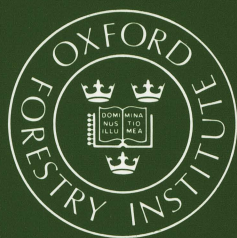


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no 47

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IN SOUTHERN AND EASTERN AFRICA**

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J.E.M. Arnold¹, C. Liedholm², D. Mead² and I.M. Townson¹

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TABLE OF CONTENTS

Preface	iii
Summary	v
INTRODUCTION	1
1.1 Background	1
1.2 Methods and definitions	1
1.3 Boundaries and limitations of the study	3
II BASIC CHARACTERISTICS	4
2.1 Size, structure & location of the forest products sector	4
2.1.1 Size of the forest products sector	4
2.1.2 Breakdown by sub-sector	5
2.1.3 Location by stratum	7
2.2 Enterprise characteristics	9
2.2.1 Size of enterprise	9
2.2.2 Composition of the work force	10
2.2.3 Location of premises	11
2.2.4 Operating period	11
2.2.5 Markets and marketing	12
2.2.6 Raw material and other inputs	12
2.2.7 Enterprise age distribution	13
2.2.8 Enterprise efficiency	13
2.3 Entrepreneur characteristics	14
2.3.1 Gender and age of entrepreneurs	14
2.3.2 Education and previous activity	15
2.3.3 Contribution to entrepreneur's income	16
III DYNAMIC CHARACTERISTICS	16
3.1 Growth in enterprise numbers from net enterprise creation	16
3.1.1 Enterprise births	17
3.1.2 Enterprise closures (deaths)	17
3.2 Growth from net expansion of existing enterprises	19
3.2.1 Enterprise growth rates	19
3.2.2 Growth rates and enterprise characteristics	20
3.3 Employment growth among small forest products enterprises	23
3.3.1 New start-ups vs. expansion jobs	23
3.3.2 Job creation through enterprise expansion	24
3.4 Perceived problems faced by small enterprises	26
IV PROJECT, POLICY AND RESEARCH IMPLICATIONS	27
4.1 Differential growth potentials within the sector	27
4.2 Access to supplies of raw materials	29
4.3 Meeting the different needs for support at start-up and during expansion	29
References	32
Appendices	35

PREFACE

The analysis reported on in this document was carried out under Project R5590: Sustainability of Economic Activities Based on Non-timber Forest Products, which forms part of the Forest Research Programme supported by the U.K. Overseas Development Administration. The field work and data assembly on the underlying surveys were supported by the U.S. Agency for International Development, Bureau for Private Enterprise, Office of Small, Micro, and Informal Enterprise, through core funding to the Growth and Equity through Microenterprise Investments and Institutions (GEMINI) Project, contract number DHR-5448-C-00-9080-00.

The present study was carried out jointly by members of the two projects. J.E. Mike Arnold and Ian Townson are, respectively, Senior Research Officer and Research Officer at the Oxford Forestry Institute. Carl Liedholm is Professor of Economics, and Donald Mead is Professor of Agricultural Economics, at Michigan State University. The authors wish to express their appreciation for helpful comments on a draft of the study by two reviewers. As the content could be of relevance to those working in forestry and in small enterprise programmes, it is planned that the study will appear both as an OFI Occasional Paper and as a GEMINI Working Paper.

SUMMARY

Employment and income from small-scale non-farm enterprise activities are of growing importance in the rural and urban economies of developing countries. Enterprises using forest products everywhere make up an important part of the small enterprise total. The present study has been undertaken in order to explore the small forest products enterprise sector in a region where recent surveys have generated a more wide ranging set of data about small enterprise performance than has been available previously.

In the six countries covered in southern and eastern Africa - Botswana, Kenya, Lesotho, Malawi, Swaziland and Zimbabwe - an estimated 763,000 persons are employed in 408,000 small enterprises engaged in activities based on the transformation or commercialization of forest products. On average, small forest products enterprises provide employment for 16 persons for every thousand head of population, though this varies considerably from country to country.

Structure

Despite differences in size and stage of economic development in the different countries, the structure of the small forest products enterprise sector in each is broadly similar. In the region as a whole, the largest number of those working in small forest products enterprises (about 42%) are in enterprises using grass, cane and bamboo. The next largest sub-sector (27%) is woodworking. Another 20% are engaged in the trade and transport of forest products, with the remaining 12% in smaller and more heterogeneous categories (charcoal-making, wood carving and sawmilling). Nearly nine-tenths of small forest products enterprise employment, and nearly all employment in grass, cane and bamboo, is in rural areas. However, 26% of those working in woodworking and 21% of those in trade are in urban areas.

The majority of small forest products enterprises operate from the homestead, and nearly all operate for 11 or 12 months of the year, and 20 to 30 days a month. The average size of enterprise is 1.87 workers, and 67% are single person enterprises; only one percent have more than ten workers. All enterprises are heavily dependent on the proprietor and the proprietor's family as members of the workforce; paid workers are an important part of the total (28%) only in woodworking. Women dominate the workforce (76%), and ownership (79%), in grass, cane and bamboo and are strongly represented in trade (57% and 62%). Men dominate woodworking (93% and 96%). Entrepreneurs in woodworking are more likely to have had previous small enterprise experience, and some education and training, than those in the other sub-sectors.

Growth

Growth can come from creating new firms, and from expansion of existing firms. In the period covered by the surveys, about 80% of existing jobs in grass, cane and bamboo, and 78% in forest products trade, came from new start-ups; in woodworking, in contrast, 55% came from expansion of existing enterprises. Growth by expansion is likely to prove more secure, as it usually reflects market demand, whereas new start-ups

are more likely to be driven by the search for new livelihoods, and to result in single person units, which is the least efficient size of enterprise.

The net number of new forest products enterprises is increasing. Enterprise birth rates are very high, but so are closure rates, particularly in the early years of an enterprise. Only about a half of forest products enterprise closures were reported as being for 'bad business conditions'. Many of the entrepreneurs who closed enterprises, particularly among those engaged in woodworking, subsequently start new enterprises.

Employment in those small forest products enterprises that have survived has been growing at 11.5% per year, with a much faster rate of growth for woodworking (30.6%) than in grass, cane and bamboo (3.1%), and in trade (18.5%). Above average growth rates are also more likely to be found in enterprises that are young, and those that started out small. Enterprises located in commercial districts are more likely to have higher growth rates than their counterparts operating out of the home. Female-headed forest products enterprises are likely to grow less rapidly than those operated by males.

Only a minority of enterprises grew at all. Of those that did grow by adding to the workforce, most grew only by small amounts. Only in woodworking did a substantial share (30%) of the growth in employment come from enterprises that graduated from being very small to intermediate sized enterprises.

At start-up, grass, cane and bamboo producers identified marketing as their main problem, while that for woodworking enterprises was finance. Currently, access to inputs has become the most frequently mentioned problem in both sub-sectors.

Implications

A number of implications for project and policy interventions, and for further work to define more precisely problems and intervention needs, can be identified:

- **Growth potential:** The woodworking and forest products trade sub-sectors are likely to continue to grow more strongly than the grass, cane and bamboo sub-sector. Most enterprises in the latter will probably remain small, weak, unable to expand, and able to provide no more than a minimum livelihood to those engaged in them (except where they are producing for craft rather than utility markets). However, it continues to be the sub-sector employing the largest number of people, and is therefore still likely to be of considerable importance in the near future. One of the roles for support programmes is likely to be to help those engaged in this activity to move to more remunerative and sustainable employment opportunities.
- **Raw material supplies:** Access to supplies of raw materials features as a more prominent problem for forest products enterprises than for most other small enterprise sub-sectors. For the grass, cane and bamboo sub-sector this may reflect growing raw material shortages as use of the presently unmanaged resource base increases. In woodworking, the problem can also reflect timber disposal and lumber trade practices that often make it difficult for small enterprises to compete for available supplies, and

lack of access to working capital to enable them to acquire and hold raw material stocks. However, there is little information about these supply issues, and this area is one that warrants further investigation.

- Needs at start-up and in expansion: The high rate of attrition among start-ups suggests that support at this stage should focus on helping potential entrepreneurs identify prospective lines of activity that are compatible with their capabilities and experience. It may also be more efficient to concentrate limited resources for support services mainly on helping established businesses. Credit facilities for working capital are likely to be important for enterprises seeking to expand by small amounts. For more substantial business expansion, help in searching out new markets, in management skills and in production control become important.

INTRODUCTION

1.1 Background

Small-scale enterprise (SSE) activities represent an increasingly important source of employment and income in both the rural and urban economies of developing countries. In stagnant or slowly growing situations, small enterprise activities provide employment to surplus labour. In conditions of growing incomes they contribute to the process of growth, diversification, and the shift to more productive uses of resources.

As they function mainly in the informal sector, most small enterprise activities escape the usual reporting and recording nets. Until recently little was known about them. Early surveys and analyses designed specifically to study small enterprises have shed light on their magnitude and overall structure. Enterprise activities using or trading products from forests and woodland have been found to make up an important part of the small enterprise total in all parts of the developing world. It has also become clear that they account for a large part of total employment and economic activity within the forest sector (FAO 1987).

However, there is still very little known about their contribution to the economy, or about the factors that determine their dynamic performance, and future prospects. The present study has been undertaken in order to explore the small forest products enterprise sector in a region where recent surveys have generated a more wide ranging set of data about small enterprise performance than has been available before. It is hoped that the findings presented in this paper will have application to the understanding of this small enterprise sector more widely than just in the region covered by these surveys.

The study is based on data from similar country-wide surveys of small enterprises in 6 countries in southern and eastern Africa - Botswana, Kenya, Lesotho, Malawi, Swaziland and Zimbabwe (see Appendix Table A1 for basic data on these countries). All the surveys were carried out as part of the Growth and Equity through Microenterprise Investments and Institutions (GEMINI) Project supported by USAID, under the overall supervision of staff of Michigan State University.

Analysis of the data from the surveys has also drawn on information from a number of related studies by the same research group, and other case studies of small forest products enterprises within the region.

1.2 Methods and definitions

The national surveys in each country were designed and carried out employing a common methodology, definitions and data processing and analytical procedures. Each survey was based on a random selection of enumeration areas, in both urban and rural areas, stratified by degree of urbanisation and other key characteristics. Within the selected areas, each house or business was visited to determine whether any of the

residents was engaged in a small enterprise activity¹.

A small enterprise was defined as providing employment for 50 or fewer workers (including unpaid family members), and if at least half of the output is sold. It included the category of "microenterprise", defined as employing 10 or fewer workers. The surveys covered enterprises engaged in all types of manufacturing activity, and in commerce, transport and other services. Manufacturing covers the processing of agricultural and forest products, but not agriculture, forestry, hunting, fishing or mining per se. A standard United Nations definition of urban (localities with more than 20,000 inhabitants) is used in this report. This stratum is referred to in the text and tables as "large urban". Localities with populations less than 20,000 are disaggregated into "secondary towns" with populations over 3,000 and "rural areas" with populations below 3,000.

Activities were defined using the International Standard Industrial Classification (ISIC). The ISIC categories that cover forest products are the following:

Manufacturing (3)

Sawmilling (3311)

Grass/Cane/Bamboo Work (3312)

Coal/Wood Processing (3313)

Wood Carving (3319)

Carpentry (3320)

Furniture Making (3321)

Other Woodworking (3322)

Trade (6)

Vending Forest-Based Products (6205)

Retail Forest-Based Products (6230)

The category "Coal/Wood Processing" has been taken to cover mainly production of charcoal and fuelwood. Difficulties were encountered in the field in distinguishing between carpentry and furniture making enterprises, and these and other woodworking have therefore been aggregated into a single category "Woodworking". Difficulties also arose in identifying the difference between vending and retail, and these two categories have therefore been combined as "Forest products trade". In Kenya a "business code" was used instead of the ISIC codes. This has meant that the data from Kenya is only comparable with that from the other surveys when the individual enterprise categories are aggregated in the way detailed in Appendix Table A5.

¹ The six country surveys are reported on separately - Botswana by Daniels and Fisseha (1992), Kenya by Parker and Torres (1994), Lesotho by Fisseha (1991), Malawi by Daniels and Ngwira (1992), Swaziland by Fisseha and McPherson (1991), and Zimbabwe by McPherson (1991). The methodology is described in McPherson and Parker (1993), and results at the regional level are reported on by Liedholm and Mead (1993).

1.3 Boundaries and limitations of the study

The data available from the surveys has enabled the boundaries of analysis of the small forest products enterprise sector to be extended, by comparison with what was possible previously (FAO 1987), to cover trade as well as manufacturing activities. They also provide a basis for analysis of dynamic as well as static characteristics. The potential for doing so is discussed further in part III of the report.

The bulk of the analysis is based on data gathered from all enterprises visited in each survey, but some data were derived from supplementary questionnaires applied to only a small part of the total sample or from closed business questionnaires administered to proprietors of business that were no longer operating² (see Appendix Tables A2, A3 and A4 for details of the number of enterprises enumerated in each survey). With a much smaller data set to draw on, the conclusions reached from the analysis of these results cannot be relied upon with the same statistical confidence as the results from the base surveys. As data on the number of workers at start-up and the age of the enterprise were only collected in the supplementary questionnaire in Lesotho, this country is not included in the analysis of employment dynamics in part III. As sampling densities were higher in urban than rural areas, pooled information from the supplementary questionnaires, which cannot be weighted for population size, may not be fully representative.

The definition of small enterprises outlined above has a number of implications for the coverage of some forest products subsectors and activities. As information is gathered only from enterprises that sell more than half of what they produce, it will exclude those households that produce, or gather, and sell small quantities of fuelwood, medicinal plants or other forest products, often on a seasonal basis. Trade in fuelwood is also likely to be under-reported if the enterprises are itinerant and do not work from fixed premises, and so escape attention during the survey field work. Also, some forest products, such as fruits from the forest, may get recorded under ISIC categories other than forest-based categories.

The collection of information by four-digit ISIC codes means that analysis has to be at the level of the aggregate of the activities covered by each code (or the combinations of codes discussed in the previous section). The data base therefore does not permit disaggregation to look at individual activities, such as basket making and mat weaving within the cane, grass and bamboo aggregate, or the relationships among the component activities - e.g. between enterprises producing and trading canes, and those (such as mat and basket making) using canes as inputs into their processing or manufacturing activities³.

² These three survey instruments are referred to in the text as Existing Enterprise Questionnaires, Supplementary Questionnaires and Closed Business Questionnaires, respectively.

³ For a review of the case study literature that does explore such relationships see Townson (in press).

II BASIC CHARACTERISTICS

2.1 Size, structure & location of forest products activities

2.1.1 Size of the forest products sector

In the six countries for which nation-wide survey data are available, there are about 2.5 million small enterprises in all sectors of the economy. As is shown in Table 2.1, about one sixth of the enterprises (408,000) are engaged in activities based on the transformation or commercialization of forest products (see Appendix Table A5 for enterprise number by country and subsector). This share ranges from a high of 34% in Swaziland to a low of 2% in Botswana.

Table 2.1
Enterprise and employment numbers

Enterprises /employment	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Enterprises (thousands)							
All SSEs	49	910	103	566	51	845	2524
All forest products SSEs	1	128	6	80	18	175	408
Forest products SSEs as % of all SSEs	2.0%	14.1%	5.8%	14.1%	34.3%	20.7%	16.2%
Employment (thousands)							
All SSEs	94	2033	165	1009	96	1278	4675
All forest products SSEs	2	350	11	132	31	237	763
Forest products SSEs as % of all SSEs	2.1%	17.2%	6.7%	13.1%	32.3%	18.5%	16.3%

Source: Existing Enterprise Questionnaires

The estimated 763,000 persons employed in the small forest products enterprises account for 16.3% of the approximately 4.7 million persons engaged in the small enterprise sector, which in total provides jobs for about 20% of the population of working age in these six countries. On average, small forest products enterprises provide employment for 16 persons for every thousand head of population (Table 2.2). However, the density of employment is considerably lower in Lesotho and Botswana, which are also characterised by the small share of their small enterprise total that are in the forest

products sector (see Table 2.1). It is not clear why the share of this sector should be lower in these countries. Possibly it is related to poor availability of raw materials, or to the proximity of supplies of competing products from South Africa.

Table 2.2
Enterprise and employment densities

Densities	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Enterprises (per 1000 population)							
All SSEs	32	37	44	62	64	78	54
All forest-based SSEs	1	5	3	9	22	16	9
Employment (per 1000 population)							
All SSEs	71	83	85	112	126	139	106
All forest products SSEs	1	14	6	16	39	24	16

Source: Existing Enterprise Questionnaires

Where comparisons can be made, employment in small forest products enterprises is usually considerably larger than recorded employment in forestry and forest industry enterprises in the formal sector. Thus the estimate of 237,000 persons employed in small forest products enterprises in Zimbabwe in 1991 compares with a reported 16,000 employed in forestry and forest industries in the country in that year (Timber Council 1991).

2.1.2 Breakdown by subsector

Of those people working in small forest products enterprises, the largest number (about 42%) are in enterprises using grass, cane and bamboo (Table 2.3). Most of these are engaged in the making of baskets, mats, and other similar simple weaving activities. The next largest subsector, accounting for 27% of all small forest products enterprise jobs, was in woodworking activities: furniture, carpentry, and the fabrication of wooden construction materials such as doors and windows. Another 20% were engaged in the trade and transport of forest products, with the remaining 12% in smaller and more heterogeneous categories (charcoal-making, wood carving and sawmilling).

Table 2.3
Employment in small enterprises by subsector

Sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	225	99,641	5,076	52,947	28,635	135,063	321,587
Woodworking	973	107,425	1,668	27,532	164	64,716	202,478
Other forest products manufacturing	89	36,744	1,133	17,385	666	32,429	88,446
Forest products trade	606	106,606	2,543	34,314	1,106	4,928	150,103
Forest products total	1,893	350,416	10,420	132,178	30,571	237,136	762,614
Non-forest-based total	91,935	1,682,998	154,329	877,511	65,178	1,041,347	3,913,298
Grand total, all SSEs	93,828	2,033,414	164,749	1,009,690	95,748	1,278,483	4,675,912

Source: Existing Enterprise Questionnaires

Note: The figures presented in the table are comparable with those used in part III of this report. However, due to different weighting factors and activity definitions being used in some cases, they cannot be directly used with the results presented in part II.

As is shown in Table 2.4, because of differences in the average size of the enterprise in the two groups, the grass, cane and bamboo group accounts for an even larger share (50%) of the number of forest products enterprises. In contrast, woodworking accounts for only 17% of enterprise numbers.

Despite considerable differences in the size of the small forest products enterprise sector in the six countries, and the differences in their economic situations, all have broadly similar patterns regarding individual subsectors. The main exception is Swaziland, where the sector is dominated by the grass, cane and bamboo group. The prominence of other forest products manufacturing in Zimbabwe is accounted for by a very large reported component of wood carving. Trade in forest products is large in Kenya, which is the only country in which this trade is broken down by product category; this shows that nearly 85% of the employment is in enterprises trading fuelwood and charcoal. The much lower share of trade in forest products activity in most other countries may reflect failure to locate enterprises of this kind, many of which are part-time and/or itinerant, so that trade in fuelwood and charcoal tends to be under-reported.

Table 2.4
Enterprise and employment shares by subsector (all country average)

Forest products sector	% of forest products enterprises	% of forest products employment
Grass/cane/bamboo	50	42
Woodworking	17	27
Other forest products manufacturing	13	12
Forest products trade	21	20
All forest products	100	100

Source: Existing Enterprise Questionnaires

2.1.3 Location by stratum

Nearly nine-tenths of all small forest products enterprises, and 86% of employment in the sector, are located in the rural areas. This reflects the large proportion of the population in each country that lives in the rural areas, and the consequent rural concentration of small-scale enterprises as a whole in the region (Liedholm and Mead 1993). However, as is shown in Table 2.5, in some of the countries

Table 2.5
Employment densities (per 1,000 head of population) by strata
(all forest products enterprises)

Strata	Botswana	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Large urban	2	11	16	22	6	8
Secondary towns	1	8	13	7	10	8
Rural areas	1	5	14	54	36	23

Source: Existing Enterprise Questionnaires

Note: Figures for Kenya are: large urban (Nairobi and Mombasa) - 9; cities (populations > 10,000) - 12; towns (populations > 2,000 and < 10,000) - 22; and, rural (populations < 2,000) - 13.

there is also a higher density (number of enterprises per 1,000 head of population) of small forest products enterprises in the rural areas. This is notable in countries, such as Swaziland and Zimbabwe, where there is a very large share of grass, cane and bamboo

enterprises.

Table 2.6 shows the differences in patterns of forest products activity in urban and rural locations. This differs quite sharply for the different subsectors. Whereas 96% of grass, cane and bamboo employment is in rural areas, 26% of woodworking employment is urban based - most of it in large urban areas. Woodworking in fact is the largest forest products activity in towns and cities, followed by trade in forest products - the two subsectors accounting for 74% of all urban small forest products enterprise employment, which contrasts with the 33% share they hold of rural employment. Again, despite the very different size of the sector in the individual countries, and different levels of urbanisation, this pattern is broadly the same across the region.

Table 2.6
Distribution of employment by strata and subsector
(% of employment)

Forest products sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo							
Large urban	0	1	2	2	2	3	3
Secondary towns	30	1	3	0	0	2	1
Rural areas	70	98	95	98	98	95	96
Woodworking							
Large urban	54	18	43	20	67	23	20
Secondary towns	45	6	12	6	10	5	6
Rural areas	0	76	45	74	23	72	74
Other forest products manufacturing							
Large urban	0	2	3	6	35	4	4
Secondary towns	100	1	2	4	3	5	3
Rural areas	0	98	95	90	62	91	93
Forest products trade							
Large urban	45	15	15	10	59	17	14
Secondary towns	0	6	21	2	29	12	7
Rural areas	55	79	64	90	12	71	79
All forest based							
Large urban	40	11	12	8	6	8	10
Secondary towns	25	5	8	2	2	4	4
Rural areas	35	84	80	90	92	88	86

Source: Existing Enterprise Questionnaires

2.2 Enterprise characteristics

2.2.1 Size of enterprise

Small forest products enterprises - in common with small-scale enterprises as a whole in these countries - are very small (Table 2.7), ranging from an average of 1.6 workers per enterprise in Lesotho and Malawi to 2.2 in Botswana. Grass, cane and bamboo enterprises are even smaller, the average for the region being 1.39 workers. In contrast, the average for woodworking enterprises is 3.25, while that for forest products trading enterprises it is 1.73. Within the other forest products manufacturing category, wood carving and fuelwood and charcoal production are typically very small, while the much smaller number of sawmills are relatively large.

Table 2.7
Average size and size distribution of enterprises, by subsector

Forest products sector	Average size of enterprise (workers)	Size distribution of enterprises (of enterprises)			
		1 worker	2-9 workers	10+ workers	Total
Grass/cane/bamboo	1.39	82	18	0	100
Woodworking	3.25	49	49	2	100
Other forest products manufacturing	1.84	60	40	0	100
Forest products trade	1.73	59	40	1	100
All forest products	1.87	67	32	1	100

Source: Existing Enterprise Questionnaires

Average size of enterprises in urban areas is larger than in rural areas. This is partly because the woodworking and trade enterprises, which are relatively larger, predominate in urban areas. In addition, within each subsector urban enterprises are on average larger than rural enterprises.

A very large proportion of small forest products enterprises are single person enterprises - ranging from 68% in Malawi to 81% in Zimbabwe. This is most pronounced in the grass, cane and bamboo subsector, where for the region as a whole 82% are single person enterprises. By contrast, the share for woodworking is 49%, and for forest products trade is 59%. As is clear from Table 2.7, nearly all the other small forest products enterprises are in the 2-9 worker size range. Thus, though the surveys covered enterprises of all sizes up to 50 workers, 99% were found to be in the

"microenterprise" category of less than 10 workers.

2.2.2 Composition of the work force

As is shown in Table 2.8, even in the relatively large enterprises in woodworking, proprietors usually account for the largest part of the workforce - from 30% in Botswana to 76% in Zimbabwe. Most small forest products enterprises also have some participation by unpaid members of the proprietor's family in the workforce, particularly in forest products trade (33%). Paid workers constitute 28% of the workforce in woodworking, but only 5% in forest products trade, and even less in grass, cane and bamboo. Trainees are a significant part of the woodworking workforce in Kenya, Botswana and Lesotho, but not in other activities (except for grass, cane and bamboo in Kenya).

Table 2.8
Labour force breakdown by subsector (all country average)

Forest products sector	Share of employment by worker type (%)				
	Proprietor	Family member	Paid worker	Trainee	Total
Grass/cane/bamboo	86	11	1	2	100
Woodworking	49	11	28	11	100
Other forest products manufacturing	69	7	23	1	100
Forest products trade	61	33	5	1	100
All forest products	65	15	13	7	100

Source: Existing Enterprise Questionnaires

Over 40% of the small forest products enterprises workforce in the region as a whole is female (Table 2.9), but the share ranges from 25% in Malawi to 95% in Swaziland. High female participation rates are a consequence of women dominating the workforce in grass, cane and bamboo, which they do in all countries except Malawi and Botswana. They also account for a large part of the workforce in forest products trade (57%). In contrast, men dominate the woodworking workforce, with women's participation being very low in all countries.

Children are reported as a significant part of the workforce only in charcoal and fuelwood production in Zimbabwe, and to some extent in carving and forest products trade in Malawi. Part-time workers are concentrated in woodworking (and in charcoal and fuelwood production in Lesotho), but account for only 7% of the woodworking

labour force in the region as a whole.

Table 2.9
Employment of women, children and part-time workers (all country average)

Forest products sector	Share of employment by worker type (%)		
	Females	Part-time	Children
Grass/cane/bamboo	76	0	3
All woodworking	7	7	2
Other forest products manufacturing	3	3	5
Forest products trade	57	2	10
All forest products	41	2	4

Source: Existing Enterprise Questionnaires

2.2.3 Location of premises

The majority of enterprises in all categories of small forest products enterprises (except sawmills) operate from the homestead, but the proportion, and the share operating from other kinds of premises, varies with the subsector and whether it is in an urban or rural environment. Grass, cane and bamboo activities are found overwhelmingly in the home (83%), with a small proportion in traditional markets, in particular in towns. A larger proportion of woodworking enterprises (35%) operate away from the homestead (the more so in urban areas), principally in commercial districts in towns, and as mobile units in rural areas. Most trading enterprises (53%) operate away from the homestead - mainly in commercial districts and traditional markets, but in the rural areas also at roadsides and at mobile locations. Most wood carving is home based, but very little sawmilling is.

2.2.4 Operating period

Small forest products enterprises are predominantly full-time operations, operating for 11 or 12 months a year, and 20-30 days a month. The only subsector to report a less than year-round pattern is charcoal and fuelwood production, principally in Malawi and Zimbabwe. Limited information from supplementary questionnaires also suggests seasonal changes in operation of these activities in Zimbabwe, but less in Malawi.

2.2.5 Markets and marketing

Most small forest products enterprises, in all categories, sell to individuals - 94% of them in the sector as a whole. Even in urban areas, less than 10% sell to customers other than individuals.

The main source of demand for grass, cane and bamboo products is the low income domestic market. Outputs are predominantly containers for food and other items. A growing trade in more elaborate craft basketware for tourist markets has developed in some parts of the region. A study in Botswana (Terry 1984), and more detailed information from the Kenya survey, indicate that some of the "individuals" that producers sell to are itinerant traders and hawkers.

Studies in Kenya and Zimbabwe (Sverrisson 1990 and 1992, Parker 1992) indicate that the main source of demand for furniture and other woodwork, in urban as well as rural areas, is also the low income domestic market. Only the larger urban enterprises are likely to sell to retailers, wholesalers, and institutions. Others sell to individual customers, often in competition with shops selling the products of factories in the formal sector. Much production is on a "to order" basis.

Table 2.10
Source of most important input (% of enterprises)

Forest products sector	Makes or gathers own	Buys unprocessed	Buys semi-processed	Buys finished product	Other
Grass/cane/bamboo	75	2	21	1	1
Woodworking	23	11	48	2	16
Other forest products manufacturing	84	3	12	1	0
Forest products trade	78	0	4	14	4
All forest products	70	3	22	2	3

Source: Existing Enterprise Questionnaires

Note: Based on results from Malawi, Swaziland and Zimbabwe only.

2.2.6 Raw material and other inputs

As is shown in Table 2.10, grass, cane and bamboo enterprises predominantly gather or produce their own inputs. This reflects the fact that concentrations of these enterprises tend to arise in areas where raw materials are abundant. Closer examination

of the geographical distribution of the grass, cane and bamboo enterprises reveals that they are concentrated in areas where there is an abundance of palms and other plants suitable for basketry and mat-making - around the lakes in Malawi and Kenya and throughout Swaziland, where they are found especially along the Mozambique coastal plain.

Most woodworking enterprises, on the other hand, buy their inputs, predominantly in semi-processed form - principally sawnwood from retailers, wholesalers, sawmills or hand-sawyers. Urban forest products trade enterprises predominantly obtain inputs by buying finished products. In rural areas, though, most gather or produce their inputs. This appears to reflect the difference between woodfuel traders in larger urban areas, dealing in charcoal or wood brought in from the rural areas, and producer/sellers of woodfuel in smaller urban areas who combine production and trade activities. Most wood carving and fuelwood and charcoal producing enterprises also provide their inputs themselves.

As is the case generally with small-scale enterprises in the region, the majority of those based on forest resources have never received loans, either for investment or working capital. Of the less than 5% that have, most have obtained credit from family or friends or other informal sources rather than from formal credit institutions.

2.2.7 Enterprise age distribution

The average age of small forest products enterprises differs considerably from country to country - from 10.45 years in Malawi to 4.24 years in Botswana. Both grass, cane and bamboo and woodworking enterprises tend to be somewhat older than the average for all small-scale enterprises in each country. In most countries there is no evidence of large numbers of young enterprises in the forest products enterprise subsectors. This suggests that these subsectors are fairly well-established and also means that the growth rates presented in part III can be directly compared without the need to take account of any recent expansion in the numbers of enterprises.

2.2.8 Enterprise efficiency

There is unfortunately little information on the efficiency of forest products enterprises in Africa. Some studies of efficiency for several types of manufacturing activities do exist for a few countries, and these indicate that while many of the smaller enterprises are more efficient than their larger scale counterparts, there are many others that are not (Liedholm and Mead 1987). One systematic efficiency pattern that emerges from these studies, however, is that woodworking enterprises tend to be more economically efficient and generate a higher rate of economic return than their counterparts in grass, cane, and bamboo. A second pattern found in these studies is that forest products enterprises with only one worker - essentially the self employed enterprise - tend to be much less efficient and generate a lower economic return than their counterpart firms with two or more workers, particularly hired workers. In particular, net returns per hour of work in forest products enterprises with 2-5 workers were approximately twice the level obtained in the enterprises with only one worker (Liedholm and Mead 1987). This sharp increase in efficiency when moving from one to

two or more workers is often overlooked in discussions of small scale enterprises; it is an important finding that will be drawn upon in the subsequent discussion of enterprise dynamics.

2.3 Entrepreneur characteristics

2.3.1 Gender and age of entrepreneurs

The information presented in Table 2.11 shows that there are marked differences in the participation of women as entrepreneurs in the different sub-sectors. Except in Malawi, where 70% of the enterprises had male proprietors, grass, cane and bamboo enterprises are overwhelmingly run by female entrepreneurs. Women also own 62% of forest products trade enterprises (somewhat higher in urban areas, and lower in rural areas). Woodworking, on the other hand, is almost exclusively a male owned activity, in all areas.

Table 2.11
Proprietor characteristics (% of entrepreneurs)
(all country average)

Proprietor characteristics	Grass/cane/bamboo	Woodworking	Other forest products manufacturing	Forest products trade	All forest-based
Gender ^a					
Female	79	3	3	62	53
Male	20	96	80	26	42
Education ^b					
None	48	8	8	29	35
Primary	39	58	84	56	49
> primary	13	34	8	15	15
Previous occupation ^b					
Unemployed	58	30	31	46	49
SSE worker	25	54	33	11	29
SSE proprietor	17	6	5	17	14

Source: ^a Existing Enterprise Questionnaires; ^b Supplementary Questionnaires

The information on age of proprietors is limited. In Lesotho, Malawi and Zimbabwe, the average age in both the grass, cane and bamboo and woodworking subsectors was in the forties.

2.3.2 Education and previous activity

Information on this topic is limited⁴. Among the relatively small number of proprietors surveyed, about half in grass, cane and bamboo enterprises had no education and most of the rest had only primary education. Those owning forest products trade enterprises were only slightly better educated. In contrast, very few woodworking proprietors had no education, and more than a third had qualifications beyond the primary level.

Half of the grass, cane and bamboo proprietors had been unemployed prior to starting the enterprise; most of the rest had worked in or run another small enterprise. Two-thirds of woodworking proprietors had previous small enterprise experience, mainly as workers rather than as proprietors.

Table 2.12
Contributions to household income
(of entrepreneurs)

Income contributions	Grass/cane/ bamboo	Woodworking	Other forest products manufacturing	Forest products trade	All forest- based
100% from forest products SSE ^a	23	48	28	53	30
> 50% from forest products SSE ^a	43	61	52	59	48
> 50% from agriculture ^b	17	6	24	9	16

Source: ^a Existing Enterprise Questionnaires; ^b Supplementary Questionnaires

Note: > 50% from forest products SSE includes those entrepreneurs obtaining 100% of household income from the forest products SSE.

⁴ The information on education comes from the supplementary surveys. As was noted in Section 1.3, these provide only a small data set (see Appendix Table A3), and may not be fully representative. The large contribution to the aggregate data set made by results from the supplementary survey in Malawi, suggests that the conclusions about the extent of education among small enterprise entrepreneurs may reflect the relatively low education profile of that country, and so understate the situation in the six country region as a whole.

2.3.3 Contribution to entrepreneur's income

As is shown in Table 2.12, their enterprise provided the main source of income (50% or above) for the majority of small forest products enterprise proprietors, except in Botswana where less than 20% were in that position. The contribution was highest in woodworking and lowest in grass, cane and bamboo, and within each subsector was higher in urban than rural areas. The very limited information available from the supplementary questionnaires suggests that in rural areas the owners of grass, cane and bamboo, wood carving and coal and wood producing enterprises tend to rely more on agricultural income than do the proprietors of other forest products enterprises.

III DYNAMIC CHARACTERISTICS

To understand completely the nature of forest products enterprises in any country, one must move beyond the static picture and obtain a dynamic view. There is a rapid rate of turnover among enterprises, but these individual micro changes tend to offset each other and thus tend to be masked if one focuses only on the more aggregate changes.

There are two general components of enterprise growth that must be examined. The first is that coming from changes in the net number of enterprises (net enterprise creation), which itself has two elements - enterprise births and enterprise closures (deaths). The second is that from the net expansion of existing enterprises, which incorporates both enterprise expansion and enterprise contraction. Each of these components of growth will now be examined, initially from an enterprise perspective and then from a job creation perspective. In a final section in this part of the report we also look at the impact of problems perceived by entrepreneurs as impeding the development of their enterprise activities.

3.1 Growth in enterprise numbers from net enterprise creation

Growth arising from the entry and exit of enterprises is typically depicted in terms of "net firm creation", which reflects the number of enterprise births minus enterprise closures (deaths) in any one period. Analysts are forced to rely on this more aggregate measure because the data on individual components - births and closures - are difficult to obtain separately and usually do not exist; only the net outcome of the birth and closure process, "net firm creation", is easily observable at the end of any period.

Using this measure, it is apparent that the net number of new forest products enterprises is increasing. In response to the survey question as to whether or not the number of "like firms" in their neighbourhood had increased in the last five years, the majority of the forest products entrepreneurs answered yes. The positive responses to this question from entrepreneurs in Zimbabwe, Lesotho, Malawi, and Swaziland, for example, were 80%, 71%, 70% and 60% respectively.

Although information on the magnitude of the individual components of "net firm creation" has been sparse, recent surveys have begun to generate some information on

them. What do they reveal about the nature of the birth and closure process?

3.1.1 Enterprise births

Enterprise birth rate figures, the first in Africa, have recently been generated for Zimbabwe. What they reveal is a magnitude of enterprise creation much greater than the 8-12% annual rate that had previously been envisaged. From 1988 to 1993 in Zimbabwe, for example, the birth rate for all small-scale enterprises was found to be 19% per year (Daniels 1994).

Specific birth rate figures were also generated for a few types of forest products enterprises. Although these more detailed rates must be interpreted with some caution, they are at least indicative. For grass, cane, and bamboo enterprises in Zimbabwe, for example, the annual rate was 20%, while for woodworking enterprises the comparable rate was somewhat less, at 8.3%. Most of the new forest products entrants were single person enterprises. The key implication from these findings is that there appears to be no shortage of new entrepreneurs willing to enter small-scale enterprise activity in Africa.

3.1.2 Enterprise closures (deaths)

Enterprise closure rates are also high. Although exact figures of annual closure rates are not yet available, preliminary findings from Zimbabwe indicate that the closure rates for all small-scale enterprises in that country exceeded 10% per year. Specific closure rates for forest products enterprises are not yet available.

On the basis of some innovative surveys of closed business, however, it is possible to illuminate several key characteristics of enterprises that have closed. It is important to recognize at the outset that enterprises shut down for a wide variety of reasons, not

Table 3.1
Reasons for enterprise closure - percent of closed enterprises
(all forest products enterprises)

Reason for closure	Kenya	Malawi	Swaziland	Zimbabwe	Total
Business conditions bad	53	45	55	38	45
Better options	8	9	8	14	11
Personal reasons	33	15	24	26	26
Government actions, legal regulations	4	16	2	6	7
Other	2	15	11	16	11
Total	100	100	100	100	100

Source: Closed Business Questionnaires

just because they are not economically viable - the traditional business failure. As a glance at Table 3.1 reveals, only about one-half of the forest products enterprise closures were due to "bad business conditions". About one-quarter closed for personal reasons, such as bad health or retirement, while others closed for legal reasons or because better options became available. When compared with woodworking enterprises, grass, cane and bamboo enterprises were more likely to close for personal reasons and less likely to close because of better options.

What did the forest products entrepreneurs do after their businesses closed? In most countries, over 50% opened new enterprises, though after how much time is unknown (Table 3.2). Clearly, many closed businesses subsequently reappear as new businesses. Another 10% became paid workers, while the remaining one third have not re-entered any economic activity and have either retired, taken on family responsibilities, or remained unemployed. Former woodworking entrepreneurs were much more likely to open new enterprises or take paid employment than their former grass, cane, and bamboo counterparts.

Table 3.2
Subsequent activities of proprietors of
"closed enterprises" - percent of entrepreneurs
(all forest products enterprises)

Subsequent activity	Kenya	Malawi	Swaziland	Zimbabwe	Total
Opened new SSE	55	64	57	38	49
Worked for someone else	12	4	7	14	11
Nothing	26	25	31	48	36
Other	7	7	0	0	4
Total	100	100	100	100	100

Source: Closed Business Questionnaires

When is a forest products enterprise most likely to close? The closed enterprise surveys point to a strong inverse relationship between the age of the enterprise and the likelihood of closure. Most closures occur in the early years of the enterprise's existence, with over fifty percent of the closures taking place by the end of the third year (Liedholm and Mead 1993).

The other characteristics of the enterprises that are most likely to close have been statistically examined for all SSEs in the surveyed countries using "hazard analysis" (McPherson 1994). Although the analysis was not confined solely to forest products enterprises, several clear patterns emerged that are likely to hold also for forest products enterprises. An enterprise's chances of surviving (i.e. not closing) for an additional year are better if it:

- grows;
- operates in urban areas;
- operates outside the home or homestead;
- operates in areas of activity other than trading.

Characteristics such as the gender of the entrepreneur or the initial size of the enterprise were found to have no statistical impact on the probability of an enterprise surviving.

3.2 Growth from net expansion of existing enterprises

3.2.1 Enterprise growth rates

Several recent surveys in a number of African countries have generated the types of data that now make it possible to calculate the growth rates of existing small-scale enterprises (Liedholm and Mead 1993). Given the limitations on the accuracy of the memory recall of respondents for other more complex measures of economic activity, the growth measure, of necessity, must be based on the change in the number of workers since start-up.⁵ With this caveat, the growth rates of existing forest products enterprises in particular can now be examined

The forest products enterprise growth rates are presented in Table 3.3. One of the most striking findings is the high growth rate for existing forest products enterprises overall. Indeed, the mean employment growth rate of these enterprises in the five countries is 11.5% per year⁶. Yet, there is a good deal of variation by country, ranging from a low of 4% in Zimbabwe to a high of 33% in Botswana. These growth rates are impressive, however, when it is recognized that, except for Zimbabwe, they are at least double the growth rates of the GDPs of these countries during the 1980s (Appendix Table A1). In these six countries overall, however, existing forest products enterprises did grow somewhat less than existing small-scale enterprises as a whole, which grew at an annual rate of 14.9%.

⁵For a discussion of the accuracy with which variables are recalled, see Liedholm (1991). For a discussion of the biases of using employment rather than output or value added, see Liedholm and Mead (1993). In manufacturing, there is some evidence that employment measures provide lower bound estimates of this growth.

⁶The employment growth rates presented in the body of the paper are defined as follows: $(A-B/B)/C$, where A=number of workers now, B=number of workers at start-up; and C=number of years the firm has been in existence. It should be noted that these are average growth rate figures, with the origin year in the base, and thus yield an upper bound limit of the growth rates. To provide a comparative perspective, compound growth rate figures have been computed, and these are presented in Appendix Table A6. The compound growth rate figures are also substantial, but are about 25 percent smaller than the average, base year origin rates. Moreover, to provide a perspective of changes in absolute rather than in percentage terms, statistics of annual changes in the number of workers per firm are presented in Appendix Table A7. The data for all these growth calculations were obtained by asking entrepreneurs retrospective information (event histories) about their firms.

Another significant finding is the variation in growth within the broadly defined forest products enterprise category. The difference in the annual growth rates between the woodworking enterprises (31.0%) and the grass, cane, and bamboo enterprises (3.6%) is particularly striking⁷. The growth rates of "other forest products manufacturing" (5.1%) and "forest products trade" (18.5%) fall between these extremes.

Table 3.3
Annual employment growth rate (%)
("average" growth measure - origin year base)

Forest products sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	0	4.1	0.1	3.5	4.5	3.4	3.6
Woodworking	71.4	51.1	14.8	19.6	67.5	10.0	31.0
Other forest products manufacturing							
Sawmilling	N/A	5.3	N/A	3.5	53.3	50	4.8
Coal and wood production	12.5	18.7	0	2.6	0	16.7	12.5
Wood carving	N/A	0	N/A	30.2	1.1	0.7	3.2
Subtotal	12.5	7.7	0	14.2	2.4	2.0	5.1
Forest products trade	15.1	21.6	-1.0	13.3	8.6	4.7	18.5
All forest based	33.2	23.3	5.3	10.7	5.5	4.0	11.5

Source: Existing Enterprise Questionnaires

3.2.2 Growth rates and enterprise characteristics

What are the characteristics or determinants of the growth rates of these forest products enterprises? Country, and area of activity (disaggregated) would seem to be

⁷ This distinction holds even when using the compound growth rate or the annual change in workers per enterprises (See Appendix A6 and A7). Woodworking consistently has a higher growth rate than grass, cane, and bamboo within each country individually as well.

important elements. In addition, such variables as the age, initial size, and location of the enterprise, along with the gender of the entrepreneur might be expected to play a role (Liedholm and Mead 1993).

The relationship between these variables and forest products enterprise growth can be analyzed using formal statistical methods, particularly if one wishes to identify more rigorously the separate contribution of the independent variables. For this paper, the data for Botswana, Kenya, Malawi, Swaziland, and Zimbabwe, along with Lesotho, have been analyzed using ordinary least squares regression of forest based enterprise growth rates on the independent variables of age, initial size, location, subsector, country, and entrepreneur gender⁸.

The results of the analysis are summarized in Table 3.4⁹. The individual coefficients show the effect of that variable on the growth rate, controlling for the effects of the other variables included in the analysis. The primary variables that significantly affect the growth rate of forest products enterprises are as follows:

- Age of the enterprise: There is an inverse relationship between the age of the enterprise and its growth rate; thus, the younger the enterprise the more likely it is to have a higher growth rate. This result is consistent with what is expected from theory as well as the findings of other empirical studies (McPherson 1994).
- Initial size of the enterprise: An inverse relationship is also found between the initial size of the enterprise and its growth rate. Enterprises that start out smaller are more likely to experience a higher growth rate, a result that is also consistent with other empirical studies. One reason for this result, however, is that a high age growth rate can be achieved by a small absolute change in an enterprise that starts with only one or two persons.¹⁰

⁸ Following McPherson (1994), a linear functional form was used in estimating the regression equation. Except for age and initial size, the other variables were entered as dummy variables utilizing the base categories specified in Table 3.4. The growth measure used was the annual employment growth rate (origin year) base portrayed in Table 3.3. Since only surviving firms are included in the analysis, sample selection bias is a potential problem. Using the Heckit model, McPherson (1994) has tested for the sample selection bias in the overall data set and found it to be insignificant.

⁹ It is inappropriate to interpret the co-efficients as indicators of the relative importance of variables. The actual magnitude of the co-efficients depends on the units in which the variables are measured. Only if all independent variables are measured in the same units - years, for example - are their co-efficients directly comparable. When variables differ substantially in units of measurement the sheer magnitude of their co-efficients does not reveal anything about relative importance.

¹⁰ Indeed, when the dependent variable in the forest - based regression used to derive Table 3.4 was changed from the employment growth rate to the absolute change in employment, the initial size variable changes from a negative to a positive value. Thus, in this case, the larger the initial size of the firm, the larger the absolute change in employment in forest - based enterprises.

Table 3.4
Growth regression results

Variable	Coefficient	T-statistic
Enterprise Age and Initial Size		
Enterprise age	-0.00941 ***	-4.405
Initial size	-0.04545 **	-2.157
Sectoral Dummies [Base Category: Grass/cane/bamboo]		
Woodworking	0.21683 ***	2.664
Other forest products manufacturing	-0.01363	-0.159
Forest products trade	-0.06472	-0.896
Strata Dummies [Base Category: Urban]		
Secondary towns	-0.07987	-1.279
Rural areas	-0.05631	-0.921
Locational Dummies [Base Category: Home-Based]		
Traditional market	-0.02600	-0.340
Commercial district	0.20911 ***	2.668
Roadside	0.16169	1.478
Mobile	-0.01524	-0.183
Other locations	0.01251	0.095
Country Dummies [Base Category: Zimbabwe]		
Botswana	0.22196	0.993
Kenya	0.11868	1.460
Lesotho	-0.05462	-0.283
Malawi	0.05552	0.870
Swaziland	0.16081 **	2.151
Proprietor Gender Dummy [Base Category: Female Proprietor]		
Non-female proprietor	0.11095 *	1.719
Constant term	0.15632 *	1.942

Source: Existing Enterprise Questionnaires.

Regression statistics: $n = 1,896$ $R^2 = 0.04$ F-statistic = 4.764.

*** = significant at 1% probability; ** = significant at 5% probability; * = significant at 10% probability

- Subsector: Woodworking enterprises are more likely to experience a higher growth rate than their counterparts in the grass, cane, and bamboo category. The two other forest products areas of activity - "other forest products manufacturing" and "forest products trade" - were not statistically significant in the analysis. What this analysis reinforces, however, is the importance of disaggregating the broader two-digit ISIC forest-based manufacturing classification into at least three components - woodworking; grass, cane and bamboo; and other forest products manufacturing.
- Location of enterprise activity: Enterprises located in commercial districts are more likely to have higher growth rates than their counterparts operating out of the home. Perhaps surprisingly, the broader locational variables - urban areas, secondary towns, and rural areas - were not statistically significant. In most other studies, these have proven to be important. The significance of commercial districts, a result also found in other studies (McPherson 1994), perhaps reflects the importance of demand sources and the market.
- Country: Enterprises in Swaziland were more likely to experience higher growth rates than their counterparts in Zimbabwe, holding all other variables constant. The other countries were not statistically significant in the analysis. This result confirms that country effects can influence the growth rate, although their role in the case of forest products enterprises appears somewhat limited.
- Gender of entrepreneur: Female headed forest products enterprises are likely to grow less rapidly than those operated by males. This result is similar to that reported for all small-scale enterprises in previous studies in the region (Downing and Daniels 1992). One explanation for this finding is that females may be more risk-averse than their male counterparts and may choose to diversify rather than grow.

3.3 Employment growth among small forest products enterprises

3.3.1 New start-ups vs. expansion employment

As was noted earlier, employment in small enterprises is generated in two different ways: as new enterprises are started up, and through the expansion of existing enterprises. The distinction between these two sources of jobs can be significant, for at least two reasons. Many new start-ups are one-person enterprises. Earlier studies have shown that these one-person activities are the least efficient; even small increases in size are often associated with significant increases in economic efficiency (see Liedholm and Mead 1987). Furthermore, jobs that result from the expansion of existing enterprises are more likely to reflect a response to market opportunities. New start-up jobs, by contrast, may reflect a search for employment opportunities among individuals with only limited skills and experience. To oversimplify a complex set of relationships, expansion jobs are more likely to arise in response to an identified demand in the market for products made by an existing enterprise. Start-up jobs are more likely to reflect supply-side forces, as people search for activities where they can sustain themselves.

For small enterprises taken as a whole (in all sectors of the economy), approximately 75% of all jobs have come from new start-ups. Within the forest products subsectors, about 80% of all jobs in grass, cane and bamboo (80.7%), in other forest products manufacturing (82.6%) and in forest products trade (78.1%) emerged as a result of new start-ups. In the woodworking activities, by contrast, only 45.3% of all new jobs came into being through new start-ups, while more than half of current employment (54.7%) resulted from the expansion of existing enterprises. Expansion jobs are particularly significant in woodworking activities in Kenya, where they generated over 60% of all jobs in the forest products sector. Details by subsector and by country are provided in Appendix Table A8.

3.3.2 Job creation through enterprise expansion

Focusing on patterns of expansion of existing small businesses, the first point to emphasize is that most small enterprises do not grow. Survey data across all sectors report that only 20-25% of all new small enterprises had added even one worker to their labour force, from the time of start-up to the date of the survey. Among small enterprises taken as a whole, growth is the exception rather than the rule.

While this generalization is also true for forest products, there are important differences among the different components of the forest products sector. Among enterprises engaged in the transformation of grass, cane and bamboo, expansion is even more infrequent; only about 14% had expanded at all since start-up. Among small enterprises in woodworking activities, by contrast, almost half of all existing small enterprises (48%) had expanded since start-up. Enterprises engaged in the trade of forest products were intermediate between these two extremes, with about a quarter having expanded since start-up (Table 3.5).

Table 3.5
of forest products enterprises that had grown

Forest products sector	Botswana	Kenya	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	0	25.8	16.7	11.5	11.5	14.4
Woodworking	43.4	61.6	43.0	25.3	32.1	47.8
Other forest products manufacturing	0	55.3	32.0	3.4	10.4	22.9
Forest products trade	8.1	28.2	16.7	30.8	7.6	24.0
All forest products	10.2	38.7	22.2	12.1	13.8	22.8

Source: Existing Enterprise Questionnaires

A second point to notice about growth patterns among these enterprises is that, among the minority that did add to their work force, most grew only by small amounts. In most sectors, and for the total of all small enterprises taken together, the majority of growers have added only one worker to their labour force since start-up.

One way to explore this set of relationships is by separating employment growth through expansion into three categories. One, which we refer to as "small growth," reflects a pattern whereby enterprises start very small (with 1-4 workers) and add only a few workers (1-4 workers added) after start-up. A second category, referred to as "graduation," reflects a situation where an enterprise starts very small (again, with 1-4 workers at the start) but then expands to a point where it has ten or more workers by the time of the survey. The third, residual category includes enterprises that started somewhat larger and subsequently grew, as well as those enterprises that started very small but grew in intermediate amounts. One question of interest to us concerns the relative contribution to employment growth of the larger number of enterprises engaged in small growth (i.e. that start very small and add only a few workers), compared to the much smaller number of enterprises that graduated (i.e. that started very small but subsequently moved up into intermediate size).

Table 3.6

Contribution of small growth, expansion and other expansion to employment growth
(% of employment growth)

Growth category	Grass/cane/ bamboo	Woodworking	Other forest products manufacturing	Forest products trade	All forest products
Small growth	75.6	37.7	87.6	113.6	63.2
Graduation	3.1	30.3	4.3	0.1	16.4
Other expansion	21.4	32.0	8.2	-13.7	20.4
Total	100	100	100	100	100

Source: Existing Enterprise Questionnaires

Note: for country details, see Appendix Table A9.

Table 3.6 provides the data relevant to this question. It shows that, in small forest products enterprises taken as a whole, graduation has contributed only about 16% of expansion jobs. The patterns are very different among the sub-categories, however. For grasses, cane and bamboo, graduation is a rare phenomenon, accounting for only about 3% of expansion jobs. For other forest products manufacturing and for trade of forest products, the contribution of graduation to employment creation is similarly limited. In woodworking, by contrast, the share contributed by small growth was only about half as large (38%, compared to 75% of expansion jobs for grass, cane and bamboo), while

graduation accounted for fully 30% of new job openings resulting from expansions.¹¹

3.4 Perceived problems faced by small enterprises

In the supplementary questionnaire administered to a smaller group of respondents, questions were asked concerning whether or not the enterprise faced any serious problems and, if so, what was the nature of these problems. The questioning focused on two different stages in the life of the enterprise: as of the time it was started, and "currently" (i.e. at the time of the survey). Principal findings are summarized in Table 3.7.

Table 3.7
Perceived problems - percent of enterprises
(all country average)

Business problems	At start-up		Currently	
	Grass/cane/ bamboo	Wood- working	Grass/cane/ bamboo	Wood- working
Any problems? (% answering "yes")	54	85	67	85
What was principal problem? (% of those with answers)				
Finance	15	45	5	34
Markets	41	19	33	19
Tools & equipment	0	11	0	10
Inputs	20	21	34	37
Other	24	4	28	0

Source: Supplementary Questionnaires

Note: "other," for grass, cane and bamboo, comprised (in decreasing order of importance) access to transport facilities, government controls and regulations, technical problems, and problems of access to work space.

These data need to be treated with some caution. Respondents may have been influenced in answering by what they think the questioner would like to hear, or what kind of assistance they think s/he may be able to provide. Furthermore, respondents

¹¹ The figures for forest products trade indicate that, for this group of enterprises, intermediate-sized enterprises in the aggregate have lost workers from the time of their start until the date of the survey. As the more detailed figures in Appendix Table A9 show, Kenya is the outlier that produces this result.

may reply in terms of immediate problems while ignoring underlying difficulties (for example, either "finance" or "markets" could reflect the fact that the entrepreneur is producing products for which there is no demand). Taking the answers at face value, they suggest several ideas:

- Both at start-up and at the time of the survey, a larger age of respondents in the woodworking subsector reported facing any problems than those engaged in the production of grass, cane and bamboo products. This surprising finding may reflect the fact that woodworking involves more complex management decisions, compared to the simpler processes involving grass, cane and bamboo products.
- In both time periods, producers of grass, cane and bamboo products expressed major concerns with marketing their products. For woodworkers, finance appeared as a major concern in both periods, presumably reflecting the greater need for both fixed and working capital in those product lines.
- At the time of the survey, access to inputs had become the most frequently mentioned problem for small producers in both subsectors. This reflects access problems particularly in Zimbabwe and in Malawi, where such problems were a frequent theme of complaints among small producers in a number of different sectors, reaching well beyond the transformation of forest products. Problems in this area reflect the vagaries of nature (e.g. problems resulting from drought), reinforced by market structures that frequently leave small enterprises at the end of the queue in terms of their access to inputs (for Zimbabwe, this issue is discussed in more detail in Mead and Kunjiku 1993).

IV PROJECT, POLICY AND RESEARCH IMPLICATIONS

These findings suggest a number of issues that need to be taken into account, and possibly explored further, in developing interventions to support sustainable development of the small forest products enterprise sector: (1) the implications of the different rates of growth of the two main component parts of the sector; (2) the sustainability of, and access to, raw material supplies for the different types of enterprise activity; and (3) The different opportunities and needs that confront enterprises at start up and enterprises seeking to expand.

4.1 Differential growth potentials within the sector

The basic characteristics, and performance, of the two main forest products subsectors can be summarised as follows:

- **Grass, cane and bamboo:** large numbers of very small enterprises, mainly run by and engaging women, most of them single person units, operating from the home, and concentrated in the rural areas. Slow rates of growth of enterprises, with most of the growth in the subsector accounted for by start-up of new enterprises.

- **Woodworking:** fewer but larger enterprises, dominated by men, many operating in premises outside the home, and constituting an important urban as well as rural activity. Enterprises growing ten times faster than grass, cane and bamboo, and with more than half of the growth in employment due to expansion rather than new start-ups.

More detailed case studies, both within the region and elsewhere¹², suggest that the grass, cane and bamboo subsector is characterized by low barriers to entry, requiring only limited or widely-available skills and only little fixed or working capital. In countries where the labour force is expanding more rapidly than productive job opportunities, large numbers of people may be induced to enter such fields, even if returns to labour are low and declining. Internal competition among excessive numbers of producers makes it difficult for individual enterprises to improve their situation.

Apart from the small part of the subsector that has upgraded its product to craft baskets and related items for urban and external markets, the products of grass, cane and bamboo serve a predominantly low income rural market. This market is likely to show little growth, and be subject to invasion by low cost factory made alternatives, such as plastic containers and mats, that undercut and displace artisanal products.

Manufacture of furniture and other forms of woodwork requires certain skills, and is therefore less easily entered. Acquisition of tools and small machines can permit incremental increases in output and improvements in quality. Access to investment and working capital may therefore impose a further condition of entry, or expansion. Small enterprises can compete with factory-made alternatives across a wide spectrum of situations, and demand for woodwork products exists in urban as well as rural markets.

It therefore seems likely that the concentration of growth in the woodworking subsector, and to a lesser extent in forest product trade, with little growth in grass, cane and bamboo, will continue. That being the case, it may be more fruitful to help people move out of the latter activities and into other more rewarding fields of endeavour rather than seeking to raise their productivity in their current line or work. While there is clearly room for improvements in product categories such as baskets and mats, particularly by linking local producers to more dynamic markets abroad, it should be recognized that world markets in these areas are also highly competitive, and returns may be low even with the best of market links. In such situations, it may be at least as useful to focus efforts on helping people move out of such saturated markets and into others with better income-earning prospects.

Care needs to be taken in such a case to ensure that not only current income levels but also future growth prospects are indeed better in the alternative product lines to which people are being encouraged to move. Helping women move into product lines previously dominated by men earning higher returns may be a short-sighted approach if those are activities where the men in turn are struggling with over-saturation and with

¹² For a review of the information from the literature on the characteristics and performance of these two, and other, forest-based sub-sectors, see Townson (in press).

competition from large-scale producers. Again, this is a reminder of the usefulness of a fuller understanding of patterns of growth in particular subsectors, specially where one is seeking to encourage people to move into new product lines.

4.2 Access to supplies of raw materials

The heightened concern that entrepreneurs throughout the small forest products enterprise sector have reported about problems in securing inputs indicates that the sustainability of, and access to, raw material resources could be an issue requiring increased attention.

Although grass, cane and bamboo resources are generally widely available, and regenerate readily, concentrated use can cause them to become degraded. The rapid increase in basket making in the Okavango Swamp area of Botswana, for example, as export markets opened up, led to a depletion of the palm resource being used, and of the plants used to dye basket fibres. Case studies indicate that the activity can be sustained only if measures can be taken to broaden the supply base, and conserve the raw material resource (Terry 1984, Cunningham and Milton 1987). In Botswana the responses (both proposed and implemented) to the raw material problems included establishment of plantations of palms, encouragement of less destructive harvesting techniques and encouragement of the use of alternative dyes (including synthetics). The present study highlights the importance of further, documented, studies of the resource and management issues arising from raw material use by basket and mat-making enterprises.

Depletion can also lead to shortages of some of the woods used in the woodworking sector. In urban areas, most of what is used by small enterprises is low value construction woods, much of which comes from plantation resources. As most small enterprises acquire their supplies by buying sawnwood, access to supplies is often largely a question of access to retailers, wholesalers or sawmills. Small enterprises may be at a disadvantage in the market for sawnwood because they lack the working capital to be able to acquire and hold stocks when supplies are available, or because the trade in sawnwood is geared to large users and dealing in small quantities is costly. In rural areas, the steady removal of timber trees as land clearance proceeds clearly reduces the supply options available to local forest products enterprises. Where most timber comes from state lands, or requires permits from the state, improving the access of small enterprises to wood supplies may be an issue that could call for changes in forest service practices. Predatory or subsidised competition with small enterprises by forest products industries in the formal sector can be another issue requiring attention. Again, this could be an area where further research would prove to be particularly valuable.

4.3 Meeting the different needs for support at start-up and during expansion

It is important to recognize that, among small enterprises, there are different potential target groups with different opportunities and different needs. 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, for example, from two up to four workers have different needs from those

that aspire to graduate from two up to twenty or more workers.

The large numbers of people who succeed in setting up new businesses in each of the countries under study here raises questions as to the volume of resources that should be allocated to facilitating this process. A programme of support aimed at helping school leavers or retrenched civil servants start up in business, for example, may be a useful response to political pressures, but it generally requires substantial resources per beneficiary. Newly established entrepreneurs of this type generally have little or no relevant experience and need help in mastering a whole range of new skills. The evidence suggests that such new start-ups face particularly high attrition rates. This does not imply that no such assistance to starting enterprises is justified, but it does serve to remind those designing such programmes that this is a particularly problematic approach to small enterprise promotion. More cautious support programme managers may decide to limit their activities to more established enterprises that have survived this start-up period. If, however, it is decided to move ahead with programmes to help new start-ups, special efforts may be needed to link the assistance to existing skills of the nascent entrepreneurs. For those with little relevant experience, special efforts may be needed to attach them to existing enterprises for a period of on-the-job training.

With regard to support of 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 (this may or may not involve the recruitment of extra workers). As discussed earlier, this type of incremental growth is often associated with substantial gains in efficiency. For many of those engaged in grass, cane and bamboo activities, this may be the most appropriate type of assistance. Recent advances in the administration of such credit schemes make clear that they can operate on a highly cost effective basis (see Otero and Rhyne 1994). Enterprises seeking to graduate to a much 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. This would appear to be the case for such enterprises in the woodworking subsector. 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, in efficiency and in incomes earned by the clients.

It had been suggested earlier (FAO 1987) that support for small forest products enterprises could include: (1) assistance in marketing; (2) improvements in raw material and allocation procedures; (3) improved financial assistance; (4) technology development and transfer; (5) management training; and, (6) institutional development. Providing assistance to enterprises seeking to expand using a sectoral (and subsectoral) focus, rather than seeking to provide help to enterprises in many diverse product lines, makes it possible to target the assistance to the needs of clients based on a fuller understanding of the kinds of products and markets with the strongest growth opportunities, thereby again contributing to an increase in the cost-effectiveness of the assistance.

With all of these alternative approaches to small enterprise promotion, those designing assistance programs need to be clear as to which category of enterprise matches their goals and priorities, then target their assistance to the needs of that

particular group. In this area as in many others, one cannot succeed (and in particular, one cannot provide assistance in a cost-effective way) by seeking to be all things to all people.

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Appendix Table A1
Basic indicators for countries surveyed

	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe
GDP (1990, US\$ billions)	2.7	7.5	0.3	1.6	0.6	5.3
Population (1990, millions)	1.3	24.2	1.8	8.5	0.8	9.8
GNP/cap. (US\$, 1990)	2,040	370	530	200	810	640
Annual average growth rate, GNP/capita, 1965-1990	8.4	1.9	4.9	0.9	2.2	0.7
Area (thousands of sq.km.)	582	580	30	118	17	391
Population density (persons/sq.km.)	2.2	43.4	60.0	72.0	46.9	25.1
Annual growth rate of population, 1980-1990	3.3	3.8	2.7	3.4	3.4	3.4

Source: Liedholm and Mead 1993.

Appendix Table A2
Existing Enterprise Questionnaires (EEQ) details
Numbers of enterprises enumerated (not extrapolated)

Sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	4	40	91	142	179	191	647
Woodworking	9	142	82	215	25	103	566
Other forest products manufacturing							
Sawmilling	0	10	1	19	3	1	34
Coal and wood production	2	2	10	42	2	4	62
Wood carving	0	1	0	41	22	56	130
Subtotal	2	13	11	102	27	61	216
Forest products trade	8	269	42	185	101	23	628
All forest products	25	477	237	746	349	439	1273
All enterprises	1243	7267	4543	10792	2759	5575	32179

Appendix Table A3
Supplementary Questionnaire (SUPP) details
Numbers of enterprises enumerated (not extrapolated)

Forest products sector	Botswana	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	2	6	25	39	21	93
Woodworking	1	11	42	3	17	74
Other forest products manufacturing	0	1	15	1	9	26
Forest products trade	1	6	28	9	2	37
All forest products	4	24	110	52	49	239
All enterprises	256	630	1603	360	422	3271

Appendix Table A4
Closed Business Questionnaire (CBQ) details
Numbers of enterprises enumerated (not extrapolated)
by country and sector

Forest products sector	Botswana	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	1	19	58	20	98
Woodworking	2	20	7	11	40
Other forest products manufacturing	0	44	2	13	59
Forest products trade	0	51	17	6	74
All forest based	3	134	84	50	271
All enterprises	154	2814	663	1102	4636

Appendix Table A5
Number of forest products SSEs by subsector

Forest products sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	244	27065	2986	40167	16174	116670	203306
Woodworking							
Carpentry	49	N/A	309	10183	205	20290	59260
Furniture-making	244	N/A	412	2829	0	1691	5176
Other woodworking	0	2528	412	0	0	845	3785
Subtotal	293	30752 ¹³	1133	13012	205	22826	68221
Other forest products manufacturing							
Sawmilling	0	7284	103	2829	0	0	10216
Coal and wood production	49	2731	412	2263	0	2536	7991
Wood carving	0	910	0	2829	513	28745	32997
Subtotal	49	11135	515	7921	513	31281	51414
Forest products trade							
Vending forest products	440	N/A	824	16972	565	4227	23028
Retailing forest products	0	N/A	103	2263	51	0	2417
Subtotal	440	58822 ¹⁴	927	19235	616	4227	84267
Total	1026	127774	5561	80335	17508	175004	407208

¹³ In Kenya no distinction was made between carpentry and furniture-making enterprises. The subtotal for "woodworking" in Kenya includes all enterprises classified as "furniture-making" and all enterprises classified as "other grass and wood products". However, the majority of enterprises in this latter category were found to be involved in grass-related activities and for the purpose of the analysis of basic and dynamic characteristics were therefore aggregated with the grass/cane/bamboo enterprises.

¹⁴ In Kenya the forest products trade subsector was not categorised as vending or retailing. The subtotal figure presented here includes "retailing fuel and charcoal", "retailing domestic hardware", and "retailing grass products".

Appendix Table A6
Annual employment growth rate (%)
of existing forest products enterprises by sector
(Compound growth measure)

Forest products sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	0	2.1	0.1	4.8	2.5	2.9	3.1
Woodworking	68.8	18.5	5.6	17.6	63.6	6.6	14.6
Other forest products manufacturing							
Sawmilling	N/A	4.5	N/A	3.1	44.0	50.0	4.1
Coal and wood production	11.2	14.4	0	2.1	0	13.1	9.7
Wood carving	N/A	0	N/A	21.0	0.8	0.4	2.2
Subtotal	11.2	6.2	0	10.2	1.9	1.5	3.8
Forest products trade	10.2	0.181	-1.1	12.5	6.7	3.4	15.8
All forest products	30.3	0.130	2.0	9.2	3.5	3.0	7.4

Appendix Table A7
Annual change in the number of workers per enterprise
of existing forest products enterprises
by sector

Forest products sector	Botswana	Kenya	Lesotho	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo	0	0.074	0.001	0.073	0.045	0.035	0.048
Woodworking	2	0.549	0.145	0.25	0.777	0.281	0.40
Other forest products manufacturing							
Sawmilling	N/A	0.242	N/A	0.051	1.333	2	0.187
Coal and wood production	0.25	0.187	0	0.026	0	0.167	0.126
Wood carving	N/A	0	N/A	0.302	0.011	0.007	0.032
Subtotal	0.25	0.203	0	0.147	0.045	0.023	0.080
Forest products trade	0.258	0.218	-0.040	0.162	0.106	0.063	0.194
All forest products	0.858	0.266	0.051	0.13	0.058	0.065	0.142

Appendix Table A8
Sources of jobs

Forest products sector	Botswana	Kenya	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo						
Start-up	225	63,938	45,147	17,735	120,973	248,018
Expansions	0	33,411	7,800	4,140	14,090	59,441
Total	225	97,349 (90,641)	52,947	21,875 (28,635)	135,063	307,459
Woodworking						
Start-up	663	39,470	19,260	58	30,181	89,602
Expansions	133	66,740	8,272	91	32,373	107,609
Total	766 (973)	106,210 (107,425)	27532	149 (164)	62,554 (64,716)	197,211
Other forest products manufacturing						
Start-up	71	27,791	13,889	582	28,993	71,326
Expansions	18	8,022	3,496	83	3,436	15,055
Total	89	35,813 (36,744)	17385	665	32,429	86,381
Forest products trade						
Start-up	467	81,045	27,278	742	4,076	113,608
Expansions	139	23,650	7,036	262	696	31,783
Total	606	104,695 (106,606)	34,314	1,004 (1,106)	4,772 (4,928)	145,391
All forest products						
Start-up	1,396	212,244	105,574	19,117	184,223	522,554
Expansions	290	131,823	26,604	4,576	50,595	213,888
Total	1,686 (1,893)	344,067 (350,416)	132,178	23,693	234,818	736,442

Note: figures in parentheses match those in the totals of table 2.3. In some cases, they differ from the disaggregated figures presented here due to missing data on employment at start-up.

Appendix Table A9
Employment growth through small enterprise expansion:
Contribution of different size categories

Forest products sector	Botswana	Kenya	Malawi	Swaziland	Zimbabwe	Total
Grass/cane/bamboo						
Small growth	0	19,659	8,864	2,794	13,600	44,917
Graduation	0	0	0	1,332	490	1,822
Other expansion	0	13,752	-1,064	14	0	12,702
Expansion jobs, total	0	33,411	7,800	4,140	14,090	59,441
Woodworking						
Small growth	55	25,183	6,826	28	8,468	40,562
Graduation	37	31,391	1,161	36	0	32,625
Other expansion	41	10,166	285	27	23,905	34,424
Expansion jobs, total	133	66,740	8,272	91	32,373	107,609
Other forest products manufacturing						
Small growth	18	6,951	3,407	14	2,796	13,186
Graduation	0	0	0	0	640	640
Other expansion	0	1,071	89	69	0	1,229
Expansion jobs, total	18	8,022	3,496	83	3,436	15,055
Forest products trade						
Small growth	139	31,132	4,375	218	248	36,112
Graduation	0	0	0	27	0	27
Other expansion	0	-7,482	2,661	17	448	-4,356
Expansion jobs, total	139	23,650	7,036	262	696	31,783
All forest products						
Small growth	212	83,221	23,482	3,054	25,112	135,081
Graduation	37	31,391	1,161	1,395	1,130	35,114
Other expansion	41	17,211	1,961	127	24,353	43,693
Expansion jobs, total	290	131,823	26,604	4,576	50,595	213,888

