



The material that follows has been provided by the [Overseas Development Institute](#)

ASSESSING THE POTENTIAL OF FOREST PRODUCT ACTIVITIES TO CONTRIBUTE TO RURAL INCOMES IN AFRICA

Michael Arnold and Ian Townson

Large numbers of rural households in Africa continue to generate some of their income from forest product activities. However, much of this involvement is in labour intensive low return activities that help to provide the poor with an income safety net, but which decline once better alternatives become available. Expansion of forest product activities is likely to be concentrated on a limited number of products and services for which demand grows with rural and urban development. The paper reviews the implications of this dichotomy for support and resource management strategies.

Policy conclusions

- Intervention strategies need to recognise the distinction between those who are engaged in forest product activities because they lack alternative means of sustenance, and those who are responding to market opportunities.
- It may be more fruitful to help people engaged in activities with declining prospects to move into other more rewarding fields of endeavour, rather than seeking to raise their productivity in their current line of work.
- Support to sustainable types of activity needs to be geared to meet the different needs of those at different points in the enterprise development process (start-up, expansion from a small beginning, further upgrading, etc.).
- Management of the resource needs to take account of the declining prospects for some of the presently more important products, the likely concentration of demand on a limited number of products of growing commercial value, and the need often to maintain forest resources for their 'buffer' role in times of hardship.
- Where reliance on forest products is likely to decline, care needs to be taken not to commit communities to institutional arrangements that they are unlikely to be able to sustain once forest products are less important in their livelihoods.

Introduction

In recent years, there has been increasing interest in the contribution that forests make as a source of local rural employment and income. This stems from arguments that the contribution is important in terms of both rural livelihoods and sustainable forest management.

Research on non-farm rural employment and income as a whole has shown that small-scale production and trading activities in forest products constitute one of the largest parts of rural non-farm enterprise employment (Liedholm and Mead, 1993). It has also become evident that harvesting and employment of this kind often constitute one of the main demands placed upon forests and other tree resources.

Such findings and assumptions have been an important factor in moves to give much higher priority in forest management to meeting local needs, and to increasing local involvement in (and responsibility for) forest conservation and management. This trend has been reinforced by arguments that, as much local forest use comprises non-timber products, it is likely to be less ecologically destructive than timber harvesting, and therefore a sounder basis for sustainable forest management.

However, until recently information about actual production, trade in and demand for, products produced at a household and small enterprise level has been mostly situation specific and restricted to a particular point in time. The present paper draws on the results of a number of large surveys in different countries in Africa which do provide a basis for understanding some of the broader patterns of activity and use, and for identifying how these, and their importance in rural livelihoods, are changing. The focus is on income generating activities, but takes account of concurrent subsistence use of many of the same products.

Forest products and rural livelihoods

Recent surveys in six countries in eastern and southern Africa (Liedholm and Mead, 1993) disclosed that on average 2.3 per cent of those surveyed in rural populations, and 0.8 per cent in urban populations, were obtaining some income from the small wood and cane/grass/bamboo based activities included in the surveys (Arnold et al, 1994). A comparable survey in the more heavily forested zone in southern Ghana, where the survey covered a wider range of activities and participants, found that 10 per cent of the rural population was gaining some income from forest product activities (Townson, 1995a). These results suggest that for Africa south of the Sahara, about 15 million people could be engaged in such activities.

Small forest product enterprises are prominent where there are dispersed rural markets for simple, low cost products, and where high transport costs protect them against competition from urban supplies. They also occur where there are raw materials that can be effectively tapped on a small scale. The large numbers of people engaged in them imply that most activities are characterised by ease of entry.

Most forest product activities are engaged in part-time, by farm households that cannot raise enough to be food self-sufficient year round. In the areas surveyed, about two-thirds of the activities involved just a single person. A forest product based activity usually constitutes just one activity within an agricultural household.

The importance of forest income usually lies more in its timing than in its magnitude. It seldom accounts for a large share of a household's total income, but is often important in filling seasonal or other cash flow gaps, and in helping it to cope with particular expenses, or to respond to unusual opportunities. Seasonality may reflect availability of the raw material, needs for additional cash at particular points in the annual cycle (e.g. to purchase seeds or hire labour), seasonal fluctuations in demand, or the seasonal availability of labour for gathering and processing.

Where people have had relatively unrestricted access to forests, forest products income is often particularly important for poorer groups within the community. Though it is often the wealthier in a community, with more resources to devote to forest gathering and production who are the heaviest users, the poor usually derive a greater share of their overall needs from forest products and activities. In the households surveyed, women accounted for roughly half the proprietors and workers in forest product activities. Ease of entry, and being able to combine many of the activities with household tasks, mean that they are often an important source of the income that women need, and they can be more dependent on such income than men.

However for those activities that do require some access to skills, technology or capital, or more labour, the poor may find it difficult to take advantage of opportunities presented by markets. Within communities, control over these opportunities and over the resource can be captured by the wealthier and more powerful, and the households with the most labour, at the expense of the poor. The poor, with limited labour resources to devote to forest product gathering, may also be able to increase their sales only by diverting supplies from subsistence use—as has been happening with bushmeat in West Africa (Townson, 1995b; Falconer, 1990).

Patterns of change in forest product activities

Growth of forest product activities can come from creating new enterprises, and from expansion of existing enterprises (and decline through closure of businesses or their reduction in size). The results of the surveys summarised in Boxes 1 and 2 show that most activities exhibit very high rates of birth of new enterprises, but rates of death of enterprise activities are also very high, particularly in the early years of their existence. Very few of those enterprises that survive grow in size of workforce at all; most growth in employment comes from new start-ups.

Substantial differences in the performance of different forest product activities and different types of participant reflect a number of factors. Slow growth is often associated with the fact that most production is tied to rural markets, and slow growth in agricultural activity and rural incomes. Some forest products are 'inferior goods' that fall out of consumption patterns as incomes rise, or are vulnerable to competition from factory made alternatives as improved transport infrastructure opens up rural areas to outside supplies. Other activities can become increasingly disadvantaged because of remote location.

The evolution of some activities is conditioned by the fact that features of their production or distribution enable or prevent an increase in size of the component enterprises, or value addition by diversifying into additional stages of the process, or organising the process more efficiently. The opportunities to generate income from some of the forest product activities with most potential may require managerial or

particular technical skills, or access to capital or credit, and will therefore be available only to some. Some of the activities are arduous and only marginally profitable.

The impacts of these and other factors are illustrated in Boxes 1 and 2. A substantial share of forest product activities engaged in by large numbers of people are likely to have poor growth prospects. They include the simplest gathering and trading activities, and some of the simple processing activities (e.g. basic mat and basket making). Such activities are characterised by ease of access and low barriers to entry.

Participants in such activities are consequently likely to find themselves in over-saturated markets, and only able to obtain very low returns to labour. Few are able to expand beyond the single-person (or at best family-based) enterprise, operating from the homestead. They are thus activities likely to be abandoned as their competitiveness is eroded, or if more attractive options become available.

Activities that grow and provide more sustainable contributions to livelihood enhancement, tend to be characterised by capital and skill requirements, which inter alia, establish conditions of entry and expansion that limit participation in them. Those running such businesses are likely to be in them because of the good market and profitability prospects they offer, and not because they have no better alternative. Markets tend to be large, urban as well as rural, and demand exhibits positive (though usually declining) elasticities with rising income. This group includes products and processes, such as those involved in the manufacture of furniture, involving technologies that enable businesses to evolve and improve so that they can compete with modern sector counterparts and products. Others, such as carving and some traditional medicines, are able to maintain market share because there are no modern sector equivalents.

In short, much household and artisanal involvement in production and trading of forest products is in labour-intensive, low-return, activities associated with poor, stagnant rural economic conditions. They form part of a larger body of rural non-farm activities that act as a sponge absorbing those unable to obtain employment, or sufficient employment, on their own farms or as labourers. In situations where per capita incomes are rising, such activities tend to give way to more productive and remunerative activities such as vending, trading and production of goods and services to meet growing and diversifying demand. At that stage, involvement in forest products increasingly shifts from a part-time activity by very large numbers of people to more specialised year-round operations by fewer people, from household to workshop scale, and from rural to small settlement and urban locations.

These two categories are not mutually exclusive. Under increasing differentiation within rural communities, activities facing growing market opportunities and those facing declining opportunities often co-exist. It is important in shaping policies and intervention strategies to be able to identify the particular pattern of needs and opportunities of the situation in question.

Box 1. Patterns of change in forest product activities in southern and eastern Africa

In six countries surveyed recently in the course of the GEMINI programme in southern and eastern Africa—Botswana, Kenya, Lesotho, Malawi, Swaziland and Zimbabwe—an estimated 763,000 persons were employed in small-scale production or trading in four types of forest product activity: grass, cane and bamboo products (42 per cent), woodworking (27 per cent), other wood products (11 per cent), and forest products trade (20 per cent). In the period covered by the surveys, the net number of new forest product enterprises was increasing. Enterprise birth rates were very high, but so were closure rates, particularly in the early years of an enterprise. However, only about a half of forest products enterprise closures were reported as being for bad business conditions (other reasons being to take up other options or for health or other personal reasons).

Employment in those small forest product enterprises that had survived had been growing overall at 11.5 per cent per year. However, only a minority of enterprises grew in size of workforce at all; most growth in employment came from new start-ups. Above average growth rates were more likely to be found in enterprises that were young, and those that started out small. Enterprises located in commercial districts were more likely to have higher growth rates than their counterparts operating out of the home. Female-headed forest product enterprises were likely to grow less rapidly than those operated by males. Raw material availability was cited as a major problem by more than a third of entrepreneurs surveyed.

Employment in woodworking recorded a much faster annual rate of growth (30.6 per cent) than in grass, cane and bamboo (3.1 per cent), and in other wood products (5.1 per cent)—while trade was growing at 18.5 per cent. At the time of the surveys, about 80 per cent of jobs existing in grass, cane and bamboo, and 78 per cent in forest product trade, came from new start-ups. In woodworking, by contrast, 55 per cent came from expansion of existing enterprises. Of those that did grow by adding to the workforce, most grew only by small amounts. Only in woodworking did a substantial share (30 per cent) of the growth in employment come from enterprises that graduated from being very small to intermediate sized enterprises.

The faster growth in woodworking reflects a low cost technology that allows units to expand incrementally (i.e. by adding more and better equipment), the improved efficiency that comes with increase in unit size, growth in urban as well as rural demand for their products, and a high proportion operating in premises outside the home closer to markets and services. In contrast, grass, cane and bamboo activities are overwhelmingly single person activities operating from the home, and producing products (baskets and mats) that are being displaced in their rural markets by alternative products. Their poor competitive position tends to be aggravated by low barriers to entry in terms of skills and capital, resulting in excessive numbers of producers, intense internal competition and marginal returns to labour, and lack of affordable technology options to improve returns to labour.

Source: Arnold et al, 1994

Box 2. Patterns of change in forest product activities in the forest zone in Ghana

A recent survey in the forest zone in southern Ghana indicated that 38 per cent of rural households had at least one person generating some income from forest products. Density of involvement was linked to access to markets, and for many products with availability of raw materials as well. Aggregate employment in forest product activities was growing at 6.9 per cent annually. However, only one-fifth of the enterprises grew in size of workforce; the rest either showed no growth or declining size. Those enterprises that were growing were doing so on average at a rate of 38.7 per cent annually.

A third of those involved were engaged in the six types of activity that were growing at more than 10 per cent annually (akpeteshie spirit, carpentry, charcoal, honey, mushrooms and chew sponge). Two-fifths were engaged in activities showing less than 5 per cent growth (bushmeat, wrapping leaves, snails, rafia thatch, cane products, mats). The faster growing activities were mainly ones with a high proportion of units with an expanding workforce. Growth also seemed to be associated with entrepreneurs who were responding to market and profit opportunities rather than because they had no alternative (the incentive cited by 60 per cent of all those engaged in forest product activities), and activities requiring start-up capital. Some of the slowest growing, or declining, activities faced shrinking market demand (mats, rafia thatch, sponge) or depressed prices (pestles, cane products).

Growth was also associated with participants' perceptions of the raw material situation. After finance, raw material was the most frequently cited problem, and those finding that this was their main problem were less likely to have plans to expand their business. Two thirds of entrepreneurs reported that availability had decreased in the previous five years. For forest products as a whole nearly half of producers named farm bush as their most important source of raw materials, and a quarter named the farm. Forests were important sources for a few of the faster growing activities (mushrooms), and for some of the larger but more stagnant activities (wrapping leaves, cane products, snails, sponge and chew sponge). Some of the most important products were hardly drawn from the forest at all—palm wine and akpeteshie spirit being produced from oil palm, and firewood and charcoal from clearing farm land.

Source: Townson, 1995a

Implications for support to forest product activities

The large numbers of people who succeed in setting up new commercial activities suggests that in general there is little need for measures to attract new entrants. However the high rate of attrition, particularly amongst new enterprises, indicates the scope for interventions to help achieve higher proportions of survival and success.

It is important to recognize that people searching for activities with which they can economically sustain themselves face different needs from those responding to market opportunities. The process of enterprise start-up faces different problems and constraints from those faced by enterprises seeking to expand. Among the enterprises that are growing, those seeking to expand from a one- or two-person scale have different needs from those aspiring to graduate from small to medium size.

The fact that so many people are engaged in low-return forest product activities which scarcely have prospects beyond short-term existence raises particular issues. It may therefore be more fruitful to help people move into other more rewarding fields of endeavour rather than seeking to raise productivity in their current line or work. The alternatives may be other forest product activities, but could equally be activities not associated with forests or trees. In either case, care needs to be taken to ensure that future growth prospects are indeed better in the alternative product lines to which people are being encouraged to move. However, in the short term there may be no option to these minimal-return forest product activities for many, in which case interventions need to focus on how to support them until better options do emerge.

It is also important to be able to recognise when forest product activities are important in particular transitional periods. For example, production and sale of firewood by immigrants or young farmers engaged in clearing land and establishing new farms (Box 2), or the use of forest and tree resources as a reserve which can provide more income, and subsistence goods, in times of hardship.

For established enterprises, a credit program that provides small amounts of working capital may be of immense help to a very small enterprise seeking to grow a little, and begin to benefit from the substantial gains in efficiency that such incremental growth can bring. Medium scale enterprises seeking to graduate to a larger size, by contrast, would generally need more complex forms of assistance, including help in searching out new markets, in management skills and in production control. It is generally more expensive to offer this type of assistance, but benefit/cost ratios can still be favourable if the result is substantial growth in employment, efficiency and incomes earned by the clients.

Many of the support services needed are those provided for the small enterprise sector generally. Forest product activities may face particular needs for assistance in dealing with marketing and raw material problems. Assistance in marketing needs to focus on trades that are sustainable and growing, and in which small producers are likely to remain competitive. Domestic markets usually provide larger, and more stable, outlets than some of the industrial and niche export markets that have tended to attract the attention of intervention programmes recently. Similarly, intervention should avoid encouraging product expansion that will lead to depletion of the raw material resource (as happened, for example, as a result of promotion of basket sales in Botswana).

Implications for resource management

The results of the surveys, and of case studies, indicate that access to raw materials is a problem for those engaged in many forest product activities (Box 1), and that shortages are getting worse, to the point of affecting producers' expansion plans (Box 2). Increased local use and clearance for agriculture appear to be the two most widespread reasons.

Much harvesting of forest products is undertaken by populations who combine this with some form of agriculture, and is taking place not in pristine forest, but in secondary forests, bush fallow or farm bush, or from trees planted on farms (Box 2). In many situations, fallow vegetation, farm bush and even the forest itself are actively managed by local users to conserve or encourage species of value, and to make the resource easier to use.

Many 'forest' products are no longer drawn from forests. Their supply can be as much fashioned by agricultural as forest factors—e.g. the availability of agricultural tree crops such as oil palm, of fuelwood as a by-product of field clearance, and seasonal patterns of labour availability and allocation on the farm. Resource management is therefore likely to need to be as much focused on management of farm resources and agro-forestry as on forest management.

However, where fallow cycles are shortening, bush fallow and farm bush are likely to be diminishing as resources. Reliance on forests and other common pool tree resources may therefore increase in the future. Where demand for forest products is likely to become increasingly selective, it would be logical for management of forests to focus on increasing output of that part of the resource that produces this limited range of products. However, where the forest continues to serve as a 'buffer' which people fall back on for supplies of a variety of subsistence and commercial goods in times of hardship, it could be more appropriate to manage it for the broad range of outputs this implies. In other words, forests might sometimes need to be managed to support growth, and sometimes to provide a safety net.

Such conclusions have implications for some contemporary policy initiatives. Much present use of forest products is based on resources that are held in overlapping combinations of private, state, common property and open access tenure regimes. Unless land titling is carried out in ways that protect these user rights they could be threatened with extinction. The insecurity of tenure that such change, or threat of change, can induce is also likely to favour short-term activities, such as destructive harvesting and slash-and-burn agriculture that assure more certain though (over time) lower returns than might be obtained from forest conservation and management.

Concerns have also been expressed that insufficient attention has been paid in some programmes to devolving responsibility for forest resource management to the community level and building local capacity to exercise communal control effectively. As a result, control over the resource has often passed into the hands of an elite. This needs particular attention where the role of forest products is likely to decline, as people gain access to better income generating alternatives. Care needs to be taken not to commit communities to institutional arrangements which they are unlikely to be able to sustain once the incentive of reliance on forest products diminishes.

Conclusions

Very large numbers of households continue to generate some of their income from forest product activities. For many, entry into such activities occurs principally in situations where they are unable to obtain sufficient income from agriculture or wage employment. For such households, these activities comprise an important part of their survival strategy, forming part of their 'safety net', and are likely to be displaced once more rewarding or easier alternatives become available. Entry into other forest product activities in contrast, is likely to be in response to growing demand and is likely to form part of the strategy of more dynamic households. Managing 'forest' resources to meet rural household income needs should therefore take account of the different roles they play in the strategies of different categories of household. It also needs to respond to the fact that, as a consequence, demand for some forest products will be declining while for others it will be growing.

References

Arnold, J.E.M., Liedholm, C., Mead, D. and Townson, I.M. (1994) 'Structure and growth of small enterprises in the forest sector in southern and eastern Africa'. *OFI Occasional Papers No. 47*. Oxford: Oxford Forestry Institute, and 'Growth and Equity through Microenterprise Investments and Institutions (GEMINI) Project' *GEMINI Working Paper No. 48*. Bethesda: GEMINI.

Falconer, J. (1990) 'The major significance of 'minor' forest products: The local use and value of forests in the west African humid forest zone'. *Community Forestry Note 6*. Rome: FAO.

Liedholm, C. and Mead, D.C. (1993) 'The structure and growth of microenterprises in southern and eastern Africa' in 'Growth and Equity through Microenterprise Investments and Institutions (GEMINI) Project' *GEMINI Working Paper No. 36*. Bethesda: GEMINI.

Townson, I.M. (1995a) *Patterns of non-timber forest products enterprise activity in the forest zone of southern Ghana*. Report to the ODA Forestry Research Programme. Oxford: Oxford Forestry Institute.

Townson, I.M. (1995b) 'Forest products and household incomes: A review and annotated bibliography'. *Tropical Forestry Papers 31*. Oxford: CIFOR and Oxford Forestry Institute.

Acknowledgements

The research reported on here was funded by the Forestry Research Programme of DFID, and involved analysis carried out jointly with researchers from the USAID-supported GEMINI project. The authors wish to express their thanks to Carl Liedholm and Donald Mead of Michigan State University for their contribution to that work. The views expressed here are those of the authors alone.

Michael Arnold can be contacted at 19 Hayward Road, Oxford OX2 8LN, UK Tel: +44 (0)1865 557 811, Fax: +44 (0)1865 511 107, Email: MikeArnold1@compuserve.com Ian Townson can be contacted at Tilhill Economic Forestry, Grange Road, Tilford, Farnham, Surrey GU10 2DY, UK Tel: +44 (0)1252 794 771, Fax: +44 (0)1252 794 977.

Natural Resource Perspectives present accessible information on important development issues. Readers are encouraged to quote from them for their own purposes or duplicate them for colleagues but, as copyright

ISSN: 1356-9228
© Copyright: Overseas
Development Institute 1998

DFID Department for

holder, ODI requests due acknowledgement. The Editor welcomes readers' comments on this series.

Administrative Editor: Helen Suich
Series Editor: John Farrington

International Development

This series is published with financial support from the Department for International Development (formerly the Overseas Development Administration). Opinions expressed do not necessarily reflect the views of either ODI or DFID.

Overseas Development Institute
Portland House
Stag Place
London SW1E 5DP, UK

Telephone +44 (0)171 393 1600

Fax +44 (0)171 393 1699

Email: nrp@odi.org.uk



Home Page
