

## ASSESSING THE MULTIPLE VALUES OF FORESTS

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### **RESUMEN**

Para la gente que vive dentro o en la cercanía del bosque, su valor yace en los productos que derivan de él, en su función como banco de tierras, y en los criterios culturales asociados al bosque así como a otros aspectos del medio ambiente. Los diferentes impactos de los bosques sobre la economía básica, los ingresos, el ambiente, y otros, están relacionados y presentan problemas específicos para la evaluación. Las decisiones tomadas por la gente del lugar reflejan sus respuestas al conjunto de estos impactos, más bien que una consideración separada de los costos y beneficios de cada aspecto. Invariablemente, se concentran en las necesidades de los pobladores mismos, y no en los valores más generales del bosque ni sus beneficios difusos.

### **RÉSUMÉ**

Pour ceux qui vivent dans les forêts ou à proximité, la valeur de celles-ci réside dans les produits tirés de la forêt, dans son rôle de banque de territoires ainsi que dans les valeurs spirituelles et culturelles qui lui sont attachées de même qu'à d'autres aspects de l'environnement forestier. Ces influences de la forêt sur la subsistance, le revenu, l'environnement, ces effets sociaux et culturels, sont intimement liés entre eux, présentant plusieurs difficultés distinctes quand il s'agit d'évaluation. Les décisions des personnes sont dictées par leurs réponses à l'ensemble de ces effets, plutôt que par l'estimation des coûts et des bénéfices présentés par chacun d'entre eux. Mais la focalisation se fait invariablement sur les besoins locaux actuels, et non pas sur les valeurs plus larges de la forêt ou sur une diffusion plus vaste de ses avantages.

## **INTRODUCTION**

For people living in or adjacent to forests the value of the latter lies in the products they derive from the forest, in its role as a land bank, and in the spiritual and cultural values attached to these and other aspects of their forest environment. More specifically, forest cover restores the soil nutrients to crop land; the forest resource provides wood, fibre and other materials for construction of houses, storage structures and agricultural implements; and the forest serves as habitat for a wide range of plants and animals which provide the household with fuel, food, medicines, and saleable products which generate household income and employment.

### **Forest Produce and Household Food Security**

For most rural people forest foods add variety to diets, improve palatability, and provide essential vitamins, protein and calories. The quantities of forest foods consumed may not be great in comparison to the main food staples, but they often form an essential part of otherwise bland and nutritionally poor diets. Many of the plant additives to diets are used to prevent sickness and encourage growth. Medicines from forest species are usually the main medicines for rural populations in forest zones. Plants are often used for health purposes in conjunction with mystical and ritual practices.

In addition to their supplemental roles, forest foods are extensively used to help meet dietary shortfalls during particular seasons of the year; helping bridge 'hunger periods' when stored food supplies are dwindling and the next harvest is not yet available. Forest produce are also valued during the peak agricultural labour period, when less time is available for cooking and people consume more snack foods. Forest foods also tend to be important in emergency periods such as floods, droughts, famines and wars, when energy rich foods such as roots, tubers, rhizomes and nuts can provide a valuable buffer.

People's dependence on forest produce for income follows a similar pattern. Many people rely on sale of rattan, bamboo, fibres, medicines, gums and wild foods to supplement their farm income year around. In the forest zone of West Africa, for instance, as much as a third of total income in forest fringe villages can come from forest produce. Others engage in hunting and gathering for sale seasonally, either to exploit raw materials or markets available only at particular periods, or the labour available in slack agricultural months, or to meet seasonally induced cash needs such as agricultural loan payments or school fees. For example, in northern Brazil, Babussu palm kernels are gathered and processed during the agricultural slack period; during this period the income earned from these activities represents more than a third of the family's overall budget. Sale of forest produce is also widely resorted to during emergencies – more people becoming involved in gathering and sale of fuelwood, for example, in years when agricultural conditions have worsened.

### **The Interests of Different Population Groups**

Forest foods, employment and income are thus commonly important parts of rural strategies to tide over the seasonal gap between harvests, and to cope with drought or other emergencies which reduce supplies of staple foods or cash crops. The counter-seasonal nature of many forest-based activities also helps even out the peaks and troughs in demands on farm household labour.

Generally speaking, the poor are more dependent than others on forest based sources of food,

medicines and income. There can also be different levels of dependency within a household. Foods from the forest are especially important for children, providing snack foods that help them spread their nutritional input in a more readily digestible fashion. For women, sale of forest products can be the most significant cash earner; concentrating on activities such as mat and basket making which may be performed in or near the home, thus allowing them to combine these income earning activities with other household tasks.

A decline or deterioration in forest resources, or reduced access to the forest, are therefore likely to affect different segments of the population in different ways. Some of the changes can adversely affect some more than others. Subsistence users of forest products who depend on the forest in meeting basic needs, are likely to perceive change differently from hunters and gathers and others who depend on harvest from the forests for employment and income. Hunting and gathering from a depleting resource, for example, may adversely affect subsistence supplies.

### **Stability, Risk and Uncertainty**

Much of the value of the forest to forest dwellers thus lies in its importance in helping maintain stability and control risk. Users therefore focus on products, such as fruits and leaves, that are available on an annual or continuous basis – and heavily discount the values of those products, such as timber or rattan, that are available only in the future or periodically. Some recent studies have used techniques of discounting and annualising, which provide a means of aggregating the values attached to outputs available at different points in time, in order to express them in terms of an average annual flow. However, while useful in assessing the economic value of the forest, this is not a meaningful measure of the annual value to subsistence users or hunters and gatherers; for them only immediately realisable values are likely to be of relevance.

Lack of security of tenure or access tends to reinforce this focus on the short term. If people have no assurance that they will have access to future harvests, they attach little if any value to them. This helps explain forest dwellers' decisions in favour of slash-and-burn agriculture on sites of low productivity – the yield during the few years when the site can be cropped offer more immediately secure returns than the higher income that could in principle be obtained over time by maintaining the forest cover.

### **Commercialisation and Access to Markets**

Access to markets naturally increases the importance of forests as a source of income for local people. However, many forest products are low value goods, and are sensitive to price and transport costs. Products such as fruits are perishable and so are marketable only locally. The seasonal nature of supply of many of these products easily results in supply/demand imbalances and a collapse in prices.

The ease of entry into many forest-based activities similarly frequently leads to excessive capacity and output. With improvements in rural infrastructure, the markets for many forest products are penetrated by low cost factory made alternatives from the urban industrial sector. Though some product lines, such as woodworking and handicrafts, tend to have the potential to upgrade and become more competitive, most do not. Many forest-based activities are thus of low value, vulnerable to competition or deterioration in their raw material costs, and offer only a fragile and weak basis for livelihoods, and are likely to collapse or be abandoned in favour of livelihoods that

offer greater income security and prospect for growth. The role of forest products in forest fringe communities can therefore change sharply, with shifts towards or away from dependence on the forest often occurring over very short periods of time. Patterns of use at any one time may therefore tell little about future needs of practices in that situation.

### **Shifts From Extractive to Managed Production**

The history of agriculture suggests that the emergence of forest based products of major commercial importance would lead to their domestication as plantation crops, rather than continued, expanded, harvesting from the forest. Recent studies have pointed out that even subsistence supplies tend in practice to come from semi-managed sources rather than from the unmanaged forest. In locations studied in the forest zone in West Africa most forest foods and saleable produce were to be gathered or hunted in secondary wooded formations such as bush fallow and farm woodland, with only selected products coming from the forest itself.

To some extent this is a matter of proximity and convenience. But to a considerable extent it reflects manipulation of the forest structure in favour of species and products which either do not occur in the natural forest or which can be produced more intensively in a fallow or managed system. As pressures on land reduce the area under secondary tree cover, farmers widely move to planting particular species of value to them. The distinction between production from the forest and from domesticated sources is therefore not always a very clear one.

### **Traditional and Cultural Values**

Typically, use and management of the components of the forest is dictated by an elaborate structure of constraints and obligations stemming from the values placed on forest vegetation because of spiritual and cultural associations. Forests have positive and negative values in this respect: as protectors and providers and as areas to be feared or as deterrents to development.

One recent study of a situation in West Africa summarised the balance of interests and values involved as follows:

".....it would seem that [for the local people] high forest is seen to have little value in and of itself. In practical terms, the bulk of subsistence-oriented forest products derives from secondary successions, not from high forest. But the greater value placed on 'bush' compared to high forest, depends on more than practical considerations alone. In rural Mende eyes, social life begins and ends at the edge of a forest clearing. The energy released by the conversion of forest to farm and bush is a major source of power in society.... the farmer about to fell trees to make a farm ... will invoke the patient understanding of the ancestors and spirits of the land for the necessary damage he must inflict on the bush. The recovery of the bush from a period of cultivation ... is a sign that ancestral blessing has not been withheld".

In practice, therefore, subsistence, income, environmental and social and cultural impacts of the forest are intimately inter-related. People's decisions are dictated by their responses to the whole, rather than by assessments of the costs and benefits of each separately. But their focus is invariably on present local needs, not on the wider values of the forest or its more widely diffused benefits.