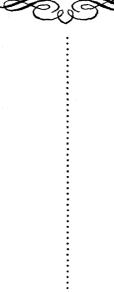


What isn't an NTFP (Non-Timber Forest Product)?



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Introduction

What is a Non-Timber Forest Product (NTFP)? This debate has raged since the term was coined by de Beer and McDermott (1989)1). At every meeting where NTFPs are discussed there will be some discussion about the terminology and about what should be included and what should not be included in the definition. There are many alternate terms that are used more or less as synonyms, each with its proponents. One unit of the FAO insists on the use of the term non-wood forest products or NWFP, while another uses NTFP or other variants. Terms such as wild products natural products non-timber forest and grassland products, veld products and sustainably produced wood products (ostensibly distinct from industrial timber) and many others have entered the vernacular.

While in some ways this interminable debate can be frustrating and seems to lead nowhere, the fact is that it reflects ambiguity and confusion that inhibits understanding and progress in research and development. There are major differences in the understanding of what an NTFP is and, more importantly, in the expectations of how and for what NTFPs are important. Different

¹⁾ This is the first reference to the term non-timber forest product in the English-language literature recorded in TREECD. References to the term non wood forest products date back to 1980.

individuals/organizations use the same term, but have modified the definition in different ways to suit their needs. The term and the underlying concepts have different meanings to different people, so both agreements and disagreements can be false. On the positive side, this ambiguity has made it possible to bring together ideas about rural development and conservation that might otherwise have seemed incompatible. However, similarities in the terms often disguise real differences in understanding and in assumptions, values and beliefs. There is some risk that the NTFP concept will be seen to have failed if it does not meet the (false?) expectations that have been raised because of improper or inconsistent interpretation.

In this paper I will analyze the elements of the terminology by looking at the underlying assumptions and beliefs of users, based on my experience in the field. Two recent activities have heightened my awareness of the need for clarification. Some of the conceptual ambiguities were revealed in a recent survey of donor and development agencies working on NTFP issues (Profound and CIFOR, unpublished). And, as the coordinator of a large project doing a comparative analysis of cases of commercial NTFP production and use, I have been challenged on the appropriateness of including certain products in our set of cases. In the process I have refined my own ideas about what an NTFP is.

This discussion begins with a brief history of the term NTFP and the evolution of the definition. It is readily apparent that the definition used depends on the interests and the objectives of the user. I look at the eclectic group of stakeholders interested in NTFPs as subjects of research, as tools for conservation and for development, and as commercial products. Each of these groups brings different assumptions and interests, both implicit and explicit. I analyze the elements of the definition of the term against these different ideas and conclude that there is no perfect term to encapsulate all of these ideas. Indeed, some of the concepts are mutually exclusive.

The term NTFP itself is well established and it, along with many of the near-synonyms, will undoubtedly keep being used, even if only as a convenient shorthand. This is good the term should be maintained with a wide, inclusive definition, recognizing the fact that the contested definitions reflect the divergent preferences of different interest groups. No interest group under this umbrella can or should have a monopoly over the meaning of the term. At the same time, it is important to acknowledge the potential for ambiguity in such a broad definition and to recognize when the use of a common term is disguising inherent inconsistencies and creating misunderstandings. Many groups are dealing with this by adopting new, more specific terms for the products or product groups they work with. From a practical perspective, to focus on livelihood systems to help understand the role and potential of forest products, and to help identify points of intervention.

What do you mean by "NTFP"?

The problems begin with the term itself. Non-timber forest products is a negative term. It includes, literally, all products other than timber that come from forests.

In their groundbreaking publication on the economic value of NTFPs in Southeast Asia, de beer and Mcdermott (1989) used the term Non-Timber Forest Products as an alternative to the dismissive epithet 'minor forest products' and proposed the following definition:

The term 'Non-Timber Forest Products' (NTFPs) encompasses all biological materials other than timber which are extracted from forests for human use. The authors clearly recognized problems with the definition then. They

addressed them by setting out what they saw as the key point of distinction between timber and non-timber forest products: that timber is managed on an industrial scale for interests located outside the forest, while NTFPs are extracted using simple technologies by people living in or near forest. They dismissed the alternative term non wood forest products as being too exclusive. And they also offered a definition of forest:

By 'forest' we refer to a natural ecosystem in which trees are a significant component. However, forest products are derived not only from trees, but from all plants, fungi and animals (including fish) for which the forest ecosystem provides habitat.

This kind of clarity is helpful, and many authors offer definitions and examples to clarify their own use of the term NTFP in a given publication (e.g. Wickens, 1991; Peters, 1997). But, the various definitions are inconsistent. In some early discussions resources such as gravel and rocks were included, and many currently working in this field would include services (e.g. watershed functions, carbon sequestration, ecotourism). (1997) considered both natural or managed forests. Wickens (1991) excepted industrial roundwood and derived sawn timber, wood chips, wood-based panels and pulp and left the possible sources wide open (Hextracted from natural ecosystems, managed plantations, etc.). And many more authors leave the term undefined. As a literature on NTFP has built up the variations on what is included (or, more correctly, excluded), in combination with the inconsistent use of the tem forest, has left enormous scope for ambiguity.

As part of an effort to better understand current activities in the NTFP area, CIFOR and Profound conducted a world-wide survey of 84 organizations that

support or carry out NTFP-related activities. These included conservation organisations, multilateral and bilateral development agencies, international development NGO's and foundations, local development NGO's and international and national research organisations. Representatives of 51 organizations (61 percent) responded. In most cases the responses represent the personal perspectives of the individual that responded rather than the official position of the organization. Nevertheless, it provides an interesting overview of perceptions²⁾.

The survey offered the de Beer and McDermott definitions of NTFP and Forest and requested respondents to indicate whether or not they agree with it. While 76% of respondents agreed with the definition, there were also substantial reservations and disagreements. And the list of products and services that respondents are working with (Table 1) includes many that do not fit the proposed definition. They would need a more inclusive definition. Some would prefer a more restrictive definition. And several respondents indicated a preference for the well-established FAO definition.

Table 1: Products considered NTFPs by respondents

 medicinal plants essential oils fibres plant dyes oils gum Arabic 	 wild fruits jam honey bees wax mushrooms shaded coffee 	juicefishrattanbamboorubbervines	craftstaguaornamental plantscandlesfuel woodpaper making	tourism soil conservation with water benefits park management by communities
• neem	• Brazil nut	• lianas	- baber making	

The FAO has been a strong proponent of a clear and consistent definition.

²⁾ This discussion of the definition and underlying assumptions is just a small part of the overall survey. The results of the survey are as yet unpublished.

They have elected to use the term Non-wood Forest Products or NWFP. In a 1992 document prepared by Chandresekharan, the following definition was proposed:

Non-wood forest products include all goods of biological origin, as well as services, derived from forest or any land under similar use, and exclude wood in all its forms.

In the same paper, Chandrasekharan offered a detailed parsing of NWFP and related terminology (Table 2).

Table 2(from Chandrasekharan, 1992)

Forest	A plant association predominantly of trees and other woody vegetation.			
Wood	Stem, branches and roots of plants/trees characterized by lignified, water-conducting, strengthening and storage tissues.			
Timber	Wood in forms suitable for heavy construction; sawnwood of more than a specified width and thickness; excludes fuelwood, wood for carving, pulp wood, small wood.			
Goods	Things, articles, objects worth attaining; movable properties; merchandise; wares; services of valve. An economic good is defined as any physical object, natural or man-made, or service rendered, which could command a price in a market.			
Services	Provision of assistance; act of serving; work done to meet some needs; intangible, non-transferable economic goods, as distinct from physical commodities.			
Products	Things/substances/articles produced by a process; output of goods and services resulting from the input of resources or factors of production used to produce them.			
Benefit	Advantage; favorable effect; output; profit. In forestry, includes products and favorable influences.			
Non-	As a prefix, it is freely used as a short form to mean other than and does not imply lack of importance or other negative connotations. ³⁾			

³⁾ This assertion notwithstanding, there are negative connotations associated with the term non.

The definition was revised in 1995 (FAO 1999), based on a series of regional and global consultations:

Non-wood forest products consist of goods of biological origin other than wood, derived from forests, other wooded land and trees outside forests

The key elements of the FAO definition are: that it excludes all woody raw materials such as timber, chips, charcoal and fuelwood, as well as small woods used for tools, household equipment and carvings; that it excludes services, and; that it includes products derived from both natural forests and plantations (all of which are included in the FAO definition of forest). It seems clear. But many organisations continue to use their own definitions, and their own terminology. Other terms in the current vernacular include:

- minor forest products;
- other forest products;
- forest biological resources;
- · other economic forest products;
- special forest products;
- non-wood forest benefits;
- non-wood goods and services;
- forest garden products
- wild products
- natural products
- non-timber forest and grassland products
- veld products
- sustainably produced wood products
- byproducts of forests
- non-wood goods and benefits
- secondary forest products

Why such a proliferation of terms? Because, it seems, none are truly satisfactory to capture the full range of ideas that are encompassed in the NTFP concept. Many have difficulty with the FAO NWFP definition precisely because it excludes wood. Others prefer alternate terms because the idea of forest is too restrictive (they would like to include products originating in grasslands, for example) or that it is not restrictive enough (they would exclude plantation forests). Some focus on wild-life and faunal resources while others exclude them, deliberately or not. Some would include environmental services (e.g. tourism, water from protected catchments). More than that, there are some very different ideas about why NTFPs are important and about the role they can or do play in poverty alleviation, economic development, or conservation. The diversity of terms reflects a very interesting diversity of ideas and assumptions, and to progress in this area we need to understand this diversity. We can do this by analysing the range of motivations and then the elements of the definition.

Why are NTFPs interesting?

The age of exploration was fueled, in part, by the search for new products from the tropics. Many of those products would now be called non-timber forest products. The colonial search for products from the tropics resulted in the development of commodities like coffee, tea, cotton, sugar, indigo, various fruits, and so on. Many of these originated in forests and were domesticated by colonial agricultural services and ultimately produced as plantation crops. Others, including many spices, essences, resins, rattan, and so on, were collected from the wild or from small-scale cultivation. A book of economic plants from the Malay Peninsula first published in 1935 runs 2443 pages in two volumes, with thousands of entries of species (Burkill 1966). Many

forest products were traded through market chains that would look very similar to modern-day NTFP trade chains. In some cases, the trade chains in existence today have persisted for centuries (Katz, personal, com).

Academic and commercial interest in what were then called minor forest products (the term itself reflecting that these products were considered secondary in importance to the major forest products, timber and pulp) languished after WWII, as the emphasis in forestry shifted more strongly toward industrialization and mass production. Scientific forest management focused on the most valuable industrial commodities timber and pulp.

But then, beginning in the late 70s/early 80s, in conjunction with the sustainable development movement, there began an increased recognition and realization of the actual and potential value of forests to provide many different products and services, to many different people. renewal of academic interest in minor forest products, with recognition that the collective trade value of forest products other than timber was large (e.g. de Beer and McDermott 1989), and possibly larger than the total trade in tropical timber (Peters, Gentry, Mendelsohn, 1989). Neumann and Hirsch (2000) provide a review of the literatiure. Rechristened NTFPs, these forest products were seen as valuable commodities and important tools to achieve conservation and local development. Moreover, the terminology and the non-timber forest products development agenda carried a political message -NTFP development was advanced as a mechanism for poverty alleviation and conservation, the antithesis (it is often implied) of timber development.(And of course, while international interest waxed and waned and waxed again, forest people continued to use and trade a wide range of products.)

This is the crux of the matter. The NTFP concept served very well as a

nexus of conservation and development thinking. On the one hand, large numbers of the rural poor, and even urban poor who have access to wild areas, rely on a wide variety of forest products for subsistence use, for natural remedies, as a source of cash income, and as raw materials for home-based industry. Products in this general category tend to be accessible, often growing in common lands or with open access, and harvesting, processing and marketing require low levels of capital investment and accessible skills. NTFPs therefore seem to offer good opportunities for livelihood improvement. At the same time there has been a general assumption that NTFP harvesting is less destructive than timber harvesting and that production of NTFPs is more compatible with forest conservation. Together these assumptions lead to the hypothesis that if the value of NTFP could be increased, incentives for conserving forest cover could also be increased.

There are some serious flaws in this line of reasoning, mostly driving from what logicians call the fallacy of ambiguity. The collective term NTFP includes a huge variety of products/species. There are indeed many products in this group that are accessible to poor people, that are used in subsistence systems, that provide important sources of cash income, and that are harvested in relatively benign ways. But being included in the set on NTFP does not necessarily confer any or all of those properties. As discussed below, higher value tends to be associated with higher harvest levels, more intensive management, and the exclusion of some stakeholders by others. The more valuable NTFPs are often demonstrably not harvested in benign ways, and many are lost to the poor as other stakeholders take over control. The subtleties can be lost in the collective terminology.

Who is Interested?

The kinds of organizations (and individuals) interested in NTFP fall into four main categories: researchers (from many different disciplines); organizations working for development; organizations working for conservation, and; commercial companies⁴⁾.

Research Interest

Research interest in NTFP comes from many perspectives. There is a long tradition of research on ethnobotany, economic botany, and generally on how people use natural resources. There is research on ecology, management, and markets and economic behaviours. Arnold and Ruiz-Perez (1997) grouped the research interests into three main categories: 1. commodity/income/market; 2. People's perceptions/traditional knowledge/household needs, and; 3. Biological properties/sustainable management focus. These, they noted, correspond broadly with the disciplinary interests of the economist, the social scientist and the biologist/ecologist/forester. Reviews of the literature, such as the recent work of Neumann and Hirsch (2000), demonstrate that it is a highly eclectic field.

Development Interest

From the perspective of a development organization (including bi-lateral and multi-lateral aid agencies, NGOs and national governments agencies), NTFPs are seen as a means for generating subsistence and cash income. These products are seen as entry points to make people better off through income and employment generation and the development of human and social capital.

⁴⁾ It is assumed that large number of individuals who harvest, transform, use and sell NTFPs are also interested, but the collective category and the terminology are not of interest to them.

There is a range of potential interventions, from efforts to improve production of the product itself (in terms of quantity and/or quality and/or sustainability), to improvements in processing (reduced waste, improved quality, more value-addition by beneficiaries) and marketing (improved market information, skills and general bargaining power). In addition to the benefits of these kinds of improvements, there are also more general benefits in terms of skills development, improved networking and communication, and social capital Ideally, development in the sector would lead to a virtuous development. cycle where people can develop skills and capacity through opportunity and experience in the NTFP sector, and then apply those skills in other areas of life. At the very least, many NTFP studies note the important of cash income for families that use that income for basic health care and to meet education costs for their children. NTFP development in this context is seen as a means of livelihood improvement and a stepping stone to development. In this way of thinking, it is quite conceivable that capital generated through NTFP production, transformation and sale could then be reinvested in other activities. We found exactly this in research on the bamboo sector in China, where better-off families used money generated from bamboo production to set up trading companies and other secondary and tertiary sector activities (Ruiz-Perez et al., 1999).

Conservation Interest

Conservation oriented groups may be interested in individual species of NTFPs, especially in cases where commercial exploitation threatens a species. More often though, NTFPs are seen as instruments to help achieve conservation, with low intensity management regimes for NTFP production seen as preferable, from a conservation perspective, to more intensive management systems. For example, the Forest Stewardship Council says: Harvest of NTFPs usually has lower impacts on the forest ecosystem than

timber harvesting, can provide an array of social and economic benefits, particularly to community operations, and can therefore be an important component of forest ecosystem management. (FSC 2002). In this respect, NTFPs have been used as a main element in integrated conservation and development projects (ICDP), where investments are made to increase the creation and capture of value by local people as a means to encourage forest conservation. Economic development is promoted in a way that, it is hoped, will be compatible with longer-term ecosystem level conservation.

Commercial Interest

Finally, there has been a strong interest in NTFPs from a commercial perspective. For trade in any particular product, the designation NTFP is not important. But there is a commercial niche for firms that have(or wish to have) a socially/environmentally friendly image. These companies have blended the development and the conservation messages. They sell products containing NTFPs with the message that consumers can support poor people and forest conservation. The companies are doing well by doing good selling rainforest crunch cereal and ice cream, cosmetics, essential oils, basketry, shade-grown coffee, butterflies, to name a few. For some or these firms, the ambiguity in the term can be a great advantage they sell products that contain NTFPS, with all the eco-friendly and people-friendly connotations, even if the production and trade systems for those products do not necessarily have those characteristics.

With such a range of interests and motivations, there is also, quite naturally, a range opinions about what an NTFP is (and is not). Organisational and individual philosophies about what is important and why determine how NTFP is defined.

Elements of definition of NTFP

There are five main elements to the interpretation of the NTFP concept that seem to matter most. These are: the nature of the product (or service); the source of the product (or service); the production system for the product; the scale of production; and the ownership and distribution of benefits. Let's examine these in order.

Nature of product or service

One of the main areas of disagreement in this debate is whether or not to include woody plant material and products in the definition of NTFP. noted above, the FAO has made it a key point to distinguish between wood and non-wood products. The rationale for this is provided in FAO (1996): The new FAO working definition proposes a clear distinction between wood and non-wood forest products, as an important basis for building a classification system. A main objective of the effort to standardize a term and definition is to help develop a system of classification for these products that would harmonize with the Central Product Classification System. This would facilitate better statistical recording and would be useful in assessing the value of these products in national accounts. Colleagues at FAO have also indicated that the distinction within the organization is also motivated by bureaucratic needs in establishing a NWFP unit, as the organisation already has a wood products division and a separate group that deals with fuelwood. That other units of FAO (e.g. the Community Forestry Unit) continued to use the term "NTFP" underlines the point that the definition used depends on the purpose to which it is put.

For groups interested in community development, forest conservation, or other aspects of forest management the distinction between wood and non-wood is

neither relevant nor helpful. Indeed, from the perspective of a forest user, and from a development perspective, the distinction between timber and non-timber products is false. Within systems where communities have control over forest resources, people manage for the forest products that are most valuable to them. And wherever people have access to forests, timber and other wood products are among the products they use, if not the most important ones. This is true in predominantly subsistence systems (Peluso 1992) and even more so as sources of cash income (Laarman et al. 1995) and as inputs in forest-based enterprises (Arnold et al. 1994). From this perspective, the scale and ownership (discussed below) are much more important.

Moreover, some have argued that creating such a false distinction between wood and non-wood products could have negative consequences in terms of both conservation and development, because it contains (and supports) the implicit assumption that timber is for the rich and that NTFPs are for the poor (Dove, 1994).

Some organisations implicitly or explicitly exclude animals and services. Earlier discussions (FAO 1992) considered stones, gravel and other non-biological resources as NTFPs, but recent discussions generally exclude non-biological products.

For this aspect of the definition it is a matter of preference based on interests and objectives. The main choices are whether or not to include:

- woody plant material
- animal products
- services (watershed, carbon sequestration, tourism, etc.)

Source of Product (or Service)

The question of whether the product or service is produced in a forest environment, and what exactly is a forest, is a key element of many arguments about the definition of NTFPs. Not everyone agrees with the FAO definition of a forest.

Some with a strong conservation focus would prefer to exclude plantation forests. Their rationale is that NTFPs should be used as elements in in situ systems of conservation. In this concept, NTFPs are desired precisely because they are compatible with and can give value to natural forests. Therefor, it is argued, efforts to promote production in plantation systems could potentially undermine the conservation objective.

Others, especially those working in drier areas, would prefer a term that includes the ecozone they are interested in. Thus the term forest and veld products, for example, originates in southern Africa. Others would like to include marine products, for many of the concepts of both the conservation-oriented and the development-oriented organisations are equally applicable for coral reef protection.

Again, interests and objectives determine whether or not to include:

- managed forests
- grasslands
- marine or other habitats

Nature of Production of the Product

Much more problematic is the question of whether an NTFP is really an NTFP if it is cultivated. This can be a topic of hot debate. Some argue

that if the product has been domesticated and produced outside a forest environment, it is no longer a forest product. Rubber, cocoa, oil palm, and other industrial plantation crops are typically excluded from the definition of NTFP. Some would exclude cultivated bamboo, fruit, and butterflies, for example. For many with strong conservation interests, NTFPs are products that are extracted from the forest or managed in extensive systems. As with the argument about plantation forests (above), domesticated production at best reduces the potential value of the standing forest (by out-competing wild products) and at worst represents a direct threat to forest conservation if land is cleared to establish plantations.

There are also concerns from the development interests that commercialisation and domestication lead (inevitably?) to a loss of control and even a loss of access by poorer people. The argument is that people with better resources (including access to land, investment capital and labour) will appropriate the resources for their own benefit, displacing the resource poor who relied on open access extractive resources (Dove, 1994).

The exclusion of cultivated products quickly runs into logical inconsistencies in that products with identical properties can be included or excluded from the class depending on the social and environmental characteristics of their production. Thus a stem of rattan or a piece of fruit may be considered an NTFP if it has been collected from the wild and not if it has been grown in a farmer's garden.

The arguments are important, and the concerns real. Domestication of wild-harvested products can lead to genetic homogenization, reduce the economic value of wild systems and lead to transfer of benefits from one group of stakeholders to another.

On the other hand, for the purpose of improving livelihoods, intensified management may be an important option. Cultivation can give higher yields, improved and more consistent quality, and more control over the timing of harvests, and together these advantages translate into significant commercial benefits. Cultivation also implies that the producers have secure tenure the investment in cultivating and managing resources is only feasible if there is a reasonable chance to capture the benefits. And there are conservation arguments favouring cultivation as well. Efforts to domesticate NTFPs are often done with the rationale that it will reduce pressure on wild (and presumably endangered resources). And support for intermediate intensity productions systems, such as shade-grown coffee, is based in part on the conservation benefits of these systems. Mixed systems are regarded as superior because they support higher levels of biodiversity per unit area that intensively managed mono-crops. (The strong counter-argument extensive systems require a larger area and so pose a greater threat to biodiversity per unit of coffee production remains.)

So, while this issue seems to be an important consideration in users' own concepts of what an NTFP is, it is not useful as an element of the definition. It is illogical and impractical to use the degree of cultivation as a distinguishing characteristic.

Scale of production

There is an assumption, more often implicit than explicit, that NTFPs are best suited to sustainable harvesting within ecologically benign production systems, and they are promoted on that basis. This is related to, but separate from, the issue of cultivation/domestication discussed above. NTFP cultivation might be an appropriate strategy for encouraging livelihood improvement, and perhaps even as a tool for conservation at smaller scales.

However, it seems likely that large-scale, capital intensive, non-timber forest products plantations would entail environmental and social costs of the same kind that are found in the large-scale timber sector. Industrial scale plantations of rattan, for example, are just as likely to displace and to exclude forest dwelling people as is an industrial timber plantation. Promising investment opportunities in forest product plantations will be just as likely to lead to deforestation through land clearing, with consequent equity and biodiversity costs. On the other hand, small-scale timber management in a natural forest might offer a good compromise between conservation and development. Likewise oil palm, much maligned as a major cause of deforestation in Southeast Asia, might be an ideal NTFP, offering livelihood benefits and (possibly) reduced biodiversity costs if managed in small-scale mixed systems.

As with the nature of production discussed above, the scale of production is not useful as a distinguishing characteristic in the definition of an NTFP. However, it is very useful to consider the scale issue to underline the logical flaw in the distinction between wood and non-wood and even between timber and non-timber products (except possibly for statistical recording). And, scale may be very useful in the analysis of forest products overall. As Padoch and Pinedo-Vasquez (1997) argued:

[the categorization of timber and non-timber] is not appropriate since this dichotomy does not reflect the reality of how most forests are managed in the tropics and restricts rather than aids the formulation of a useful research agenda. We suggest instead that the scale of forestry operations and their degree of industrialization are more realistic and useful parameters.

Ownership and distribution of benefits

Finally, there seems to be some sense that NTFPs (as opposed to timber products) are useful for conservation and for development because the ownership and the benefits are more likely to accrue to local stakeholders. This idea is supported by the fact that poor, forest-based people do have access to and use many NTFPs and generally do not have ownership (under state law) of timber resources. The ambiguity inherent in the definition of NTFP encourages the flawed argument that, therefore, investing in or otherwise developing NTFP will benefit poor, forest-based people.

In fact, the poor often do not have access to the more valuable NTFPS. And, most of the multiple forest products that people use for subsistence or even for small-scale trading do not have good potential for development. They tend to have low commercial value and the very reasons that they are accessible to the poor (open access, common, low value, lack of markets and market infrastructure) conspire against successful commercialization/development. If markets can be stimulated and value increased, the poor do not have the resources (by definition) to take advantage. The scenario described by Dove (1994), where the poor are displaced by those with better assets, is likely to play out.

To be sure there are situations where positive interventions can be made to help the rural poor create and capture value based on the production, processing and marketing of natural resources. But again, non-timber products do not have any inherent advantage over timber, except perhaps that the potential has not already been exploited, or over mineral resources or agricultural commodities. This leads us again to the conclusion that the important distinctions are not between timber and non-timber. The real issue from the perspective of improving livelihoods (and this can also be an incentive for conservation) is the ownership and control of the resource.

Conclusions

The NTFP concept writ large is exciting and challenging. It embodies the sustainable development concept and seeks a win win solution to problems of conservation and development. The essence of the idea is that there are renewable resources that can be developed in a way that will improve people's livelihoods and that is compatible with or even encouraging of environmental conservation. Beyond that there is much disagreement about where to focus and how, depending on interests and perspective.

Research interests in the NTFP field run the gamut, covering just about every angle. Development efforts focus on the potential for creating and capturing value through improved production, processing, and marketing, with the main focus on improving livelihoods for poor people. Conservation efforts seek to encourage low-intensity management systems and see livelihood improvement as an important (or necessary) instrument to achieve nature conservation. And some commercial companies (and if we are to be cynical, development agencies also) have been able to capitalize on these ideas by selling the package of conservation and development in nicely wrapped consumer products.

As a result of these differing interests and objectives, the terminology and usage is rife with ambiguity and outright inconsistencies. To a certain extent, this ambiguity has allowed room for discussion of ideas that might have been considered incompatible. And, the collective term has served a very important purpose in efforts to highlight the value of a range of resources that had been under-appreciated and under-valued. But, at this point, more clarity is needed.

The term NTFP is well established in the vernacular and it is likely to remain in common usage for some time. It is too late in the game to propose an alternative, and it is unlikely that there is a term that could satisfy the multiple interests involved. However, the proliferation of alternate terms suggests that there is change underway in the concept itself. product focus is broadening to include a wider range of natural products and the artificial distinction between wood and non-wood is breaking down. And, as interest in and support to poverty alleviation and livelihood improvement builds, we can expect more emphasis on natural products produced in a range of environments, from forests, woodlots, farms, marine resources, or other habitats. There is also a trend towards organising research and development activities around groups of similar products. So there are networks of researchers working on bamboo and rattan, medicinal and aromatic plants, woodcarving, and so on. These trends toward more specific terminologies and approaches are useful.

The main lesson regarding the term NTFP is that it is important to be clear about the definition in any particular discussion, for the sake of understanding. But for practical purposes, especially at the household and community levels, it is best to think in terms how people use their resources in their households' economies.

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무엇이 비목재임산물이 아닌가? What isnt an NTFP(Non-Timber Forest Product)?

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<서 론>

임업의 중심이 더욱 더 산업화와 대량 생산으로 이행하면서 산림부산물에 대한 학문적이고 사업적인 관심은 2차 세계대전 이후 쇠퇴해졌다. 과학적 산림 경영은 산업적 소재(필프와 목재)의 생산에 초점을 맞추게 되었다. 그러나 1970년대 말 1980년대 초부터 지속 가능한 발전운동의 전개와 함께 다양한 사람들에게 다양한 제품과 서비스를 제공할 수 있는 산림의 잠재적실제적 가치에 대한 이해가 높아지기 시작하였다. 이는 산림부산물에 대한 학문적 관심의 부활로 이어졌다.

<비목재임산물(NTFP)의 정의>

비목재임산물(NTFP)의 정의에 대하여 비목재임산물을 어떻게 불러야 하고 그 내용에 대한 정의를 둘러싼 논쟁은 1989년 de Beer와 McDermott에 의하여 NTFP 용어가 만들어 진 이후 계속되고 있다. NTFP가 논의되는 모든 회의에서는 이 용어에 대한 토의가 이루어지고 있다. 이에 따라 NTFP를 대체하는 여러유사어가 많이 있다. 특히 FAO에서는 non-wood forest products(NWFP)라는 용

어를 사용하고 있고 다른 여러 기구에서도 각기 여러 가지 용어가 쓰이고 있다. 다음은 NTFP와 유사하게 쓰이는 여러 용어들이다:

"wild products, natural products, non-timber forest and grassland products, veld products, sustainably produced wood products"

많은 사람들이 NTFP라는 용어를 이해하는데 있어서의 차이점이 나타난다. 그이유는 각기 다른 개인/조직이 같은 용어를 사용할지라도 그들의 필요에 적합한다른 정의로 수정하기 때문이고, 용어와 기초가 되는 개념은 다른 사람들에게 각기 다르게 정의되게 때문이다.

NTFP가 의미하는 것은 무엇인가? 이는 처음으로 이 용어를 사용한 de Beer와 McDermott(1989)에 의하면 다음과 같이 정의된다:

"NTFP는 인간을 위해 이용되는 산림으로부터 얻을 수 있는 목재와 다른 생물학 적 요소를 포함한다."

이 두 사람은 NTFP에 대하여 분명히 정의에 대한 문제를 인식했다. 그들은 timber와 NTFP를 구별하는 차이점으로 다음을 지적하였다: 목재는 이익을 산림 밖에 위치한 산업적인 규모로 관리되는 반면 NTFP는 산림 근처나 산림의 안에서 삶을 살아가는 사람들에 의하여 간단한 기술을 사용하여 추출되는 것이다.

위와 같은 NTFP의 개념은 보존과 개발에 매우 관련이 깊다. 다시 말하면, 많은 시골의 가난한 사람들과 도시의 가난한 사람들은 삶을 살아가는데 있어서, 임산물의 다양성에 의존한다는 것이다. 그래서 NTFP는 삶의 질 증진을 위한 좋은 기회를 제공해 준다. 집합적인 용언인 NTFP는 다양하고 많은 생산품과 서비스를 포함한다. NTFP는 가난한 사람들의 생존의 기반이 되고 그들에게 중요한 수입원을 제공한다.

<NTFP는 누구의 관심사인가?>

이와 같은 NTFP는 그러면 어떠한 사람들이 판심을 가지고 있는가? 이 물음에 대한 답으로 크게 4가지의 카테고리로 나눌 수 있다: 즉, 연구자, 개발 기구, 보존기구, 산업체.

NTFP에 대한 관심은 다양한 분야의 연구에서 나타난다. 민속식물학, 경제식물학, 생태학, 경영학 등 다양한 분야에 많은 연구원들이 관심을 가지고 있다. Arnold와 Ruiz-perez(1997)는 이들의 연구 분야를 다시 크게 다음의 3가지 기준으로 나누었다: ①상품/수입/시장, ②사람들의 인식/전통적 지식/ 가내 수요, ③생물학적 특성/지속 가능한 관리에 집중. 이 세 구분의 기준은 경제학자, 사회학자, 그리고 생물/생태/임학자의 관심영역과 일치된다.

개발기구(NGO, 대리 정부 기구 등)의 관점에서는, NTFP는 생존수단이며 현금수입 방편으로 인식되며, 수입과 고용 중진을 통해 그리고, 인간사회적 자본의 개발을 통하여 사람들이 더 잘 살 수 있게 해주는 열쇠로 인식된다.

보존기구의 관점에서 보면 NTFP는 산림을 보존하는 수단이 되며, Forest Stewardship Council의 다음과 같은 말이 그 좋은 사례이다:

"NTFP의 수확은 목재를 수확하는 것보다 산림생태계체계에 덜 영향을 주고, 사회적 정렬과 경제적 이익을 제공한다. 그래서 이는 산림 생태계 관리의 중요한 구성요소가 될 수 있다."

이러한 면에서, NTFP는 통합된 보존과 개발 프로젝트의 주요한 요소로 사용 된다.

상업적 회사의 관점에서 보면 NTFP의 거래는 중요하지 않다. 그러나 개발회사들은 이러한 거래를 통하여 사회적/환경적 친근한 이미지를 가지고 있는 회사라는 것을 많은 사람들에게 알려주는 것으로 이용한다. 이들은 개발과 환경의 메시지를 소비자들에게 보내고, 소비자에게 가난한 사람과 산림보존을 지지할 수 있는 메시지를 담은 NTFP를 판매한다.

< NTFP의 기본 요소>

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NTFP를 정의하기 위해서는 기본적으로 다음 5가지를 고려해야 한다. 첫째로 고려할 것은 임산물 또는 서비스의 성질이다. 이는 NTFP가 목질계 식물 재료, 동물성 제품, 서비스(수자원, 탄소고정, 관광 등)등 3가지 주 요소를 포함하는 보 포함하지 않느냐에 따라 달라진다.

둘째는 제품이나 서비스의 출처이다. 이는 NTFP가 관리되는 숲, 초지, 해안 또는 기타서식지에서 나오는 것이냐 아니냐에 따라 정의된다.

셋째는 제품 생산과정의 성격이다. 논란이 되는 많은 문제는 만약 NTFP가 재배된 것이라면 NTFP는 진정한 NTFP인가 하는 것이다. 이 논쟁에 대하여서, 이용자의 입장에서 NTFP가 무엇인가라는 개념을 정의하는데 있어 중요할지라도 정의의 요소로서는 유용하지 못하다. NTFP냐 아니냐를 구별하는데 있어서 재배의 정도를 사용하는 것은 논리적이지도 못하고 현실적이지 못하다.

넷째는 생산규모이다. NTFP의 재배는 산촌주민 진흥전략으로 적당할 수 있고, 생태계 보존을 위한 도구로서도 타당할 수 있다. 그러나 이것은 큰 규모의, 자본 집약적인 NTFP농장은 대규모산업 목재인공림에서와 같이 환경사회적인 비용을 발생시킨다.

위와 같은 이유로 생산규모는 NTFP의 정의를 위한 구분특성으로서 유용하지 않다. 그러나wood와 non-wood 그리고 timber와 non-timber의 구별에서 일어나 는 논리적 결함을 강조할 수 있다는 점에서 생산규모는 매우 유용하다.

다섯째는 편익의 소유자와 분배이다. NTFP의 소유권과 그로부터의 편익은 (목재자원에 비하여) 그 지역에 살고 있는 이해 당사자들에게 귀속되기 쉽다는 점에서 NTFP는 자연보존과 개발을 위하여 유용한 존재이다. 이와 같은 생각은 가난하고 산림을 기반으로 살아가고 있는 산촌 사람들이 NTFP에 쉽게 접근하며 이용하고 있으나, 일반적으로 목재자원에 대한 실정법적 소유권을 가지고 있지 않

다는 사실에 의하여 지지된다. 그러나 현실에 있어서는 산촌빈민은 여러 가지 값 어치 있는 NTFP에 접근할 수 없어 이들이 상업적으로 개발되더라도 혜택을 받지 못한다. 따라서 이 논쟁에서 중요한 것은 목재와 비목재의 구별이 아니라 소유권과 자원의 통제권의 문제이다.

<결 론>

위의 내용을 통하여 NTFP는 매우 흥미로운 개념이라는 것이다. 이는 지속 가능한 개발 개념과 보존의 두 가지 문제를 풀 수 있는 win-win전략이다. NTFP용어에 대한 주된 내용은 이것에 대한 이해를 위하여 어떠한 특별한 토의에서 정의가 분명해 진다는 것이다. 그러나 실용적인 목적으로 가족과 지역 사회의 기준에서, 사람들이 그들의 가족과 지역사회에서 그들의 자원을 어떻게 사용하는가에따라서 용어의 정의를 생각하는 것이 바람직하다.

Income From NTFPs: Global Patterns and Trends

Structure of Presentation

- Brief history and rationale for interest in NTFP
- What is an NTFP?
- Theoretical Context
- Research Highlights from:
 - Indonesia Rattan sector
 - China Bamboo sector
 - International NTFP comparative analysis
- Conclusions

Why the Interest in NTFPs?

Interest and support from governments, development and donor agencies for NTFP is based on three largely untested propositions:

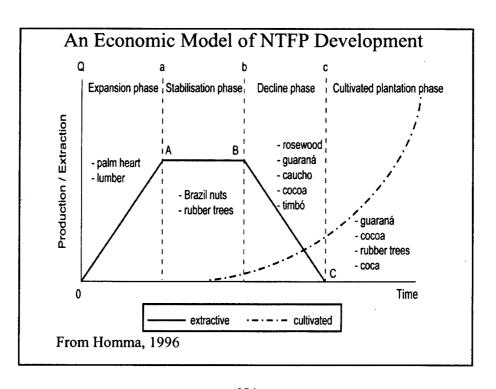
- 1. NTFP contribute (more than timber) to livelihoods and welfare of people living in or near the forest (?)
- 2. Exploitation of NTFP is ecologically more benign than timber harvesting (?)
- 3. Commercial harvest of NTFP, and associated enterprise development, adds value to forests, and increases incentives to conserve (?)

What is an "NTFP"?

- Many terms are now used: NWFP (FAO); Nontimber forest and grassland products; wild products; natural products; veld products; sustainably-produced wood products, etc.
- Definition depends on interests and orientation
- Proponents of NTFP development have strong
 - Conservation orientation
 - · Development orientation
 - Commercial Orientation

The Elements of the Definition of "NTFP"

- Nature of the product or service
 - Plant (wood, non-wood)
 - Animal
- Source of product or Service
 - Forest environment or not
 - Natural, managed or cultivated
- Scale of production (subsistence < >industrial)
- · Ownership and Distribution of Benefits
- Kind(s) of Benefits

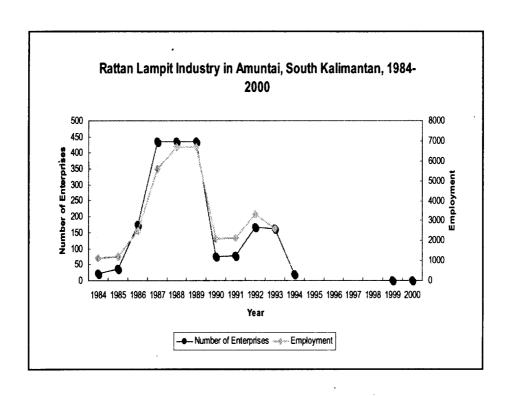


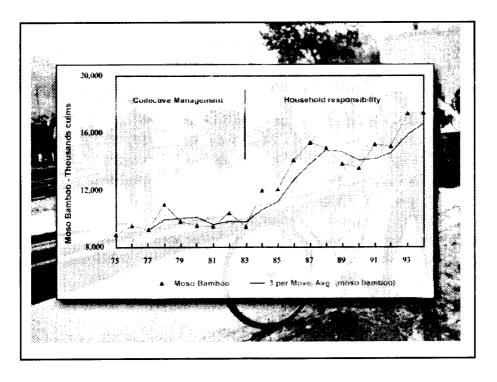
Research is Needed on

- What kinds of forest products can help meet development and conservation goals?
- What conditions facilitate this?
- What conditions lead to failure?
- How does the role and potential of forest products change with development (dynamics?)
- What is the role of policy in determining sustainable and equitable use of forest products?

History of Policies Affecting Rattan Sector

- Ban on export of unprocessed rattan (1986)
- Ban on export of semi-finished rattan (1989)
 (replaced in 1992 with a prohibitive export tax)
- Reclassification of rattan webbing as semi-finished product (1992)
- Regulation of the rattan processing industry (1989) with restrictions on the investment in the area (relaxed in 1995)
- Establishment of a Joint Marketing Board (ASMINDO), an approved exporters system, and an export quota system for *lampit*, by a Ministry of Trade Decree.





As a result of policy reforms...

- Bamboo production and processing in expanded tremendously (from 18 factories/397 workers to 1,182/18,914 workers by 1998)
- Bamboo employment = 50% of total industrial employment in the county
- By 1998 63% of all farmers in the county cultivating bamboo
- Bamboo constitutes 14% of average farmers' income and 25% of income for bamboo farmers

The key conclusions:

- Policy changes paved the way for a huge expansion of bamboo production and processing
- Provided new opportunities for farmers to allocate labor and investment
- Most beneficial for middle income farmers
- Strong link between the raw material production and the processing industry key
- Excellent example of rural industrialization based on local resources

Percent contribution of bamboo to total county forestry output

County	80-83	96-98	increase
Anji	48	77	29
Longyou*	18	55	37
Pingjiang	12	33	21
Taojiang	44	82	38
Changning	72	80	8
Muchuan	12	75	63

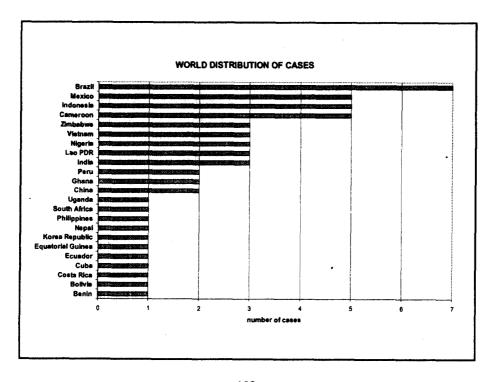
^{*}period 1983-1986

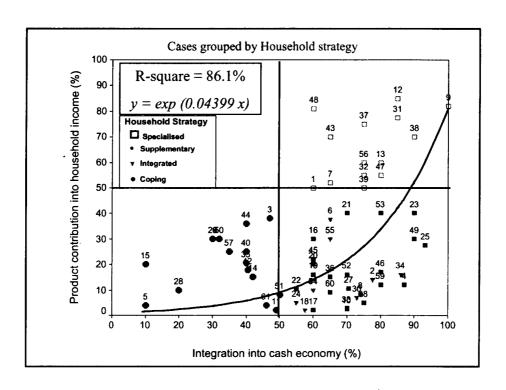
Case Comparison Objectives

- Identify trends and patterns in the management, utilisation, and trade of non-timber forest products
- Synthesize understanding of the role and potential of NTFP
- Identify conditions that favour forest-based development
- Develop guidelines to make investment and policy interventions in the NTFP sector more effective at achieving welfare and conservation objectives

The Data

- 114 variables (descriptors) of:
- Geographic setting
- Biological and physical characteristics of the product
- Characteristics of the raw material production system
- Socio-economic characteristics of raw material production
- Institutional characteristics of raw material producers
- Policy characteristics of the production system
- Characteristics of the processing industry
- Characteristics of the market and marketing system
- Outside Interventions
- •Outcomes of Forest Product Commercialization





Coping Strategy

Economic characteristics

- Low HH income
- <50% income in cash
- NTFP < 50% HH income
- Use many other NTFP

NTFP Management

- Wild, from forest or fallow
- Large harvest area/HH
- Low management
- · Weak tenure
- More common trad. rules
- Low NTFP prod./ha.

Economic Geography

- Remote, undeveloped
- Low land & labour prices
- Production on state land or open access

Products and Markets

- Palm fibres, low-value wood carving, fuelwood, med. plants
- Mainly low value products
- Local processing, often in same HH

Integrated Strategy

Economic characteristics

- Low HH income
- HH income from multiple sources
- Large % income in cash
- NTFP < 50% HH income
- Use many other NTFP

NTFP Management

- Wild, from forest or fallow
- Large harvest area/HH
- · Low management
- · Weak tenure
- More common trad. rules
- Low NTFP prod./ha.

Economic Geography

- High land prices
- Mainly private land
- · High road density
- Intermediate labour prices
- Intermediate NTFP trade

Products and Markets

- Bamboo, high-value wood carving, fruits, mulberry paper, resin
- Local/domestic markets
- Local processing or direct consumption
- Intermediate NTFP prices

Supplementary Strategy

Economic characteristics

- Intermediate HH income
- >50% income in cash
- NTFP < 50% HH income

Economic Geography

- Intermediate labour rates
- Low land prices
- · Low road density

NTFP Management

- NTFP wild harvested
- Lowest labour and technology inputs
- Low production/ha
- Intermediate harvest area

Products and Markets

- Fruits for local processing or consumption
- Medicinals for regional market
- Intermediate NTFP prices

Specialised Strategy

Economic characteristics

- · High HH income
- > 50% income in cash
- NTFP > 50% HH income
- Fewest other NTFP used

NTFP Management

- Intensive management
- Cultivated & natural regeneration
- Highest value NTFP/ha

Economic Geography

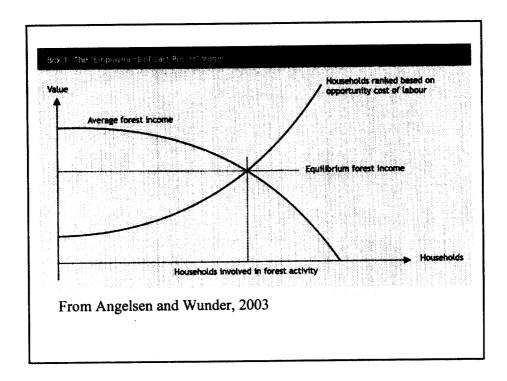
- · High labour rates
- High land prices
- Intermediate road density
- Intermediate private land
- High total NTFP trade

Products and Markets

- Specialty food products & medicinal plants
- Regional & international markets
- Stable, mature markets

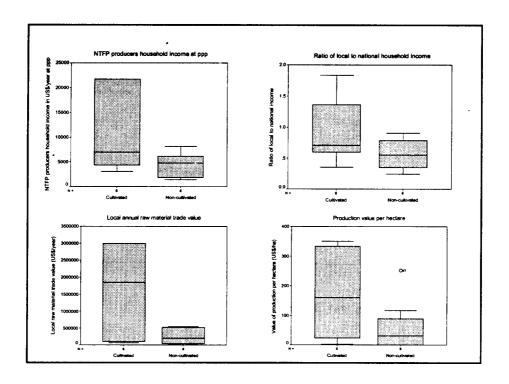
Commercial NTFP Production and the Poor

- Even commercial NTFP producers poor relative to National Average
- Tend to have average incomes locally
- But, 27 cases (44%) higher than average!
- Higher incomes associated with:
 - off-farm income
 - intensified production of higher value products
- NTFP important as components in household economic systems
- High proportion of external interventions on coping and integrated



Management Implications of Specialization

- Forest products can be produced through:
- 1. Relatively extensive production in natural or managed forests, with a relatively high biodiversity
- 2. Dedicated production units where the product is planted in mono-dominant stands and managed relatively intensively (i.e. plantations)
- More intensive management within the specialized group is associated with substantially higher prices, productivity, and financial benefits
- •Needs Strong tenure



NTFP Intensification and Biodiversity

Species Level

• Most non-cultivated species had declining resource bases

Plot/landscape level

- Low intensity extraction of NTFP has low biodiversity impact
- Higher harvesting/management intensity has higher impact (e.g. some intensively managed systems completely displaced natural vegetation within the management unit).

An inherent contradiction?

• Successful commercialization leads to increased harvesting, intensified management and biodiversity erosion?

Opportunities?

• Intermediate management systems...

Conclusions

- Commercial NTFP production is an important source of employment and income in a wide range of situations
- NTFP produced as part of systems (fits with other land uses, making productive use of marginal land available labour)
- Context is important in determining how people use their forest and other resources
- Key context variables identified are property rights, size and accessibility of markets for NTFP, and the "opportunity cost" of labour and land
- Cultivated cases tended to give higher economic benefits

Conclusions (2)

- For NTFPs to lift people out of poverty requires increased and/or more efficient commercial production and trade.
- Interventions to this end should consider:
 - Commercial NTFP production is commonly integrated with other economic activities
 - There are some inherent paradoxes in that the conditions that favour effective commercialization are not met in many poor areas. The process of commercialization may have an anti-poor bias
 - Other important constraints exist outside the NTFP sector and realizing development potential will require investments in other areas as well