

**ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY
WORKING PAPER SERIES**

Working Paper No: APFSOS/WP/27

**PEOPLE AND FORESTS IN ASIA AND THE PACIFIC:
SITUATION AND PROSPECTS**

By

R.J. Fisher
Somjai Srimongkontip
Cor Veer

With the assistance of

Michael Victor
Nitiya Kijtewachakul

Regional Community Forestry Training Centre
Kasetsart University
P.O. Box 1111
Bangkok 10903
Thailand



Forestry Policy and Planning Division, Rome
Regional Office for Asia and the Pacific, Bangkok

December 1997

The Asia-Pacific Forestry Sector Outlook Study is being undertaken under the auspices of the Asia-Pacific Forestry Commission.

This report comes under Workplan Number E27.4(a).

TABLE OF CONTENTS

INFORMATION NOTE ON ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY.....	i
SUMMARY.....	1
INTRODUCTION	3
NUMBERS OF FOREST ‘DEPENDENT’ PEOPLES AND TYPES OF PEOPLE FOREST RELATIONSHIPS	4
Geographical Patterns.....	8
Themes and Issues.....	9
Indigenous Forest Management Systems and Practices	9
Swidden Cultivation.....	10
Non-Timber Forest Products.....	12
Logging - The Timber Industry.....	13
Environmentalism	18
Migration into Forest Areas	19
Policy, Trends and Initiatives	19
Agroforestry.....	19
Collaborative Approaches to Forest Management	20
Poverty Alleviation and the Control of Forest Resources	22
Poverty Alleviation	22
Tenure	23
TRENDS AND SCENARIOS: THE FUTURE.....	24
REFERENCES	27
APPENDIX 1 - FOREST DEPENDENT PEOPLE AND ECOZONES.....	31
APPENDIX 2 - TERMS OF REFERENCE.....	34

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:

Rome: Mr. Mafa Chipeta
Senior Forestry Officer
Policy and Planning Division
Forestry Department
Food and Agriculture Organization of the
United Nations
Viale delle Terme di Caracalla
Rome, 00100, ITALY
Tel: (39-6) 5705 3506
Fax: (39-6) 5705 5514
Email: <mafa.chipeta@fao.org>

Bangkok: Mr. Patrick Durst
Regional Forestry Officer
FAO Regional Office for Asia and the
Pacific
Maliwan Mansion
Phra Atit Road
Bangkok 10200
THAILAND
Tel: (66-2) 281 7844
Fax: (66-2) 280 0445
Email: <Patrick.Durst@field.fao.org>

SUMMARY

Many people in the Asia-Pacific region continue to use forest products to support their livelihoods. Types of people-forest relationships vary from substantial dependency (with little choice of alternatives) to occupancy of a range of niches involving some level of forest use. It is difficult to provide accurate or meaningful numbers of forest-dependent people, partly because reliable data are not available and partly because definitions of forest dependence are problematic. There is no doubt, however, that the livelihoods of substantial numbers of people involve forest use.

Understanding people-forest relationships requires two perspectives. Firstly, it is essential to take into account international economic and political factors. In particular the development of a globalized economy increasingly reduces the ability of local people to influence forest policy and control their lives. The international environmental movement is a two-edged sword. It has served both to empower and disempower local people in various circumstances.

Secondly, it is incorrect to think of people-forest relationships in terms of a one way relationship, with people simply using or depending on forest resources. It is important to recognise the active involvement of people in forest management.

People-forest relationships are changing, with some major trends being apparent. The first of these is the increasing emphasis (at least at the rhetorical level) on various collaborative approaches to forest management. At the same time, the increasing globalization of the economy and the international environmental movement work against the interests of local people in forest use and management. Another major trend is the importance of general economic development, which often provides new economic options for people who currently rely on forests and which will increasingly lead to the development of new economic niches, often outside forestry altogether.

While there is an apparent movement towards devolution of control of forests, forest resources are valuable and there will control of forest resources will be contested in many countries.

INTRODUCTION

In many parts of the Asia-Pacific Region forest dependent people face reduced availability of the forest resources upon which they depend, wholly or partially, for their livelihoods. The shortages sometimes result from actual shortages and sometimes from reduced access to existing resources as a result of competition with commercial interests or restricted access due to government policies.¹

Although decline in forest resources partly results from overuse by forest dependent peoples, often due to population pressure, other factors such as commercial logging (legal and illegal), almost certainly contribute more to forest degradation and deforestation within the region. Ironically, forest dependent people often find themselves under attack from both commercial logging interests (who find it convenient to point to the destructive effects of shifting cultivation and fuelwood collection) and environmentalists who make similar criticisms for different reasons.

In this paper we aim to explore the nature of relationships between people and forests in the Asia-Pacific Region, including people who are heavily dependent on forests and those who make use of forest products, but do have alternatives. We are partly concerned with the effects of the actions of such people on forests; we are also concerned with the nature of dependency on forests and factors which impinge on patterns of dependency.

A major concern is to emphasise that the relationships between forests and people cannot be understood by focusing too closely on the local level. International economic and political factors do not merely impinge on the relationships between people and forests, they form a crucial part of the context in which the relationship exists. The development of a globalized economy and the international environmental movement are the two most important factors.

A second major theme is that it is misleading to think of the relationship only in terms of dependency, as if the relationship between people and forests is a one-way process of removal of forest products for human use. It is important to remember that people living in and near forests often actively manage them, by regulating the way they are used and applying practices that are designed to change various aspects of forest structure. Although it is common to think of people carrying out practices which reduce the biodiversity of a forest, indigenous management practices may (and often do) increase the biodiversity of a degraded forest. For this reason it can be useful to think of forest/people relationships as interdependent rather than as solely dependent. The use of the phrase 'forest dependent people' in this paper is not intended to imply a one-way passive relationship, but to allow for an actor orientation which sees people making active decisions about forest use and priorities.

This paper has been prepared as a working paper for the Asia-Pacific Forestry Sector Outlook Study, which is being carried out for the Asia-Pacific Forestry Commission by the Food and Agriculture Organization of the United Nations.

¹ The reduced access applies particularly to 'good' forests. In areas where forest resources have been heavily exploited or degraded, access has often been enhanced as governments implement community forestry or Joint Forest Management projects on degraded lands.

The full terms of reference are at Appendix 2. In broad terms the aims of this paper are to review current knowledge and understanding of the extent of forest dependency and the types of people/forest tree relationships in the region and to explore factors affecting people forest relationships and likely future changes.

The terms of reference refer to the presentation of 'a vision of "most likely" changes between now and the year 2010'. We do not believe this is possible. There are a number of quite different trends which could develop differently and in different combinations throughout the region. The most that can be done is to identify possible scenarios. To try to predict the future situation is rather mechanistic and ignores the fact that political action and decisions may lead to quite different outcomes.

For the purposes of the terms of reference, 'the Asia-Pacific region will extend from Pakistan in the west to the International Date Line in the east; from Mongolia, China and Japan in the north, to include the Pacific Islands inclusive of Australia and New Zealand inclusive in the south.' In practice it is impossible to deal with every country in the region. We will be aiming to characterise the region broadly and then to refer to individual countries as appropriate.

The accuracy of many statistics on 'people and forests' is questionable and what these statistics mean is often unclear in any case. The paper is, consequently, concerned more with themes than with numbers, although there is a need for a preliminary discussion of numbers.

NUMBERS OF FOREST 'DEPENDENT' PEOPLES AND TYPES OF PEOPLE FOREST RELATIONSHIPS

In a general sense it could be argued that all people (including urban dwellers) have some dependence on forests, at least for products such as timber and paper². However, many people rely heavily on forests for their livelihoods. (See Table 1 for a summary of the various ways in which forests can contribute to human livelihoods.)

The concept of 'forest dependency' is highly problematic. Although it is possible to refer loosely to any people who rely on forest products for their livelihood as being to some extent 'forest dependent', this loose usage obscures fundamental distinctions between different types of relationships. Byron and Arnold (1997) have presented a fundamental critique of the use of the term 'forest dependency', arguing that it is more useful to present a typology of different types of users. They make a crucial distinction between people who rely on forest use and have no alternative, and those who use forest products or engage in economic activities involving forests, but do so as a matter of choice.

In this paper we concentrate on people who are more or less directly reliant on forests for livelihood purposes. It is useful to identify three broad types of people-forest relationships:

- People who live inside forests, often living as hunter-gatherers or shifting cultivators, and who are heavily dependent on forests for their livelihood primarily on a subsistence basis.

²The perception by urban environmentalists of their dependence on forests is leading to major conflicts as they support policies, such as the creation of national parks and protection of watershed areas, which impact on the livelihoods of more directly dependent on forests.

People in this category are often indigenous peoples or people from minority ethnic groups. They are, thus, usually outside both the political and economic mainstream.

- People who live near forests, usually involved in agriculture outside the forest, who regularly use forest products (timber, fuelwood, bush foods, medicinal plants etc) partly for their own subsistence purposes and partly for income generation. For those involved in agriculture, nutrient supplements from forests are often of critical importance to productivity. Such supplements can be in the form of mulch from leaves gathered in the forest. Another source of nutrient supplement is forest grazing by livestock which converts nutrients from forest biomass into manure.
- People engaged in such commercial activities as trapping, collecting minerals or forest industries such as logging. Such people may be part of a mixed subsistence and cash economy. Where these people differ from the first two categories is in the fact that they depend on income from forest-dependent labour rather than from direct subsistence use of forest products. It is important to note, however, that this type of people-forest interaction can exist even in a highly monetized context: for example, small rural communities in highly industrialised countries like Australia can be almost totally dependent on wages from commercial logging. (Peace 1996, describes such a community in south eastern Australia.)

The categories in the typology obviously overlap. For example, forest labourers may also collect subsistence products or farm in or near a forest.

Table 1 Ways in Which Forests Can Contribute to Human Livelihood

<i>Household use (subsistence)</i>
timber
fuelwood
wild foods (animal and plant)
medicinal plants
other NTFPs
grazing for animals
forest-based agriculture
nutrient subsidies for agriculture
<i>Food security</i>
Depend on forest foods when crops fail to meet seasonal needs or to provide dietary supplements ³ .
<i>Income generation</i>
From sale of any products listed above or sale of agricultural or livestock production dependent on forests.
<i>Income from forest-based labour</i>

The question of numbers in relation to 'forest dependent' people is a vexed one. Any estimates of forest dependent peoples are no more than guesstimates. One reason for this is the variable accuracy (or specificity in defining means of livelihood) of census data in the region. A more fundamental difficulty is terminological or conceptual. Indeed, conceptually the whole question of estimating numbers of forest dependent peoples is a minefield.

What precisely do we mean by the various categories of forest dependency? What are the overlaps between categories? What, for that matter do we define as forest? Does the term refer to a legal classification, or to a definition based on percentage of tree cover?⁴ Many so-called forest lands are no longer 'geographical units with trees as the dominant form of vegetation', but are forests purely in a *de jure* sense. The sources of the various estimates use the terms in a variety of ways, often not using any explicit definitions at all.

One factor that needs to be considered in estimating numbers of forest dependent or tree dependent people is the existence of various types of 'mini-forests' that are not normally included in discussions of forests. Douglas (1982) found that 80% of all timber used in Bangladesh comes from 'homestead trees'.⁵ In the case of Bangladesh (and all densely populated floodplains and large valleys such as in Java) many rural people depend on the homegarden and other mini-forests to provide tree products in order to sustain their livelihoods.

³ Forests also hold a "land reserve" for expansion of agriculture (Editor).

⁴ For the purposes of this paper, we use a broad definition of forest to include both *de jure* and *de facto* forest, as well as any areas with significant numbers of trees, including grazing land with scattered tree cover.

⁵ In contrast, the legally classified forest land covers 15% of the total land mass in Bangladesh, but 'less than half... has productive tree cover' (Bangladesh Agricultural Research Council 1991).

Virtually no published estimates of the numbers of forest dependent peoples in the region exist, with the exception of estimates of forest dependent peoples in six countries by Lynch and Talbott (1995). These figures are explicitly presented as guesstimates in Table 2. There are studies of dependence on specific products (especially fuelwood), but no other estimates of dependence on forest products generally.

Although the terms of reference for this paper ask for ‘guesstimates of numbers of people closely dependent on forests’, we have, on careful consideration decided not to provide any estimates for three reasons. Firstly, there is a tendency for guesstimates, however carefully qualified, to attain the status of ‘facts’ after a few cycles of citation and re-citation. Secondly, broad numbers related to broad categories tend to aggregate quite different types of people-forest relationships, masking differences which have potentially quite important consequences. Thirdly, the process of generating the estimates was so arbitrary (reflecting the limitations of meaningful data) as to be quite unacceptable.⁶

Table 2 - Guesstimate of Numbers of Forest Dependent People in Selected Countries in Asia-Pacific

<i>Nation</i>	Peoples directly dependent on forest resources (millions)	Peoples living on land classified as public forest (millions)
India	275	100
Indonesia	80-95	40-65
Nepal	18	8.5
Philippines	25-30	24
Sri Lanka	2-4	?
Thailand	20-25	14-16

Source: Lynch and Talbott (1995)

The figures presented by Lynch and Talbott cover only a small number of countries in Asia. Countries with significant numbers of forest dependent people (however defined) such as China are not mentioned at all. Similarly, there is no reference to the Pacific or to Australia and New Zealand. In Table 3, we provide some qualitative remarks on forest dependency in Australasia and the Pacific.

⁶In an earlier draft of this paper we reluctantly included a table with guesstimates of overall numbers of ‘forest dependent’ people in the region. Following comments by Neil Byron (pers.comm.) and a reading of Byron and Arnold (1997), we decided to omit the guesstimates.

Table 3 - Comments on Forest 'Dependent' Peoples in Australasia and the Pacific

Australia	Some people directly dependent of employment in the logging industry, including small rural communities almost solely dependent. Some Aboriginal people resident in national parks.
New Zealand	Some people directly dependent on employment in the logging industry. Some Maori communities resident in forest lands.
Forest-rich Pacific Islands Fiji, Vanuatu, New Caledonia, The Solomons (PNG included in Table 3)	Much of the rural population resident in or near forest land often under some form of communal ownership. Small populations so absolute numbers small.
Forest-poor Pacific Islands	Many of the island nations of the Pacific are small atolls with no significant natural forests. On these islands agroforestry is an important form of land use. (e.g. Marshall Islands, Kiribati, Tuvalu.) Other larger islands nations such as Western Samoa and Tonga have limited forests.

Note: For an excellent summary of forestry issues in the Pacific island nations, see McGrath 1997.

Geographical Patterns

As opposed to broad and highly approximate enumeration, one way of discerning patterns of dependency (or inter-dependency) is to look at some of the distinct types of geographical zones in the region in terms of forest use patterns which are broadly similar within each zone. Appendix 1 presents a description of several key geographical types, each characterised by some commonality of patterns of people/forest relationships. The appendix aims to identify characteristics of dependency on forest products, typical management responses and some conflicts and issues which affect forest use and access. This attempt to characterise the broad types of forest/people interactions is not intended to be exhaustive.

Some broad general conclusions can be drawn from this survey:

- the highest level of reliance on extensive forests is in the hill areas and in tropical forest areas;
- the highest level of reliance tends to be in areas with ethnic minorities outside the dominant national culture (leading to relative powerlessness and vulnerability in the face of outsiders);
- in areas with high population and intensive agriculture, tree products tend to be obtained more from 'homestead forests' than from large areas of *de jure* forest.

Themes and Issues

Indigenous Forest Management Systems and Practices

We have referred to the importance of recognising the interdependent or proactive aspect of people-forest relationships. One aspect of this is the existence of indigenous forest management systems or practices (also described as traditional or local). In recent years it has become increasingly well recognised that people living in and near forests often have quite sophisticated knowledge and techniques for forest use and arrangements for regulated access to and use of forests. These systems can be described as indigenous forest management systems, defining management as 'regulated use'.

These systems have often been dismissed by foresters and others as being, at best, outdated remnants of 'traditional' or 'customary' systems. Recent research in Nepal (where indigenous systems have been fairly carefully documented) suggests that many of the indigenous arrangements identified have been relatively recent initiatives, which have developed as a response to a locally perceived vacuum in forest management. In other words they are recent, dynamic responses to a changing situation. (For overviews of the literature on indigenous systems of forest management in Nepal, see Messerschmidt 1986 and Fisher 1989, 1991, 1993.)

Pravongviengkham (1997) draws a similar conclusion about the dynamism of regulatory systems for swidden agriculture in forests in Laos.

Analysis of indigenous forest management systems suggests that there are two key aspects. (It is not necessary that both are present in every system.)

- Indigenous beliefs and knowledge which lead to forest use practices which minimise forest degradation. (One example might be knowledge of flowering which leads to harvesting at times which enhance regeneration.) Eder (1997) describes the influence of knowledge and belief among the Batak of the Philippines on forest use practices.
- Tenurial arrangements which regulate access to forest resources and institutional and organisational arrangements which enable these arrangements to be enforced.

While there is much recent literature which praises the 'ecological wisdom' of tribal people, it is not necessary to romanticise indigenous forest management systems. As Stevens (1992) suggests with reference to the Sherpas of Nepal, they are not necessarily about balance, but about processes of adjustment. These processes may be imperfect, but they often represent viable attempts to achieve sustainable use.

Swidden Cultivation

Apart from very small numbers of hunter-gatherers, perhaps the people most directly and absolutely dependent on forests are those people engaged in agriculture within forests. Swidden cultivation, also known as shifting cultivation or, more negatively and judgementally, as “slash and burn agriculture”, continues to be a major type of people-forest interaction in Laos, Vietnam, Cambodia, Thailand and parts of southern China, as well as Indonesia and Papua New Guinea.

Swidden agriculture involves the clearing of forest areas for crop cultivation. Plots are used for a short time and then left fallow or abandoned and another plot cleared. Sometimes the system is rotational (the farmer returns to a plot after a period of fallow) and sometimes the plot is farmed extensively and then abandoned completely. Kunstadter and Chapman (1978) identify four quite distinct patterns of swidden systems in northern Thailand (short cultivation-short fallow, short cultivation-long fallow, long cultivation-very long fallow or abandonment and ‘permanent field tree crops, associated with use of forest for swidden rice and fuel’). Pravongviengkham (1997) identifies five completely different systems of swidden succession and regulation in Laos. Forest officials and many agricultural experts tend to have a low opinion of swidden agriculture, seeing it as unproductive, unsustainable and environmentally destructive.

There is an alternative view. There have been detailed studies of shifting cultivation which call into question the idea that it is intrinsically unsustainable. In a study of shifting cultivation on Kalimantan, Dove (1985: 384) showed that it was a ‘successful adaptation to its environment’ by and large. Chazee (1994: 92) concluded that, where there are long fallows (10-20 years), shifting cultivation in Laos results in ‘food self-sufficiency’ and ‘conservation of soils and... forest regeneration’. Pravongviengkham (1997) concludes that, even under relatively short fallows, yields in his study area in Laos have been ‘somewhat stable in the last 20-30 years’. He attributes this to the emergence of local regulatory systems.

It is apparent that swidden cultivation under short fallows tends to be unsustainable and unproductive, although Pravongviengkham shows that there it is unwise to make simplistic assumptions about this. In any case, the broad condemnation of ‘slash and burn agriculture’ by many officials and experts seems not to recognise the variety of swidden systems or the variety of conditions under which they exist.

The negative view of shifting cultivation has become something of a myth that justifies policies and projects which aim to ‘stabilise’ shifting cultivation (Fisher 1996). In Laos, government policy is to end shifting cultivation by 2000 (although this is more of away of highlighting the perceived urgency of the issue than a fixed target). A number of complementary programs have been developed to achieve this objective. These include programs which aim to:

- formalise land tenure through a process of land allocation;
- improve land use planning at the local level;
- develop technical packages which will improve productivity of crops and livestock;
- develop alternatives to agricultural income for shifting cultivators. (Fisher 1996)

There are some serious problems with this policy. Not least of these is the underlying assumption that all shifting cultivation is intrinsically bad practice. A second general problem relates to the fact that the land allocation system allows all upland villagers to receive up to five plots of one hectare each. Four of these can be used for rotating cultivation. The fifth can be used for orchards or tree crops. The difficulty with this is that the limited number of plots *enforces* short rotations, which seems likely to make the unsustainability of swidden agriculture a self-fulfilling prophecy. Of course the assumption is that new technologies will compensate for short fallows. Unfortunately, the adoption of new technologies is likely to involve costs to farmers (including labour costs) and risk aversion will hardly make untested new technologies attractive to people who are already very poor (Fisher 1996).

While formalising tenure seems to be a positive step, there does seem to be a tendency to think in terms of individually controlled plots⁷. Pravongviengkham argues that the regulatory systems for swidden use tend to be based on ‘communal’ decision-making and exchange labour. He argues that

The reallocation programme has not taken into consideration the institutional arrangements and customary rights in the use of common resources that have been successful in forging cohesive norms of cooperative behaviours at intra-village and inter-village level. (Pravongviengkham 1997: 7)

A similar programme of land allocation is currently being carried out in Vietnam. In principle, there are obvious advantages in formalising access rights to land, but there are risks involved. From a practical point of view, ‘communal’ management tends to have advantages of flexibility in terms of enabling quick response to variation of conditions in different parts of the forest-swidden domain. Further, “communal” decision-making can allow reallocation of plots in response to differing household needs (due to varying household composition). Recognising individual tenure tends to fix access and control and reduce flexibility.

Shifting cultivation is a difficult way to gain a livelihood. It involves heavy labour demands and low returns for labour. (The returns may be sustainable, but they still tend to be low.) Any programme which places priority on reducing movement (which sees ‘shifting’ as *the problem*) is likely to make the lives of shifting cultivators even harder:

...the emphasis on *stabilising* shifting cultivation rather misses the point, since stabilising shifting cultivation is unlikely to meet the food needs of an increasing population and is also likely to lead to increased soil deterioration on cultivated land. (Fisher 1996)

Reducing access to forest land threatens the livelihoods of swidden farmers. Equitable solutions to low productivity (and unsustainable use where this is a problem) will require development of alternative sources of livelihood along with increased productivity where this is a viable option. Broader economic development, providing opportunities for income outside agriculture may, in the long term, be of greater importance to improving livelihoods than any developments in agricultural technology.

⁷Both in Laos and Vietnam, there is provision for land allocation to take into account customary tenure, including various forms of ‘communal’ tenure. In practice, however, individual tenure is emphasised.

Non-Timber Forest Products

In recent years there has been huge interest in the recognition of the value of NTFPs and their role in supporting the livelihoods of many rural people. There has also been a strong movement towards promotion of NTFP production and marketing as a source of sustainable income-generation. Indeed, this movement has become so strong that it sometimes seem to have acquired some of the characteristics of a 'cargo cult'.

This is not to deny the importance of NTFPs to the livelihoods of rural people. Forests are sources of foods (plant and animal), medicines and a whole range of products. In a study of a village in the Solomon Islands, Cassells (1997) examined the value of forest products to households. The products included garden products, fruits and nuts, other forest food, firewood, housing, canoes, customary medicines and miscellaneous forest products. He attempted to value these products in monetary terms through surrogate pricing.⁸ He calculated the value of forest products per household at over ten thousand five hundred New Zealand dollars. Although his calculation did include construction timber, this represented only a few hundred dollars out of the total. Clearly the real importance of NTFPs for subsistence use was considerable.

NTFPs are obviously important as a means of generating cash income. Maharjan (1996) presents several case studies on NTFP as a means of income generation in Nepal and shows that activities such as forest-based ginger and cardamom cultivation and resin tapping can generate considerable income. Campbell et al (1996) identify similar potential for NTFPs generated through Joint Forest management activities in India.

The value of NTFPs to subsistence livelihoods is important and there is considerable potential to generate income through NTFPs. However, there is a tendency to assume that NTFP-generated income can make major contributions to rural livelihoods in many areas. There is also an assumption that concentrating on NTFP production and marketing will somehow reduce forest degradation because NTFP production is somehow intrinsically sustainable. Both of these assumptions are dubious.

Byron (1996), while recognising the potential of income generation through community forestry (not just NTFPs) points out that there are some 'potential hazards'. One key hazard is that 'demands for forest products are volatile and rapidly changing. Many NTFPs appear to be "inferior" goods (demand falls as incomes rise)' (p 1).

Dove (1993) argues that there is a fundamental flaw in the view that NTFPs can be of great economic importance. He points out that forest products tend to be available to local people for only so long as they remain economically marginal. Valuable resources tend to be 'appropriated by external entrepreneurs at the expense of local communities'. Thus it is no accident that NTFPs used to be referred to as 'minor forest products'. He suggests that the

⁸ 'Surrogate pricing takes the price of a substitute product that would have to be used if the original (subsistence) product was not available... For example, a tin of corned beef might be used if villagers could no longer hunt birds for food, or corrugated iron might be used to roof a house if sago palm leaf was no longer available.' (Cassells 1997: 7)

search for new sources of income is often ‘a search for opportunities that have no other claimants’.

The assumption that focusing on NTFPs will reduce forest degradation because NTFP production is intrinsically sustainable is dubious. Some NTFPs can be cultivated without destroying their capacity to reproduce. This occurs in the case of flowers or other products from which the valuable portion can be removed without damaging roots. Cardamom is an example. Honey can also be harvested without significantly reducing the capacity of bees to produce more honey. But in other cases harvesting requires removal of the reproductive capacity. In such cases sustainability requires conscious efforts to replenish the supply (generally by replanting). In these cases there is nothing *intrinsically* sustainable and sustainability requires active management and replanting.

Using NTFPs to increase income generation does not necessarily reduce pressure on the resource. On the contrary it may often increase local demand and thus increase pressure. The potential for NTFPs to contribute to conservation lies in the possibility that people will replace dependence on destructive uses (logging, shifting cultivation) with dependence on less destructive uses.

In calling attention to the limitations of the tendency to see NTFPs as a panacea, we are not denying the importance of NTFPs. Indeed, NTFPs are of fundamental importance to the subsistence of many forest dependent peoples. (In fact, the importance of NTFPs to their subsistence is one reason we describe them as forest dependent.) However, the great emphasis on the ‘income-generating potential’ of NTFPs tends to mask the fact that this potential is very limited due to the low real value of these products in general. Treating NTFPs as a cargo cult tends to obscure the fact that forest dependent lack control of the high value products which would generally change their economic status in a substantial way. Timber, which is a genuine high value forest product, is rarely controlled by the people living in and near forests.

Logging - The Timber Industry

Commercial logging, both legal and illegal, is a major factor in the interaction between people and forests. Logging is an important industry in many countries in Asia and the Pacific. It is also the focus of much international trade in the tropical belts it is increasingly dominated by companies from within the region itself, particularly Malaysia and Indonesia. Because it can be a major source of state revenue, logging is an arena in which the legitimate interests of the state and local people often become inconsistent.

It is somewhat ironic that forest dependent peoples are often blamed for forest degradation, especially when the blame is laid by interests supporting the timber trade. As Ellen points out, forest-fallow swidden is often regarded as being destructive of forests, but it is clearly ‘a productive use of forests, more so than commercial logging in terms of sizes of population supported’ (Ellen 1997: 180). Ellen goes on to refer to some ideological motivations for the negative view of shifting cultivation:

Indeed, it has been argued that the view of swidden agriculture as a destroyer of valuable resources and the creator of grass wastelands is simply a convenient ideology to legitimate commercial extraction in areas where the indigenous population has

become an obstacle..., or a justification for introducing large numbers of transmigrants with their supposedly more “advanced” sedentary systems.... (Ellen 1997: 180)

The effects of the timber trade on forest degradation and biodiversity loss will relative to the damage caused by agricultural clearance, shifting cultivation and fuelwood collection are likely to remain a hot topic of debate. The timber trade frequently claims that it is only a relatively minor contributor to the degradation. On the other hand, Dudley et al (1995) argue that the international timber trade is the primary cause of forest loss in those forests with the greatest importance in terms of biodiversity.

There is little point in attempting to assess the merits of the two sides of the debate, in this paper.⁹ It will still remain unresolved. However, it is important to note that the claims of the timber industry (which tend to dominate policy considerations in many countries in the “south”) are contested. It is also important to note the ideological nature of the debate: both sides attempt to use claims and counter-claims to legitimise their positions.

We do wish to suggest that human impacts on forest condition can result from complex interactions of causes rather than be simply attributed to one practice or another. We also wish to explore some of the ways in which deforestation affects forest dependent people.

The effects of commercial logging (legal and illegal) on forest dependent people, have several dimensions:

- direct effects, such as reduced availability of forest products (including NTFPs) due to the effects of logging or because logged forests are closed to local people;
- indirect effects due to the increased marginalization of local people as national and local government and administration increasingly cater to the interests of loggers at the cost of, or in direct opposition to, the interests of local people; (The ideology which labels local people as forest destroyers contributes to the marginalization.)
- increased competition for resources (including agricultural land) as migrant populations follow the timber industry, either to seek employment or provide services to loggers, or to occupy land cleared by logging. This pattern can be observed in a number of areas, including the Philippine uplands and the islands of outer Indonesia.

Cambodia exemplifies some of the worse effects of logging on the livelihoods of rural people. According to Paterson

One concession of .4 million hectares has been granted to an Indonesian company Macro-Painin for selective logging and industrial agriculture. This wipes out all of the central plateau of Ratanakiri where most of the indigenous population [of Ratanakiri] live and carry out their swidden livelihood. (1997: 4)

Global Witness notes accounts of ethnic minorities in Ratanakiri being ‘forcibly removed from their traditional land, at gun-point, by Malaysian plantation companies’ (1996: 16). According to Global Witness, the effects on the local population include evictions, deprivation of forest products and the ability to feed themselves and poor working conditions.

⁹ We do not wish to imply that our position is completely neutral. There is little doubt that the damage done by the timber trade is substantial and that the damage done by forest dependent people is overstated.

Cassells' study of the value of forest products in the Solomon Islands (discussed in an earlier section) was undertaken in order to make a comparative study which would enable him 'to quantify the impact of tropical rainforest logging on rural village communities' (1997: 6). He established the value of forest products in one village, where there had been no logging, and then applied the figures in analysis of the economics of logging from the local peoples' point of view, in a village where forests had been logged.

A one-off royalty had been paid in the second village. Cassells took the one-off royalty payment and adjusted it for value of the forest products forgone for subsistence use (assuming the value in the first village was the same as for the second) since logging commenced (that is, he subtracted the value of these forest products from the royalty amount). he found that the net loss suffered for each of the twenty-one households in the village was NZ \$ 7,542.28.

Even allowing for some reservations about the methodology (there must be some reservations about any technique based on attributed values which came up with results to the cent), the study strikingly demonstrates both the importance of forest products and the extent to which logging can cause huge costs in forgone products to forest dependent people.

Cassells goes on to relate his results to the continued rate of deforestation:

Economically, one of the reasons for this continued deforestation is that the immediate financial benefits to be gained from exploitation of the forests often appear to far outweigh the perhaps greater long term benefits to be gained by a lesser but more sustainable, form of use... (Cassells 1997: 6)

While it is important to note the observation that non-commercial products are often grossly undervalued in decision-making about forest use, the conclusion that this undervaluing leads to deforestation seems to miss the point. The problem is not the undervaluing of more sustainable options. Rather it is that the people who gain from shorter term use are not the same as those who would gain from longer term use. The power over the resource, and the consequent ability to make the economic decision is with the logging interests, not the local

people. Different things are valuable for different interest groups.¹⁰ The question then is not about improving methodology (to make a more rational economic decision), it is about the ability to use the resource for financial benefit.

The point that arises from this discussion is that assessment of the relative value of benefits and costs of commercial logging to forest dependent people rather depends on the extent to which they control the forest resources. This comes back to Dove's argument that the problem with 'minor forest products' as a solution to poverty is that they wouldn't be minor if they were valuable.

It is easy to concentrate on the negative effects of the timber industry on forest dependent people, although the negative effects on those people most directly dependent on forests are so obvious that it is hard to do much else. It is important to note that:

- Even in the case of forest dwelling indigenous peoples, logging can lead to the availability of jobs and services, at least for some members of the population.
- Some people are forest dependent because they depend on the timber trade. Examples would include: migrant labourers who follows a logging company into a site, perhaps thus becoming newly dependent; communities of people who are dependent on logging and associated work for their income (as in the Australian case described by Peace 1996).
- In some countries rural people either have, or are obtaining, control over valuable forest resources. For example, the government of the Lao PDR has implemented a small trial programme of Joint Forest Management under which people will share the benefits of commercial logging. (Manivong and Muraille 1997. See Box 3 in the section *Collaborative Approaches to Forest Management*.) In Papua New Guinea and other parts of the Pacific, local people have legal tenure and control of forests which enables them to negotiate with logging companies. It is important to note, however, that legal tenure does not necessarily prevent individuals within a community from dominating decision-making. (See Box 1)

In some cases governments have attempted to mitigate or compensate for the negative effects of logging on local people. In 1991 the Government of Indonesia introduced a community development programme for forest concessionaires (Firman et al 1997). The programme seems to be at least partly motivated by the desire to involve the concessionaires in the control of shifting cultivation. The concessionaires are obliged to carry out the programme 'to assist in improving the standard of living of forest-dwelling communities'. The main activities involve increasing income (through approaches which include agroforestry and NTFP production), development of village infrastructure and improving the environment.

¹⁰The idea of using cost benefit analyses to make more environmentally rational decisions misses the point that each analysis *has to be from the point of view of a particular interest*. It is not in some way universally or objectively applicable. The methodology can be a two-edged sword. In his analysis Cassells calculated the benefits to the villagers in terms of royalties received. This amount was very small. In order to make a similar analysis *from the point of view of the loggers*, it would be necessary to consider the ultimate profit from sale of the logs. If this was done, the putative benefits from NTFPs would probably not support the conclusion that sustainable use is financially more rational.

Box 1 - Logging and Land Ownership in the Pacific

In the Pacific most land is owned under some form of communal ownership. Despite this, logging of forests (mostly by south-east Asian companies) presents a major threat to forests in the four Melanesian countries (PNG, the Solomons, Vanuatu and New Caledonia), which are the most substantially forested in the Pacific (McGrath 1997).

Somewhat paradoxically, the logging sometimes (perhaps often) occurs despite the opposition of many members of the landholding groups. McGrath (1997: 5-6) explains how this can occur:

‘Ownership often rests with a “landholding group” rather than with the village as a whole. The right to speak on behalf of the landholding group may belong to heads of households, or to one or more hereditary or elected chiefs....’

In a case on an island in Vanuatu, ‘[t]he village people appreciated the importance of retaining the land in its natural state and, standing to gain nothing from the logging of the area, were quite opposed to a proposed commercial timber harvesting operation. One of the two customary landholders had a similar opinion.

‘However, the value of the royalties from the logging of the forest over an 80 year period were estimated at some US\$ 9.4 - \$ 16.7 million. Even if only a fraction of these were captured locally, the two landholders [each] stood to gain far more personally from the logging of the area than he would lose. One landholder could not resist this temptation, and signed an agreement with a logging company. The views of the village were of no consequence, and strenuous efforts over a lengthy period were necessary to develop a solution that provided the landholder with sufficient monetary compensation for him to agree to protect the area. I mention this example simply to illustrate that local control and ownership of land... may sometimes be a two-edged sword for forest conservation.’

The key issue in understanding the relationship between forest dependent people and logging is the issue of control of the products which are valued by outsiders. This is partly a matter of tenure (to be discussed later in this paper) and partly a question of the ability of forest dependent peoples, who are often members of ethnic minorities, usually isolated geographically from the sources of power and almost always politically marginal, to influence national governments to make decisions in their favour. This has always been difficult, as the large companies involved in the international timber trade have far more to offer governments and administrators (both individually and in terms of national incomes) than marginal people. It has become more difficult as the globalization of the international economy leaves multi-national companies largely unaccountable and far too powerful for the governments of small nations to resist.

We do not wish to suggest that logging is intrinsically antagonistic to the interests of forest dependent people. Nor is there an implication that economic development is undesirable. In fact, general economic development will almost certainly reduce ‘dependency’ on forests by providing alternative economic niches. However, forest-related economic development in Asia, has generally reduced the options for the poor at the forest-people interface.

Environmentalism

Forest dependent peoples (especially shifting cultivators) are frequently attacked as destroyers of the environment in general and forests in particular. Particularly where forest dependent people live in, or near, protected areas, this has often led to them being relocated and has often led to serious threats to livelihoods. There has been a frequently acrimonious debate about this issue in Thailand (see Box 2).

Similar pressures for the exclusion of people from protected forest areas have occurred elsewhere in Asia. Although the pressure in Thailand has largely been from the local environmental movement, elsewhere international environmental lobbying has played a major role. The potential for conflict is great, because the areas richest in biodiversity tend to be occupied by marginal people. The situation involves resources which are rare globally (biodiversity), but common locally (Sato 1997).

It is commonly asserted that the western (especially American) idea of wilderness has been inappropriately adopted as the model for conservation in much of the world. In the case of Thailand, Vandergeest (1996) argues that the adoption of the model is not the result of inappropriate adoption of the Western model, but rather a result of internal dynamics within the RFD. He suggests that, as its traditional function of managing logging has decreased, the RFD has increasingly adopted a conservationist role: 'This new mandate enabled it to recover and even increase its share of total government expenditures after a period of decline' (p 262).

Box 2 - Forest-dwellers and Protected Areas in Thailand

In Thailand, large numbers of forest dependent people, usually members of ethnic minority 'hill tribes', have been moved out of protected areas into buffer zones or live within protected areas under greatly restricted access to forest products.

A Community Forestry Bill has been drafted and now has the official (but far from unanimous) support of the Royal Forest Department. The proposed Act would allow people living in protected areas to be granted management rights to community forests on application to the RFD and subject to an acceptable management plan.

The Bill is strongly opposed by some elements of the environmental movement (the so-called 'dark greens'). A particular concern of this group is that the hill tribes will manage the watersheds crucial to the water supply of Bangkok and other urban centres. (This sector of the environmental movement is very much urban-based.) Other members of the environmental movement (the so-called 'light greens' support the movement and regard the hill tribes, especially the Karen, who have been represented by leaders who present a strong image of ecological consciousness, as being highly capable of responsible forest management.

The issue has become one of great political importance. In early 1997, there were major protests in Bangkok about rural conditions. These protests involved thousands of rural people camping outside parliament for several months. One of their key demands was the enactment of the Community Forestry Bill. There were many other demands related to forests.

The forest departments of many Asian countries have been very much semi-military instruments of state interests in remote areas occupied by people often marginal to the state. In the past state interests tended to revolve around exploitation of forests. This often remains the

case, but conservation has also become a state concern and the forest departments tend to maintain their old policing role and the forest-dwellers remain marginal for different reasons.

Migration into Forest Areas

Migration of new populations into forest areas, or into land near forest areas is common in the region. The most obvious example is the transmigration programme in Indonesia, under which people from the more crowded islands move to the much less populated and forested ones such as West Irian, Kalimantan and the Moluccas. Elsewhere in Asia, migration of lowland people into the uplands has effects on people already living in the uplands, and on the forests themselves.

There are probably two key results of these movements:

- Forest land is often converted directly into agricultural land.
- Pressure is put on people already living in forests, leads to such changes as agricultural intensification (especially reducing fallow periods) and often reduces the ability of these people to manage forests due to an inability to control forest encroachment by outsiders.

There is one another important outcome: the immigrants themselves often become a new category of 'forest dependent' people.¹¹

The effects of migration can be quite subtle, often adding, in complex ways, to pressures which lead to deforestation. In an analysis of processes of deforestation in the Moluccas, Ellen (1997) argues that shifting cultivation, commercial logging and population movement and transmigration have interacting effects. Increased population due to transmigration has led to swidden cultivation becoming much more intensive, partly as a response to population stress and the incursion of non-indigenous settlers. It is the transmigrants who frequently attempt to increase their land through 'slash and burn', rather than the original swidden farmers.

Policy, Trends and Initiatives

Agroforestry

Despite the ideological prejudices of many policy makers, indigenous common property arrangements for the management of forests do exist. They are, unfortunately, often under great pressure due to a variety of factors, including conflict with official tenurial arrangements (state ownership) and pressure from outsiders who cannot easily be excluded from communal property, especially if rights are not recognised by the state. Partly because of the prejudices against communal tenure, agroforestry on private land has become a major policy emphasis. In countries such as Bangladesh it is the dominant element of programs involve people and trees. In other countries, including those with programs involving some sort of communal control or access, agroforestry is an important element of land use planning. This applies in many JFM

¹¹Iswantoro (1997) describes community forestry activities in Indonesia which attempt to involve transmigrants as well as local people, thus implicitly recognising the notion that transmigrants can become a new category of forest dependent people.

programs in India, and in various forms of social forestry in Indonesia, Vietnam, Laos and the Philippines.

There are many reasons why farmers are attracted to agroforestry activities and, thus, why agroforestry projects are often reasonably successful:

- Systems involving agricultural crops and trees are familiar to many farmers anyhow.
- Some of the technical options developed by scientists involved in agroforestry are highly productive.
- In situations where communal tenurial arrangements are not recognised or supported by governments and when access to ‘public’ forests is illegal (or pointless, if they are heavily degraded), agroforestry on private land is often the only viable way to meet needs for forest products.

It is probably impossible to quantify the impact of programs promoting agroforestry on the access of people to tree products or on environmental conditions outside forests (partly because it is difficult to see what changes result from programs and what programs result from farmer initiatives). It is clear, however, that agroforestry is an important policy emphasis.

Given that most large areas of forest are under some sort of state or ‘public’ control, agroforestry on individually controlled land could not ever be expected to address all of the issues involving people and their access to forest products. For this reason agroforestry programs need to be complemented by various cooperative approaches to forest access and use.

Collaborative Approaches to Forest Management

It can be argued that the lack of control by people living in and near forests over the way forest resources are used is a major barrier to the effective management of forests. This argument has led to the development throughout the region of a variety of programs and policies known variously as community forestry, social forestry and joint forest management. The programs differ widely in detail, but essentially share recognition of necessity and practical advantages of seeking the active involvement of local people in forestry activities. Generically, the approaches can be described as collaborative management of forests (Fisher 1995).

In the book *Keepers of the Forest* (Poffenberger 1990a), several papers make the point that the history of forestry in many Asian countries (such as the Philippines, Indonesia and Thailand) involves a shift from local control of forests to state control. It would be untrue to say, at this stage, that the new programs are real attempts to reverse the process, but they do give forest dependent peoples a degree of power over forest use.

Joint Forest Management (JFM) is now a major thrust of forest policy in India. JFM in India has been copiously documented. (For overviews see Poffenberger 1990b, Campbell 1992 and Campbell et al 1994.) The key element is that agreements are made between the state forest department and local communities about protecting degraded forests and establishing plantations. In return for their participation the local communities are given rights to collect and harvest certain forest products for domestic use or sale. The agreements sometimes

provide for eventual sharing of revenue from sale of mature trees grown under the program. The size of the share varies from state to state, but averages about 25 per cent (Campbell 1992 provides a table indicating benefits in various states). In practice, whatever the provisions are, the full impact of these commercial harvests has yet to be experienced.

While the benefits in terms of revenue sharing from timber production have so far been limited, there is no doubt that benefits from NTFPs have been substantial -- so much so that the programme has become highly popular among many rural communities. It is important to realise that JFM does not involve changes in forest tenure away from forest departments. The tenure remains unambiguously state tenure and the forest departments retain a considerable degree of control over the individual projects.

JFM programs exist in several other countries in the region, including Indonesia, and Laos. In Laos there seems to be a serious willingness on the part of the government to allow harvesting of trees for timber under JFM agreements, with benefit sharing (see Box 3).

Box 3 - Joint Forest Management in Laos

With the assistance of the Lao-Swedish Forestry Project, the Government of the Lao PDR has implemented trials in Joint Forest Management in several villages in Savannakhet Province. Under one of the models tried the villagers form an association which is given a contract which gives it 'full rights and responsibilities to implement the whole management plan for the Management Area.... This includes rights to do logging and sell logs and/or process logs and sell sawn timber.' The villagers have to commit themselves to protect the area and to pay royalties to the government (according to regulations).

Source: Manivong and Muraille 1997

In Nepal, the policy approach is referred to as community forestry¹², which is now entrenched in legislation (*The Forestry Act, January 1993*). Under this policy the Department of Forest hands forest over to Forest User Groups (FUGs), subject to an application and an approved management plan which is developed collaboratively with the FUG. The FUG can collect and harvest forest products, providing this is done consistent with the agreed plan. FUGs have been able to obtain considerable access to forest products under the program. Recently there have been moves to initiate FUG managed sawmills and to move into the harvesting of timber from community forests. So far, the Forest Department has viewed this development with scepticism and FUG commercial harvesting is still at an experimental stage.

The forests remain government forests, but the FUGs have quite clearly defined use rights. In fact, user groups tend to be formed around groups of people with traditional (and unofficial) use rights and the recognition of traditional rights is an explicit part of the rationale for the program. There are now nearly 6,000 registered user groups with rights to 450,000 hectares of forest (Shrestha and Britt 1997). The number of user groups is growing quickly (prompted more by community demand than by government targets). The high level of demand from communities for registration under the programme is evidence that communities see the programme as providing real benefits.

¹² For an overview of Nepal's community forestry programme up to 1991, see Gilmour and Fisher 1991.

There is no doubt that collaborative approaches to forest management have become an important part of the rhetoric of forest departments and development agencies. Collaborative approaches in some countries really involve little more than efforts to get local people to participate in activities which meet the goals of forest or conservation departments. In other cases there are real attempts to meet some of the needs of local communities. (Nepal is the an obvious case.) In general, however, the programs stop well short of transferring control of forest land to local communities.

Poverty Alleviation and the Control of Forest Resources

Poverty Alleviation

Dove argues that the ‘widely-accepted explanation of tropical deforestation attributes it to the poverty of its native inhabitants’ (1993: 17). He argues that, on the contrary, forest-dwellers are impoverished because powerful outsiders exploit the forest resources. Vandergeest argues that attempts to set up buffer zone projects in Thailand have had ‘limited success because the main source of conflict is not poverty but claims on resources inside PAs [protected areas]’ (1996: 259). If these views are correct, then the relevance of poverty alleviation programs to the livelihoods of forest dependent people and deforestation is questionable.

Despite views such as these, poverty alleviation programs of one kind or another are common policy initiatives aimed at reducing pressure on forests or, sometimes, compensating them for reduced access to forests. The community development programme for forest concessionaires in Indonesia (mentioned earlier) is based on the poverty alleviation model.

Quite apart from programs which explicitly attempt poverty alleviation as a compensation for reduced access to forests or to reduce pressure on forests, it is often assumed that economic development associated with forest concessions will create alternative livelihoods for forest dependent people. In reference to concessions in Ratanakiri Province in Cambodia, Paterson (1997) is pessimistic about such claims:

The “Natural Resources and Livelihood” Research Project conducted a case study of one concession which has begun operations in O Yadao District. This is a Malaysian-Cambodian joint venture to develop 20,000 hectares for oil palm plantation. The study found that the project would displace 4,500 people of the Jarai minority from their traditional agricultural lands. Employment would be created for a maximum of 400 workers. As a result at least half of the population would be forced to encroach on unoccupied forest in order to continue their swidden for food production.

... this case demonstrates that the vision of providing alternative employment for the local people is not based on any reality or clear planning. Companies will prefer to employ workers from Kompong Cham or Svay Rieng, who are used to working as wage labourers. The vision does not account for the loss of culture, traditions and ethnic diversity, nor for the... natural diversity that will be lost with the conversion of the swidden-based system.

In addition to suggesting caution about over-optimistic expectations of local benefits from forest industry lead economic development, this example from Cambodia illustrates Dove's point: the forest dependent people become impoverished as a result of the exploitation of resources by powerful outsiders.

Again, we wish to distinguish between general economic development, which can provide alternative sources of income and livelihood options outside forests, and forest-based economic development, which has, historically, often had negative effects on those people most closely reliant on forests.

Tenure

It is precisely the concern about relative powerlessness over forest resources that has led to increasing interest in tenure issues as a key to improving the quality of forest management and the livelihoods of rural people. Fox (1993) and Lynch and Talbott (1995) explore the implications of state oriented forest tenure to local communities and the potential for alternatives.

Thus, forest tenure is widely regarded as a key factor in increasing effective local control over forest resources. It is important to stress here that tenure needs to be understood in fairly broad terms and that it is not simply about 'ownership' (although this obvious point is often ignored). Tenure is a matter of legitimising access. It is possible to have all sorts of recognised and state guaranteed rights of access. The use rights guaranteed for FUGs in Nepal do not represent ownership, but they are clear (if qualified) tenurial arrangements. Similarly, JFM agreements which specify availability of certain NTFPs are tenurial arrangements. Tenurial arrangements can range (at least in theory) from full local control to limited and specified access.

In the Philippines, where approximately two thirds of the land is 'public' land, one approach to social forestry is to issue Communal Forest Stewardship Agreements under which leases are issued to communities (Gibbs et al 1990). The boundaries of the leased area are specified and the communities then decide on the distribution of land to particular households.

The important thing about these sorts of arrangements is that they can give local people the confidence to invest labour and other inputs in managing forests.

Calls for tenurial reform often focus on assertions that secure title is the key. This is may be misleading (Fisher 1995). It is possible to have legal title which is simply ignored by outsiders, including forestry departments, illegal loggers and even the military (as in Cambodia). In such cases, despite the legal status of tenure, people are unlikely to have the confidence to take a long term view. On the other hand, where people have had a history of positive experiences with outsiders they may take a long term view on the basis of informal arrangements and expectations. The crucial factor is confidence and not formal agreements.

This is not an argument against formal tenurial reform, but it is a note of caution about over-emphasising documents if these cannot be enforced.

There is another risk in formal tenurial reform. The governments of Laos and Vietnam are now actively pursuing land allocation programs which will provide formal title to rural people, including shifting cultivators. The underlying concerns are with the laudable aims of enhancing social equity and providing a secure basis for sustainable land management. However, one risk is that the land allocation process will replace tenurial arrangements appropriate to a particular form of land use with less flexible and less appropriate arrangements. Pravongviengkham's (1997) reservations about imposing individual tenure where communal arrangements are more suitable, exemplify this risk.

It is notable that the national policies of some countries provide little space for tenurial arrangements relating to forests between state controlled forests and individual/household land. In Laos and Vietnam, the land allocation programs emphasise individual tenure. In China, it is only recently that there has been some recognition of 'community' forestry. Overwhelmingly the emphasis remains on the two extremes of state and household control.

TRENDS AND SCENARIOS: THE FUTURE

The reason why formal tenure is sometimes unenforceable (and why devolving tenure to local communities is such a rare process anyhow), is that forests are valuable and attempts to change tenurial arrangements are almost always strongly contested. The question is how politically marginal people can make the contest more even. The emergence of community forestry as a social movement in some countries (Gilmour and Fisher 1997), the increasing advocacy role of NGOs and the development of networks of forest users¹³, are elements in a trend towards the increasing ability of forest dependent peoples to engage in the contest.

There is obviously a trend towards greater policy commitment in many countries towards more collaborative/participatory approaches to forest management (although much of this trend remains at a rhetorical level). This shift is reinforced by pressure from various donors. International NGOs such as IUCN and WWF also advocate and support initiatives in this direction.

Although there are signs that people are taking (and, sometimes, being given) greater control, there are opposing trends and opposing forces. In opposition to the trends towards increasing local control and responsibility, there are trends towards an increasing globalization of the economy which make it difficult for governments (particularly small governments) to place restrictions on economic activities and timber companies are developing a multi-national aspect which makes them difficult to resist or to hold accountable.

The international and national environmental movements are also rapidly becoming more influential. From the point of view of forest dependent peoples this is a mixed blessing. Some environmentalists see forest dependent peoples as natural allies. Others see them as an enemy.

Discussions of options for people-forest development tend to focus heavily on improving production or setting up long-term management plans, as if the essential continuity of 'dependency' remains unquestioned. It is important to avoid an 'essentialist' view of people

¹³One example is the Federation of Community Forestry Users in Nepal (FECOFUN), described by Shrestha and Britt (1997).

who depend on forests. There is nothing unchanging or inevitable about the patterns of relationships. As Asia continues to become industrialised it is likely that far less people will depend directly on forests for their livelihoods. At the same time those who remain dependent may become more dependent and more marginalized.

To sum up, several key (and sometimes competing) trends can be identified in people-forest relationships:

- Economic development, both at the national level and in rural areas, will provide economic alternatives for many people who currently rely on forests for all or part of their livelihoods.
- Collaborative approaches to forest management are increasingly becoming incorporated in forest policy in Asia.
- Unless there is a greater recognition of the claims of those people most heavily dependent on forests (especially those resident in forests), large scale commercial exploitation of forests is likely to lead to increased impoverishment and marginalization for some groups.
- Parallel with the trend towards collaborative management and decentralisation, there seems to be a trend towards internationalisation of economies, which will continue to weaken the bargaining power of some groups.

If these are the main trends, what options exist for the future?

A key point arising from the insistence by Byron and Arnold (1997) that people-forest relationships need to be disaggregated, is that there are different development options for people in different categories. Box 4 sets out these options as identified by Byron and Arnold. The typology of options is a valuable contribution, particularly because it illustrates how inappropriate it is to apply panacea solutions to different situations. The stress on the need to involve people in identifying where they fit in the typology and what options they desire, is crucial. Again, the question of power (defined as a meaningful role in decision-making) remains central.

The impossibility of suggesting a ‘most likely scenario’ for the future was noted at the beginning of this paper. There are some obvious trends (often in competing directions), but the long term outcomes are a matter of speculation and the outcome is likely to be different in various countries, depending on the outcomes of contests between the various actors. There are signs, although this may be more of a pious hope than a realistic prediction, that forest dependent peoples will gain much greater say in the management of forests in the future. If this happens, it is likely to be beneficial in terms of more sustainable management of forests and in terms of the livelihoods of these people.

Box 4 - Development Options for Forest People in Different Situations

‘The essential question for any government or development agency anxious to help those called “forest-dependent people” is what would one do? Firstly, we would argue strongly that there is no general panacea or formula, but rather that a detailed assessment needs to be prepared, by (or at least with) those people concerned. This assessment would cover the complete range of the relationships between the people and the forests which they use and/or manage, the current limitations to their livelihoods, and the potentials and desire for change. However, a number of broad overlapping, types of situation can be identified:

- *Forests continue to be central to livelihood systems:* local people are or should be the principal stakeholders in these forest areas; meeting their needs is likely to be the principal objective of forest management, and this should be reflected in control and tenure arrangements which are centred on them.
- *forest products play an important supplementary and safety net role:* users need security of access to the resources from which they source these products, but are often not the only users in that forest area; forest management and control is likely to be best based on resource-sharing arrangements among several stakeholder groups.
- *forest products play an important role but are more effectively supplied from non-forest sources:* management of forests tends to be geared towards agro-forest structures; control and tenure need to be consistent with... individual (private) rather than collective (common property) forms of governance...
- *participants need help in exploiting opportunities to increase the benefits they obtain from forest product activities:* constraints in the way of small-holder access to markets need to be removed (Deweese and Scherr 1995); improved access to credit, skills, marketing services etc., may be required (Liedholm and Mead 1993).
- *participants need help in moving out of dead-end forest product activities:* helping provide them with new options, which are quite likely to be outside forestry.'

Source: Byron and Arnold 1997: 11-12

REFERENCES

- Bangladesh Agricultural Research Council 1991, Bangladesh Forestry Plan (1990-95): An Agenda for Policy Research and Action. Dhaka.
- Byron, Neil 1996, Income Generation Through Community Forestry. Pp 1-14 in Michael Victor (ed) *Income Generation Through Community Forestry: Proceedings of an International Seminar held in Bangkok, Thailand 18-20 October 1995*. Bangkok: RECOFTC.
- Byron, Neil and Michael Arnold 1997, What Futures for the People of the Tropical Forests? CIFOR Working Paper No. 19. Bogor: Centre for International Forestry Research.
- Campbell, Jeffrey Y. 1992, Joint Forest Management in India. *Social Change*, Vol 22(1): 36-54.
- Campbell, Jeffrey Y., Subhabrata Palit and Shree Bhagwan Roy 1994, Putting Research Partnerships to Work: The Joint Forest Management Research Network in India. Paper prepared for the Fifth International Symposium on Society and Resource Management, June 7-10, 1994, Fort Collins, Colorado.
- Campbell, Jeffrey Y., R.N. Chattopadhyay and Chandreyee Das 1996, Income Generation Through Joint Forest management in India: A Case Study of the participatory Forest Management project in Nayagram, West Bengal. Pp 93-119 in Michael Victor (ed) *Income Generation Through Community Forestry: Proceedings of an International Seminar held in Bangkok, Thailand 18-20 October 1995*. Bangkok: RECOFTC.
- Cassells, Ross 1997, Tropical Rainforest: Subsistence Values Compared with Logging Royalties. *Pacific Islands Forests & Trees*, No 2/97: 6-8. June 1997.
- Chazee, L 1994, Shifting Cultivation Practices in Laos: Present Systems and Their Future. Pp 66-97 in D. Van Gansberghe and R. Pals (eds) *Shifting Cultivation Systems and Rural Development in the Lao P.D.R. Report of the Nabong Technical Meeting. Nabong Agricultural College, Lao People's Democratic Republic, July 14-16, 1993*. Vientiane: Nabong Agriculture College Project UNDP/DDSMS/LAO/92/017.
- Deweese, P.A and S.J. Scherr 1995, Policies and Markets for Non-Timber Tree Products. Draft Working Paper. Washington: International Food Policy Research Institute.
- Douglas, J.J. 1982, Consumption and Supply of Wood and Bamboo in Bangladesh. Field Document No 2, UNDP/FAO Project BGD/78/010. Dhaka: Bangladesh Planning Commission.
- Dove, M.R. 1985, *Swidden Agriculture in Indonesia: The Subsistence Strategies of the Kalimantan Kantu'*. Berlin, New York, Amsterdam: Mouton.
- Dove, M.R. 1993, A Revisionist View of Tropical Deforestation and Development. *Environmental Conservation*, Vol 20 (1): 17-24.

- Dudley, Nigel, Jean-Paul Jeanrenaud and Francis Sullivan 1995, *Bad Harvest? The Timber Trade and the Degradation of the World's Forests*. London: Earthscan.
- Eder, James F. 1997, *Batak Resource Management: Belief, Knowledge and Practice*. Gland: IUCN The World Conservation Union and World Wide Fund for Nature.
- Ellen, Roy 1997, The Human Consequences of Deforestation in the Moluccas. *Civilisations*, Vol 44 (1-2): 176-193. (Special Issue *Les Peuples des Forêts Tropicales: Systèmes traditionnels et développement rural en Afrique équatoriale, grande Amazonie et Asia du sud-est.*)
- Fisher, R.J. 1989, Indigenous Systems of Common Property Forest Management in Nepal. Working Paper, 18. Honolulu: Environment and Policy Institute, East-West Centre.
- Fisher, R.J. 1991, Studying Indigenous Forest Management Systems in Nepal: Toward a More Systematic Approach. Working Paper, 30. Honolulu: Environment and Policy Institute, East-West Centre.
- Fisher, R.J. 1993, An Annotated Bibliography on Common Property Forest Management, with Special Reference to Nepal. IOF Project Discussion Paper, DP 93/1. Pokhara, Nepal: Institute of Forestry Project.
- Fisher, R.J. 1995, *Collaborative Management of Forests for Conservation and Development*. Gland: IUCN The World Conservation Union and the World Wide Fund for Nature (WWF).
- Fisher, R.J. 1996, Shifting Cultivation In Laos: Is the Government's Policy Realistic? Proceedings of Workshop *Development Dilemmas in the Mekong Sub-Region*, Monash Asia Institute, Monash University 1-2-October 1996.
- Fox, Jefferson 1993, *Legal Frameworks for Forest Management in Asia: Case Studies of Community/State Relations*. Occasional Papers of the Programme on Environment, No 16. Honolulu: East-West Centre.
- Gibbs, Christopher, Edwin Payuan and Romulo Castillo 1990, The Growth of the Philippine Social Forestry Programme. In Mark Poffenberger (ed) *Keepers of the Forest: Land Management Alternatives in South-east Asia*. Manila: Ateneo de Manila University Press.
- Gilmour, D.A. and R.J. Fisher 1991, *Villagers, Forests and Foresters: The Philosophy, Process and Practice of Community Forestry in Nepal*. Kathmandu: Sahayogi Press.

- Gilmour, D.A. and R.J. Fisher 1997, Evolution in Community Forestry: Contesting Forest Resources. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- Global Witness 1996, Corruption, War and Forest Policy: The Unsustainable Exploitation of Cambodia's Forests. Briefing Document, February 1996. London: Global Witness.
- Iswantoro, Heru 1997, The Development of Community Forestry for Local and Transmigration Communities in Jambi Province. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- Kunstadter, Peter and E.C. Chapman 1978, Problems of Shifting Cultivation and Economic Development in Northern Thailand. Pp 3-23 in Peter Kunstadter, E.C. Chapman and Sanga Sabhasri (eds) *Farmers in the Forest: Economic Development and Marginal Agriculture in Northern Thailand*. Honolulu: East-West Centre.
- Liedholm, C. and D.C. Mead 1993, The Structure and Growth of Microenterprises in Southern and Eastern Africa. Gemini Working Paper No 36. Bethesda, Maryland: Growth and Equity through Microenterprise Investments and Institutions (GEMINI) Project.
- Lynch, Owen J. and Kirk Talbott 1995, *Balancing Acts: Community-Based Forest Management and National Law in Asia and the Pacific*. World Resources Institute.
- Maharjan, M.R. 1996, Income Generation Through Community Forestry: Case Studies from the Koshi Hills of Nepal. Pp 81-92 in Michael Victor (ed) *Income Generation Through Community Forestry: Proceedings of an International Seminar held in Bangkok, Thailand 18-20 October 1995*. Bangkok: RECOFTC.
- Manivong, Khamphay and Berenice Muraille 1997, Partnership for Forest Management: Joint Forest Management in Savannakhet, Lao PDR. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- McGrath, Michael 1997, Community Based Forest Conservation and Management in the Pacific Islands. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- Messerschmidt, D.A. 1986, People and Resources in Nepal: Customary Resource Management Systems of the Upper Kali Gandaki. Pp 455-480 In *Proceedings of the International Conference on Common Property Resource Management*. Washington D.C.: National Academy Press.

- Paterson, Gordon 1997, Traditional Resource Tenure and Livelihood Systems of Ethnic Minorities in Ratanakiri Province, Cambodia: "Responding to Rapid Change". Unpublished paper presented at UNDP/HPP/IMC Regional Workshop 8-10 April 1997, Phnom Penh, Cambodia.
- Peace, Ade 1996, 'Loggers are Environmentalists Too'. Towards an Ethnography of Environmental Dispute, Rural New south Wales 1994-1995. *The Australian Journal of Anthropology*, Vol 7 (1): 43-60.
- Poffenberger, Mark (ed) 1990a, *Keepers of the Forest: Land Management Alternatives in South-east Asia*. Manila: Ateneo de Manila University Press.
- Poffenberger, Mark 1990b, *Joint Management for Forest lands: Experiences from South Asia*. A Ford Foundation Policy Statement, New Delhi.
- Pravongviengkham, Phouang Parisak 1997, Local Regulatory System in Support of Lao Swidden-based Farm Economy. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- Sato, Jin 1997, Political Economy of Bufferzone Management: A Case Study from Western Thailand. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- Shrestha, Narayan Kaji and Charla Britt 1997, Crafting Community Forestry: Networking and Federation-Building Experiences. Paper presented at seminar Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry, 17-19 July 1997, Bangkok (organised by Regional Community Forestry Training Centre).
- Stevens, Stanley F. 1992, *Claiming the High Ground: Sherpas, Subsistence and Environmental Change in the Highest Himalaya*. Berkeley, Los Angeles and Oxford: University of California Press.
- Vandergeest, Peter 1996, Property Rights in Protected Areas: Obstacles to Community Involvement as a Solution in Thailand. *Environmental Conservation*, Vol 23 (3): 259-268.

APPENDIX 1 - FOREST DEPENDENT PEOPLE AND ECOZONES

1 The Uplands

a. Mountains/high valleys

The Hindu Kush and Himalayas are the clearest examples of this type. They are characterised by low population densities, established patterns of trade, transhumant pastoralism, dependency on forests for NTFPs and fuelwood and customary systems of forest management.

b. Hills (rainfed agriculture and small-scale valley irrigation)

Together with the humid tropics, the hill areas are the geographical zone with the highest level of forest dependency. In these areas there are strong forest-farming linkages through nutrient subsidies from forest both in rotational systems (shifting agriculture) and in permanent agriculture litter and manure, forest grazing). In some cases immigration from the lowlands adds to population pressure and, thus, to pressure on forests. Examples of this process of immigration are the Philippines and Vietnam.

The hill zone type of forest/people interaction is evident particularly in North India, Nepal, Bhutan, the Eastern and Western Ghats of India, the NWFP in Pakistan and parts of S.E. Asia (Laos, Thailand, Myanmar, Vietnam and parts of Yunnan and Sichuan in China). In S.E. Asia, shifting cultivation is relatively common in this hill zone. PNG and West Irian also exhibit some of the features of this zone-type, although land tenure differences have major implications in terms of the way forests are used. Typically in the hill areas in Asia (both south and south east) large areas of forest land are under the *de jure* control of forest departments and forest use-rights and use-patterns are heavily contested.

In small valleys in these hill areas, additional dependencies are evident, often involving a perceived need to protect the headwater sources of irrigation.

It is in these areas of high dependency on forests that local systems of forest management are most evident and where participatory approaches to forest management have been most clearly successful.

2. The Plateaux

The plateau areas include the Deccan (including parts of West Bengal), the dry zone of Myanmar, NE Thailand, parts of eastern Indonesia, eastern China, and the Central Highlands of Vietnam.

In many cases (the dry zone of Myanmar, NE Thailand and the Central Highlands of Vietnam) there has been a great deal of clearing for agriculture and there is little forest left. Generally

there are few recognised examples of indigenous forest management systems. This type of zone has been the cradle of Joint Forest Management in India.

3 *The Lowlands*

a. Densely Populated Floodplains and Deltas

These areas include the Red River Delta, the Mekong Delta, Java, much of the Philippines, eastern China (minus the hill areas), the Irrawaddy Delta, Bangladesh, the Gangetic Plain, the Indus Valley and the Chaophrya Delta.

These areas are often characterised by home gardens, intensively managed and productive 'man-made' forests. They tend to be populated by ethnic majorities and to be the centres of political power in most countries in Asia. They are also the sources of migrants into upland areas (in Vietnam, the Philippines, Thailand, China and Laos) or into lowland humid tropical areas (outer Java, the Terai in Nepal).

b. Humid tropical forest areas

Areas such as the Terai, Borneo and Sumatra are rich sources of forest products for outside exploitation and revenue generation. They tend to have low population densities and to be subject to migration from over-populated hill areas. Conversion of forest areas to plantation crops (rubber and oil palm) is common. There are also many historical and contemporary examples of NTFP collection and management. Many of these areas are under logging concessions.

4. *Semi-arid (grazing) areas*

In parts of India (Rajasthan and Gujarat), Pakistan, Iran, Mongolia, western China, there are large numbers of people who are heavily dependent on grazing livestock on lands which are often under the jurisdiction of forest departments.

5. *Mangrove forests*

Interactions between coastal fisher folk (including shrimp fishermen) and mangrove forests are important in a number of countries, including Thailand and Vietnam.

6. *The Pacific Islands*

Of the Pacific Islands, Fiji, PNG and Vanuatu have significant numbers of people dependent on forests for forest-based agriculture or nutrient inputs into agriculture outside forests and also for other forest products. Unlike the situation in hilly areas of Asia, customary land tenure is often the basis of legal tenure. Nevertheless commercial logging remains a major problem.

APPENDIX 2 - TERMS OF REFERENCE

The study will as much as possible use available information and derived knowledge of the experts concerned. Its outcome will be a working paper on the subject of people and forests in Asia and the Pacific, addressing in particular the following:

- a. Presentation of status of information and understanding, trends and prospects regarding types and levels of dependence by people on forests (including guesstimates of numbers of people closely dependent on forests and/or trees outside the forest - among them those either living in or near forests). References, if possible, to the dynamics of change and main transactions in nature of dependence on forests and trees e.g. changes in conditions of access or towards greater reliance on trees outside forests rather than forests over time.
- b. A categorisation of people/forest/tree relationship situations (indicating main locations) including reference to where conflicts or inappropriate involvement of people threatens sustainable resource management and utilization - situation and likely future evolution. (Highlights in terms of sample case profiles would help - e.g. people in industrial harvest areas, people in or near conservation areas, peoples and trees in non-forest situations etc).
- c. Evolution of policy, legal, institutional and technical factors influencing people/tree/forest relationships, their main changes (such as degree of empowerment of local communities) and likely future evolution. Reference to policy developments need not be restricted to the forestry sector.
- d. A vision of “most likely” changes between now and year 2010 in forests and people relationships, including in arrangements for their involvement in managing resources. Examples could be the implications of decentralization, privatization, economic liberalization, individual versus common initiative, interaction between the State and other major players (private sector, NGOs and other interest groups).
- e. Suggestions on options for action to ensure effective roles for people in sustainably managing forests. An interpretation of what sound actions could achieve in improving people/forest/tree relationships and in attaining sustainable management and utilization of forests.

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