost the same as in 1989.

It is difficult to say that there are some real increases in the area of existing forests from 1980 to now, because before that year, forests were so rated when they got a standing volume of more than 28 cu.m. per hectare that criterion since then has changed and has become not applicable in the following year statistics.

However, the fact is that the forest area has shrunk, on the average at a rate of hundred thousands of hectares per year because of clearing for food production, shifting cultivation, of wild fires and careless wood and timber extraction, leading not only to losses in forest area but also to the degradation of forest resource with tree composition, precious genes and stand volume, are going to decline dramatically.

More recently, as due attention by the Government and consent by local farmers have been gained in forest management, the area of man-made forests has increases step by step from 625,000 hectares on 1989 to 1,049,700 hectares in 1995, at a rate of 125,000 hectares of plantation in 1991 being increased to 235,000 hectares of same in 1996. The quality of forest plantations has also increased, the forest plantations newly established are of mixed stands, their rate of survival of 40% in 1990 has been improved to over 75% in these last five years.

With the eventual ban on wood and timber extraction from natural forests and strong emphasis on forest plantation, protection, regeneration and restoration, it is to be hoped that in the year 2010, the state of forests of Vietnam will look different with:

- A system of protection forests of over 8 million hectares being created, in particular for the protection of the watershed areas of big rivers and water reservoirs for navigation and for hydroelectric power generation for the country as a whole, the protection of an extensive area along the coast and of farm crops cultivated at the foot of denuded hillsides and barren lands in the Deltas.
- A system of special-use forests covering 1-1.2 million hectares of natural forests mainly, in which one can find a number of National Parks, Protected Areas, and Historic Sites being well managed for public welfare and cultural conservation.
- A system of production forests extending over 10 million hectares, of which after the year 2000 industrial (or commercial) forest plantations will play a key role, while natural forests there will be exploited at only a moderate rate. It is also planned to manage intensively at least 5 million hectares of production forests giving high yield and products of high quality to industries. The final outcome will be an effective management of all three (3) categories of forests providing a cover of not less than 40% of the total land mass on which the area of denuded hillsides and barren lands will be kept to a minimum.

6. ENVIRONMENTAL INITIATIVES, PROTECTED AREAS AND WILDLIFE RESOURCE CONSERVATION

6.1. Degradation of ecosystems and erosion of wildlife resources

Before 1945, and during the colonial times, large tracts of natural forests were cleared for the cultivation of rubber and coffee trees and some other tropical cash crops. Most forests in the Mekong Delta, along the coasts the springs and water courses and some forests in the Upland were cut down and burnt. In spite of the fact that some 43% of forest cover still remained, the process of forest clearing for profits already started.

Then came a period of population explosion, with a size of population of only 35 million people in 1945 coming up to 72.5 million people in 1994, thus making the practice of forest clearing for food production become widespread over the whole of Vietnam.

Combined with all the above, are the impacts of bombs, ammunitions and 72 million litres of defoliants poured down on the territory of this country ravaging over 2 million hectares of closed forests and making the forest cover of this country come down to only 28% when the wars at last come to an end.

One can hardly picture the destructive consequences of prolonged wars on environment and forests in Vietnam. There are more frequent (almost annual) flash floods in more than one area, causing big losses in terms of men, animals and other resources. The silting process is going to get intensified in rivers, irrigation works, water reservoirs, in particular at

hydroelectric power generation stations where the silting process has caused the life time of these systems to get much shortened. Soil losses, land-and even mud slides become nightmares for people living in the Mountain Area Along the rivers and the coastline, there are other losses form gullies foreshore collapsing, sea storms and sand saltation threatening villages and their communities. The destruction of forest and environment combined with mis-management of wildlife resources have also caused big losses in these resources and other related ones.

5.2. The Vietnamese system of special-use forests

The system is better known elsewhere as a system of protected areas. There exist now in Vietnam 10 National Parks, 46 Protected Areas and 31 cultural, historic and scenic sites where protection and management are carried out for the conservation of all existing forest/vegetation types in Vietnam. Some of them are quite big, but most protected areas are small or very small be cause of their fragmentation as a result of former management and use.

Management Boards and qualified staff are now in place for protection and management. A number of research activities/projects (not excluding those dealing with forest inventories and feasibility studies) have been carried out in these protected areas by national/international science workers.

Investment for protected area establishment, management and development have begun to pour in. In 1992, the World Wildlife Fund (WWF) shaped out a project for the training of officers working in environment and biodiversity conservation in this country. The project has developed effective measures for the improvement of methods used in protected area management, trained a large number of conservationists, and has in practice improved the current management of some national parks and reserves.

The Government of Netherlands has provided technical assistance worth US\$ 2.5 m to a project dealing with the conservation of the Nature Reserve of Vu Quang.

The European Community (EU) has supported the Phu Mat Social Forestry and Nature Protection Project worth US\$ 20 m now being implemented at the three (3) districts of Anh Son, Tuong Duong and Con Cuong of Nghe An.

Through a High Mountain Area Protection and Development Project, the World Bank is issuing loans to local people living in a number of buffer zones of protected areas to help farmers there develop their agroforest practices and systems and create employment opportunities, thus contributing to better management of some Protected Areas of importance.

Other protected areas, through being frequently visited by interested expatriate experts have not yet received any assistance from outside.

7. WOOD-BASED INDUSTRIES

7.1. Wood processing industries

Following the new policies of the government on investment and business development' the number of enterprises run following the laws regulating Foreign Investments, the Company Law, the Private Enterprise Law in Vietnam has increased. By now, there exist in this country some 290 wood processing industries of these categories, of which:

- Enterprises run following Foreign Investment Act amount to 30;
- Those run by the Company Law and the Private Enterprise Law to 60.
- Those owned by the State and run by the various ministries and central agencies to over 60; and
- State-owned enterprises ran by provincial agencies/authorities amount to about 140.

These enterprise can be found everywhere over the country, but as a rule they are concentrated mainly in Ho Chi Minh and Hanoi cities and in their neighbouring areas.

Besides, there are thousands of saw-pits being established everywhere over the country but mainly in the North, and providing saws timber for construction and the making of furniture and other commodities to people living in the countryside.

Altogether they have a low capacity of not over 3 million cu.m. of round and solid wood annually. Their equipment is obsolete and even used up. Causing wood and timber materials to be wasted, the end products to be under-graded not meeting the demands and preferences of customers in a fluctuating market. Enterprises run following the Foreign Investment Law, the Company and the Private Enterprise Laws seem to function better, but generally speaking the situation still remains inadequate for efficient competition at market places, in particular the international ones. The annual production of the above mentioned enterprises is reported to reach: 800,000 cum. of saw timber 1,000,000 sq.m of veneer, 10,000 cum. of plywood, over 30,000 m³ of particle board.

Facing the current shrinkage of forested area, the Government of Vietnam has decided to limit timber extraction from natural forests, to ban the export of round and semi-processed timber, so to push entrepreneurs and enterprises to the manufacturing of high-valued products. So despite a decrease in annual round wood removal from 927,000 cu.m. in 1991 to 310,000 cu.m. in 1995 export earnings from forest products after a gradual but temporary fall from US\$ 175,5 m in 1991 to 97.5 in 1993 have regained their ascension to US\$ 121.5 m in 1994, then to US\$ 135.6 m in 1995: earnings from cabinet-work have gained most rapid ascent, from US\$ 1 m in 1996 to US\$ 65m in 1995.

Besides the limitations mentioned above, the Government is considering to close access to natural forests for timber extraction, Thus, raw materials for wood-based industries will have to be extracted from plantations, which creates a lot of restraints for a smooth running of all enterprises dealing with wood working and processing. They have to remodel their factories and equipment, to change technologies and solve a wide range of technical and product marketing problems. Towards the year 2010, manufactured forest products will have to come from raw materials of manmade forest. Products and commodities such as plywood, particle boards, fibre boards will prevail, and art articles using low amount of wood as raw materials

will go developing. The use of timber in the construction and building industries will experience big changes as wood is going to be replaced by other materials.

7.2. *Pulp and paper industries*

Pulp and paper industries are under the management of the Ministry of industries. As the consumption of paper and its products in Vietnam is very low as compared to other countries of the region (not above 2 kg per person on the average), paper production recently has gone increasing very quickly from 97,000 tons in 1990 to 145,000 tons in 1994, with an average rate of 13%, to meet the increasing demand in paper for economic development. To provide the supply of raw materials to the industries, besides the materials removed from national forests, it has found necessary to import hundred thousands of tons of paper pulp.

Towards the year 2010, paper industries are going to develop very quickly, so to reach the target of 1,000,000 tons of paper in the year 2010 and manage large tracts of forest plantations for the production of pulp.

It seems that national financial resources are inadequate for building and management for a large number of paper mills. For that development needs more investments from foreign countries and joint ventures.

8. WOOD ENERGY

It is estimated that about 90% of the energy consumed for domestic uses in Vietnam come from biomass (grasses, ferns, agricultural residues) and the rest from fuelwood. In particular the cocking of feed for pigs consumes a large amount of energy estimated to reach 350 kg of fuelwood per year and per animal. For the current herd of pigs raised in this country, some 4 million tons equivalent wood are needed, of which a half will be of wood and the other half of agricultural residues.

Rural industries dealing with the drying and processing of agricultural produce, the making of bricks, tiles, lime...also require millions of tons of fuelwood annually.

The production of fuelwood from forests have been estimated to reach 30 million cu.m. annually, which is to be added to the amount of 30 million tons of biomass (of which grasses, ferns, shrubs amount to 17 million tons and agricultural residues proper to 13 million tons).

Depending on the area under study, the consumption of energy for domestic uses varies greatly. In the Delta, besides their home gardens and rice fields, farmers have no other areas to plant trees for fuel production; therefore, they have to make good use of agricultural residues, and the biomass available around their houses, in their gardens, near farm ponds and along roadsides to cook food and feed for men and animals. In the Midlands, farmers have better opportunities to take advantage of the grasses, ferns and shrubs growing on easy hillsides next to their homesteads. People living in the Mountain area may have forest resources and fuelwood next to their houses in some areas people can use fuelwood at ease, in

particular in winter time for space heating, thus leading to a higher level of fuelwood consumption in the upland.

Referring to statistic of 1994, one can describe fuelwood consumption per person (in cu.m.) as follow in various ecological zones of the country:

Nation-wide =	0.40 cu.m.
- North west :	1.73 m ³
- North paper raw material area :	0.93 m ³
- North East :	1.05 m ³
- Red river Delta :	0.05 m ³
- North Central Vietnam :	0.71 m ³
- Coastal South central Vietnam :	0.25 m ³
- Western high plateaux :	0.89 m ³
- East South Vietnam :	0.06 m ³
- Mekong delta :	0.15 m ³

Due to a dense population, the demand in fuels for domestic uses in Vietnam is increasing rapidly; as a result hill and mountain-sides next to human settlements/villages have become denuded and barren, with rocks and stones showing at their surfaces, and trees (and even shrubs) not being able to get established under the impacts of severe and repetitive cuttings and fellings for fuel; the protection of these degraded vegetation types is not an easy task.

Recently, the use of coal, electricity, kerosene and gas for domestic cooking has become easier and much more accessible. Some households, in particular those in urban areas have shifted to new forms of fuel: gas appliances/stoves have been introduced in some cities.

Towards the year 2010, the population size in Vietnam will be of 95 million people: the demand in fuels under these conditions is going to increase dramatically. For fuelwood only, a supply of about 35 million cu.m. per year is badly needed as pointed out by planners; it is to come from:

- Total use of forest residues from all logging areas;
- Planting of scattered trees;
- Use of economical cook-stoves; and
- Use of substitutes for fuelwood such as electricity, coal (under the form of briquettes) and gas (probably biogas in the countryside).

9. NON-WOOD FOREST PRODUCTS

The diversity in climate conditions prevailing in this country has favoured the occurrence and good growth of a wide range of plant species giving produces of high value at local/international market places. Formerly they were regarded as minor forest products, but due to their importance for the life of local forest people under the present setting, they are renamed as "Special Forest Products" (or *dac san*) in Vietnam. Some of the non-wood forest products are:

- Cinnamon: Its bark and oil can be sold at high prices at market places, in particular at foreign ones, to which about 2,600 tons of cinnamon bark are delivered annually.
- Anise: Anise stars and oil are produced mainly for export; the exports annually amount to 600 tons of anise stars and 50 tons of anise oil.
- Pine resin: tapped from "resinous pine" (*Pinus merkusii*) and three-needle pine (*Pinus khasya*). Total amount of crude pine resin per year is about 2,500 tons. From this, rosin (about 1,500 tons) and turpentine oil (100 ton/year) are prepared. Rosin is exclusively used at local paper mills.
- Bamboos: Bamboos occur everywhere in Vietnam, in both forests and villages, showing a wide range of botanical varieties and giving a total supply of over 6.3 billion calms. They are used as building materials, for the making of many tools and commodities in the countryside and for the manufacturing of some goods for export such as joss-sticks, chopsticks, skewers... During these last years, bamboos are used as the main raw materials for the production of paper in Vietnam in more than one paper mills. Their annual production includes 100 million calms for commercial uses and about 600,000 tons for paper-making.
- Rattan: in particular the thicker ones are used in furniture making and interiors decoration. The export of rattan and bamboo articles has gone escalating from US\$ 12 million in 1991 to 24 million in 1995.
- Besides, there are a lot of other non-wood products such as:
 - * Essential oils: cajeput oil, eucalyptus oil, citronella oil, *Litsea oderata* oil:
 - * Gums and resins: young oil, lacquers; and
 - * Pharmaceutical products: over 1,800 plant and grass species are giving high valued pharmaceutical products in Vietnam.

Towards the year 2000, the production of non-wood forest products, in particular those of high commercial values is to be developed through plantations, as shown below:

	Area (in ha)	Production (in tons)
Cinnamon	80,000	25,000 (bark)
Anise	20,000	10,000-15,000 (stars)
Pine	150,000	120,000 (resin)
Tang oil	60,000	35,000 (seeds)
Rattans	80,000	150,000 (rattan, dry weight)
Bamboos	500,000	150,000-200,000 (culms)
Total	890, 000	

The main measures planned to reach these targets are:

- To continue allocating forest lands to people;
- To allocate adequate resources (to state-owned forest enterprises);
- To sign contracts with and call for capital (from national and foreign donors);

- To make policies on taxation for forest plantations; and
- To issue policies on special interest for credit supply.

10. ORGANIZATIONAL DEVELOPMENT AND POLICY MAKING AND STRENGTHENING

10.1. Organizational development

Through administrative reforms, the Government has recently restructured its organizational set-up at the central and provincial levels. There is new the merging of agencies dealing with state administration with emphasis being laid upon the role of the ministries and sectors in state administration and a better definition of responsibilities of the central and provincial (or municipal) authorities under the present process of decentralization.

Based on the above, the former three ministries of Agriculture, Forestry, And Water Conservancy are combined into a Ministry of Agriculture and Rural development (MARD), which began to function as such in 1996.

At the provincial level, the three formed separate services of Agriculture, Forestry and Water Conservancy have been also combined into a Department of Agriculture and Rural Development.

The new MARD in Hanoi is headed by one (1) Minister and seven (7) Vice Ministers in charge of the administrative and the technical development functions of the ministry. MARD office now comprises two (2) groups: (1) the group of department in charge of state administrative responsibilities and (2) the group of specialized departments in charge of agricultural forestry and water conservancy activities. In the latter, there are two departments in charge of forestry activities:

- *The Forestry Development Department* acting as-an advisory body to help the Minister in his task of technical administration for the establishment, restoration, use and development of forest resources.
- The Forest Protection Department helping the Minister implement his administrative function for forest protection, the department at the same time is acting as a central technical and legal agency to enforce the law and to prevent forest law breaking over the whole country.

The re-structuring process does not only improve the efficiency of state administration by the former ministries but also creates conditions for a better coordination of activities for agricultural and rural development (see also the chart showing the organization of MARD).

10.2. Policy making and strengthening

Since 1986, with the policy of open-door to the outside world and that of encouraging all sectors of the national economy to develop their business the Government has enacted a number of relevant policies: some of them have had a strong impact on forestry development; they are:

a Land policy

Forest lands are to be allocated to economic entities, not excepting farmer' households and individuals for long term farming following formal procedures and issuing of landuse certificates. After land reception. Local farmers are urged to carry out their land farming with the assistance of a number of other policies related to capital investments by state agencies loans and credit supply under favourable conditions agriculture-forestry extension and not the least taxation (for instance, water used for hydroelectric power generation is subject to a tax, the proceeds, of which is to be invested for watershed management and development).

For the most critical areas, in particular those in which extensive shifting cultivation is still the role, resettlement and sedentarization projects/programmes are being implemented thus helping local farmers to improve their farming system and their living conditions before the clearing of forested area can be made to reduce.

b Forestry development

The guidelines for development are to shift from resource exploitation to its development from an exploitative forestry by State to a social forestry, using a number of appropriate agroforestry systems. Based upon these guidelines, relevant forest policies have been in force, implemented and then gained impetus.

c Agricultural and forestry extension

The new approach and practice is being helped to come into existence development, allowing better extension of forestry technologies and agroforestry technologies. New methods and tools at the same time are adopted in agriculture-forestry extension activities/projects: two way communication, exchange of know-how and field experience, participatory approaches in solving problems, thus leading to active adoption of the introduced technologies, effective inputs of labour and resources by farmers and finally to successful establishment of forest plantations, and of agroforest systems. In particular, the state-owned forest enterprises, besides their work of direct management, now have had to carry out technical services to help farmers, establish their agroforest systems, maintain and protect natural forests, and more importantly to market their products, thus creating conditions for the development of a forestry that looks quite different from that of the 70s.

d Credit policy

Low interest loans can be granted to farmers for them to establish forest plantations (lower interest rates than those of loans of other kinds).

e Taxation

Products from forest plantations are liable to landuse tax emanating to only 4% of their values (while products from natural forests can be taxed at 15-40% ad valorem) with tax exemption being granted to products from plantations established by farmer own funds.

However it is time to perfect the incentives and policies mentioned above for the advancement of forestry business.

- The system of combining forest land allocation and forest contracting functions quite well in practice, but the form and contents of the component related to forest contracting should be emended so to better link the benefits from forest and environment conservation with the long-term economic interest of farmers in particular in terms of their incomes.
- Some amendment to the taxation system should be made so that the proceeds from "landuse tax" (also called "resource-use" tax) can be ploughed back to better protect, manage and develop the forest resources.
- The credit policy, in particular the term and conditions of which for new forest establishment should be reshaped to make it more interesting to entrepreneurs.
- Incentives should be crested to be better link products processing units and industries with their stabilized raw materials area.
- Study should be made to "close the access to natural forests" in particular those of low standing volume as required by the Government, and draft on the matter should be submitted by MARD as soon as possible not later than the 2nd quarter of 1997 year.
- The law and by laws governing the extraction and transportation of timber from plantations by local farmers themselves should be improved so not to cause much trouble to those involved.
- The policies for the mobilization of people's resources, motivation of local farmers to obtain the necessary resources (capital, labour, technical supplies... are to be thought of and then shaped out).

With the above, it is to be hoped that the way to social forestry and a brighter prospect in forestry development in which landuse in forestry is stabilized and forest management is sustainable, can be opened up.

11. ASSESSMENT OF FUTURE SUPPLY AND DEMAND FOR FOREST PRODUCTS AND SERVICES

Economic growth in Vietnam recently have been developing quite rapidly at about rate 8,2% during 1991-1995. In 1997 that rate is estimated at about 9.5%. The future⁶ supply and demand for forest products are estimated as follows:

⁶ Assume year 2010 for all projections.

a. *Wood, timber and fuelwood**Demand*

• Timber for production of wood-base panels:	4.00 million m ³
• Timber for furniture making:	4.32 "
• Timber for construction:	3.00 "
• Wood and timber for paper making	12.00 "
• Timber for mine production	0.35 "
• Total:	23.67 million m³
• Fuelwood	35 million m ³

Supply

Possible supply is planned to be taken from:

• Natural forests (of high standing volume):	0.6 million m ³
• Man-made forest plantations:	5.0 "
• Bamboos as substitutes:	1.44 "
• Total:	7.04 " ⁷

The remaining demands are to be extracted from newly established forests. Vietnam is going to planted from 1996-1997 about 5 million hectares⁸ of forest plantations. Other alternative is import of round timber. The supply for fuelwood for domestic and industrial uses from scattered trees planting and use of logging residues from industrial plantations and natural forests.

⁷ There is a major gap between this supply potential and projected demand. To import such large volumes presents major challenges for a significant time before significant areas of plantations mature (Editor).

⁸ Till year 2003 as indicated later in report (Editor).

b *Non-wood forest products*

These products are meant mainly for export. Estimated for export capacity as below.

* Cinnamon bark:	25,000 tons
* Anise and its products:	15,000 tons
* Pipe resin:	120,000 tons
* Rattan:	150,000 tons
* Bamboo:	120,000 tons
* Tung oil:	40,000 tons

12. FUTURE DEVELOPMENT AND DEVELOPMENT OBJECTIVES

The guidelines for development for the years to come are an integrated development of agriculture, forestry and fishery. With regard to forestry the main points are: forestry development going hand in hand with the stabilization and improvement of living conditions for local people, speed-up greening of denuded hills and bare lands, forest protection to encourage natural regeneration and restoration, all contributing to creating better improved conditions for higher forestry development in the mountainous area. The main policies, strategies and activities are: the intensification of the process of forest lands and forest allocation to people the strengthening of forestry extension activities for long-term protection of forest resources ecosystems and genetic resources and for better wildlife control, improve land farming, careful timber extraction..., and not the least adequate planning and efficient establishment and running of wood-based industries.

It is also essential to improve the forest cover over the whole country to 40-50% and to create new jobs for at least 1 million to 2 million young farmers living in the mountain rural area.

A number of national programmes and projects have been operating to attain the above-mentioned objectives/goals.

- *The programme 327.* It was shaped out following the Decision 327 of the Government and has been implemented since September 1992. In September 1996 the programme was amended to become a national programme dealing with the establishment of protection forests and special-use forests (or protected area). The programme is to be implemented using agroforest technologies and specific projects, in which the driving force comes from farmers' households. The component projects should work for strengthening the protective role of national forests, for the conservation of the ecological environment, for alleviating the impacts of natural calamities for bettering land use and the living conditions of local farmers, thus linking the interests of the country with the immediate benefits of local participants.

Projects within the programme are funded by the state, with contribution of local people and communities being provided under the form of labour for the establishment the protection and maintain of forests as stipulated in specific contracts.

- *The Resettlement and Sedentarization Programme.* Two (2) million people of ethnic minorities living in remote mountain area are said to still practice shifting cultivation or slash

and burn methods of land farming. Their living conditions are far from being stabilized, but the environmental conditions in the areas they are living get deteriorated very seriously. Facing the problem of extensive shifting cultivation, the Government has developed a programme known as the resettlement and sedentarization programme to develop and introduce more sedentary methods of land farming and to improve the economic conditions in these areas.

Based upon the demand of local farmer' households and communities, the Government has allocated and delivered resources to develop and improve the marginal sloping agriculture lands through the establishment and consolidation of terraces, alley cropping for the cultivation of rice, other food, cash, fruit and tree crops and even medicinal plants, and also to protect the existing forests for better soil and water conservation, the programme has also invested capital for the development of infrastructure in these areas: developing the irrigation network, the road network, building more schools and health stations there.

The programme is going to expand its beneficial effects on economic development and on forestry development as planned: and as a result, the Government has paid much attention to programme development and implementation.

- *Foreign-assisted forestry projects.*

The most important ones are:

- The Vietnam-Sweden Mountain Rural development Programme funded by SIDA, new being implemented at 5 provinces in forestry development area of the north;
- The Technical Cooperation programme between Vietnam and Germany (GTZ): with a project dealing with social forestry development at Song Da in the two provinces of the North West;
- The Financial cooperation programme between Vietnam and Germany: dealing with forest plantation in the two northern provinces of Bac Giang and Lang Son and in three (3) provinces in central Vietnam of Ha Tinh, Quang Binh, Quang Tri;
- The WFP plantation programme now being implemented in 13 coastal provinces and other 5 provinces in the North;
- The EU project: for establishment and running of the nature reserve of Pu Mat Nghe An;
- The JICA project: providing equipment for the establishment of agroforest systems in Son la and Lai Chau provinces.

Other projects supported by UNDP, FAO and international NGOs have been also implemented for biodiversity conservation, sustainable land use and social forestry development.

- *Industry plantation programme* Under the current conditions of economic development in Vietnam, the demands in forest products (fuelwood and timber, non-wood forest products, et.) are going to increase dramatically (and under the conditions of some natural forests going

to be closed for exploitation, that situation might get worse). Therefore, it is necessary to create intensively managed industrial plantations, in particular in specific areas. A plan to establish 5 million hectares of plantations of that category from now to the year 2003 have been approved for execution⁹.

The main measures to be adopted for successful in implementation of that programme by all sectors of the economy are:

- Landuse planning: a necessary step is to have a clear demarcation line between protection forest and production forests. For production forest lands already allocated to households, now having legal land-use certificates, these should be motivation and incentives so to encourage farmers do their farming as planned.
- Much more appropriate allocation of resources for forest plantation from national budgets, parallel with more intensive mobilization of funds within the country capital calling from foreign countries, improves joint ventures and limited companies establishment.
- Creation of credit/funds for money lending at favourably low interest rates for forest plantation;
- Greeting of tax holiday to encourage entrepreneurs to get involved in the different business of tree planting and wood production;
- Strengthening forestry extension to help farmers carry their plantations for profit; and
- Training of technical and managers for effective and efficient management to cope with different task of developing a large scale forest plantation programme.

⁹ At an average of about 833,300 ha/year, the proposed plantation rate is of above average scale even for the Asia-Pacific region other than China and India (Editor).

ANNEX - STRUCTURE OF THE MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

Ministry of Agriculture and Rural Development

- Minister (Supported by The Office; The Inspectorate)
- 1st Vice Minister
(Forestry Development Planning, Scientific Technology, International Cooperation, Investigation and Training)
- 6 Vice Ministers:
Forest Production, Forest Protection, Fixed Cultivation, Mountain Working Programme Management 556 (327), 773
Water Development Planning, Basic Construction, Agriculture and Forest Product Processing
Flood and Storm Protection, Dyke Management, Water Management (Hydro Power)
Agriculture and Forest Product Processing, Food Import/Export; State Enterprises; Sugar Cane Programme
Agriculture Production; Rural Development; Establishment Cooperatives; Clear Water Programme
Agriculture & Rural Development and Cooperatives in the South
- 16 Departments:
 - General State Management**
Planning and Programming Dept.,
Capital Construction Investment Dept.,
Science, Technology & Product Quality Dept.,
Agriculture & Rural Development Policies Dept.,
International Cooperation Dept.,
Finance-Accountancy Dept.,
Organization & Personnel Dept.,
 - Specialized State Management**
Forestry Development Dept.,
Ranger Department.,
Plant Protection Dept.,
Veterinary Dept.,
Agriculture & Forestry Promotion Dept.,
Agricultural & Forest Products Processing and Rural Occupation Dept.,
Water & Irrigation Projects Management Dept.,
Prevention & Fight against Floods and Storms, and Dyke Management Dept.,
Sedentarization and New Economic Zones Dept.

List of Working Papers already released

APFSOS/WP/01	Regional Study - The South Pacific
APFSOS/WP/02	Pacific Rim Demand and Supply Situation, Trends and Prospects: Implications for Forest Products Trade in the Asia-Pacific Region
APFSOS/WP/03	The Implications of the GATT Uruguay Round and other Trade Arrangements for the Asia-Pacific Forest Products Trade
APFSOS/WP/04	Status, Trends and Future Scenarios for Forest Conservation including Protected Areas in the Asia-Pacific Region
APFSOS/WP/05	In-Depth Country Study - New Zealand
APFSOS/WP/06	In-Depth Country Study - Republic of Korea
APFSOS/WP/07	Country Report - Malaysia
APFSOS/WP/08	Country Report - Union of Myanmar
APFSOS/WP/09	Challenges and Opportunities: Policy options for the forestry sector in the Asia-Pacific Region
APFSOS/WP/10	Sources of Non-wood Fibre for Paper, Board and Panels Production: Status, Trends and Prospects for India
APFSOS/WP/11	Country Report - Pakistan
APFSOS/WP/12	Trends and Outlook for Forest Products Consumption, Production and Trade in the Asia-Pacific Region
APFSOS/WP/13	Country Report - Australia
APFSOS/WP/14	Country Report - China
APFSOS/WP/15	Country Report - Japan: Basic Plan on Forest Resources and Long-Term Perspective on Demand and Supply of Important Forestry Products
APFSOS/WP/16	Country Report - Sri Lanka
APFSOS/WP/17	Forest Resources and Roundwood Supply in the Asia Pacific Countries: Situation and Outlook to Year 2010
APFSOS/WP/18	Country Report - Cambodia
APFSOS/WP/19	Wood Materials from Non-Forest Areas
APFSOS/WP/20	Forest Industry Structure and the Evolution of Trade Flows in the Asia-Pacific Region - Scenarios to 2010
APFSOS/WP/21	Decentralization and Devolution of Forest Management in Asia and the Pacific
APFSOS/WP/22	Commentary on Forest Policy in the Asia-Pacific Region (A Review for Indonesia, Malaysia, New Zealand, Papua-New Guinea, Philippines, Thailand, And Western Samoa
APFSOS/WP/23	Asia Pacific Forestry Sector Outlook: Focus On Coconut Wood
APFSOS/WP/24	Ecotourism And Other Services Derived From Forests In The Asia-Pacific Region: Outlook To 2010
APFSOS/WP/25	Technology Scenarios in the Asia-Pacific Forestry Sector
APFSOS/WP/26	In-Depth Country Report - India
APFSOS/WP/27	People and Forests: Situation and Prospects
APFSOS/WP/28	Non-Wood Forest Products Outlook Study for Asia and The Pacific: Towards 2010

APFSOS/WP/29	Opportunities for Forestry Investment in Asia and the Pacific Through Carbon Offset Initiatives
APFSOS/WP/30	Country Report - The Maldives
APFSOS/WP/31	Country Report - Vietnam