

Economics of Small-scale Furniture Production in Lafia Metropolis, Nasarawa State Nigeria

J. S. Alao* and E. D. Kuje

*Department of Forestry, Wildlife and Fisheries, Faculty of Agriculture, Nasarawa State
University, Keffi, Lafia Campus, PMB 135, Lafia, Nigeria*
*E-mail: alaojs@yahoo.com

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ABSTRACT The study was designed to assess the economics of small-scale furniture production in Lafia metropolis of Nasarawa State. Primary data for the study were collected from furniture producers in the study area. A total of thirty (30) furniture producers were interviewed using structured questionnaire. Descriptive statistics and budgeting were used in the analysis of the data. The result of the study revealed that all the furniture makers sampled were males while their educational qualification ranged between primary school (23.3%) and secondary school (76.7%). Source of initial funding came from savings (86.7%) and family (13.6%). A total of 28 (93.4%) of the small-scale furniture enterprise sampled were established between 1999 and 2000 while the remaining 2 were established in the 1980s. The study showed that hard wood were mostly used in furniture production which the producers mostly got from timber sheds and saw mills. On the size of work force, 5 (16.7%) respondents had 1-4 staff, 20 (66.7%) had 5-10 staff, 3 (10.0%) had 11-16 staff while 2 (6.7%) had 17-21 staff. The budgetary analysis gives total variable cost (TVC) as ₦1,546.86, total cost (TC) as ₦74,450,- and net income (NI) as ₦2,450. The gross revenue (GR) was ₦76,900.00, gross profit (GP) ₦3,99.86, and net profit (NP) was ₦75,357.14. The rate of return (ROR) was 103% while the rate of return on investment (RORI) was 3.29% which is positive thus depicting the profitability of furniture production in the study area.

INTRODUCTION

The economics of small-scale furniture production, including many others that are forest-based, for example, enterprises producing bamboo, basket, mats, charcoal, pit-sawn wood, furniture and non-wood forest products have been part of local value chains which are characterized by a limited number of stages between production, processing, trade and end use. Small-scale furniture makers have become dependent on protectionist measures and substantial public subsidies which curtail their long term innovation, efficiency and ability to withstand competition in a global environment (Bhavani 2006).

Arnold (1994) categorized small enterprises as organizations that employ between 5 to 50 workers. This is in contrast to workshop enterprises which at best can be described as micro-enterprises employing only traditional artisan techniques (Momoh et al. 1999). However, the economics of small-scale furniture production and medium-size enterprises dominate all spheres of economic activities until the beginning of the industrial revolution when technology advancements, especially in the manufacturing and transportation, enabled some of the sectors to scale up production (Government of India 2003). Small-scale forest-based enter-

prises usually include such productive activities as: Furniture production from sawn wood, cane, bamboo and rattan, fuel wood marketing, manufacturing of agricultural tools, art and craft such as wood carving, sponge making, mortar and pestle, etc. Small-scale enterprises play an important role in the processing and marketing of wood products and non-wood products. Provision of environmental services such as recreation is another area in which the sector is increasingly involved (Kozak 2007).

The economics of small-scale enterprises, including those in the forest sector largely depend on the overall socio-economic and technological changes. Small-scale enterprises certainly continue to play an important role in the production of goods and services and in the generation of substantial employment and income in almost all countries, both developing and developed. Income generated in small-scale enterprises would depend largely on the nature of local demand and the overall state of the local economy (Moodley 2003). The large number of start-ups reflects the dynamism in small-scale production epitomizing individual initiative, since the investments are low and entry is relatively easy. Individual can invest in the sector and leave the business when going becomes tough.

The wooden furniture is one of the ten major wood-based industries currently recognized in Nigeria. It is the most widely distributed of all the wood-based industries with its tentacles spreading from Lagos in the southwest to Edo in the midwest, to Kano in the northeast. It has been estimated that about two hundred large scale wooden furniture establishment are currently in operation in the country (Abdullahi 1999).

Furniture is largely produced by small and medium size enterprises using simple technology and technical know-how coupled with low capital input (FAO 1987). Worldwide, small-scale joinery, furniture manufacture and other small-scale based firm employ about 33 million people (World Bank 2003).

Raw materials are essential part of the furniture production. According to Omoluabi (1994), wood in the form of lumber or log is a basic raw materials for furniture production and about 60% of wood produced is used in the furniture industry alone. Hence, the long term prospects of the furniture industry are linked with the availability of suitable raw materials from the saw mills and plywood factories.

Certainly, the small-scale furniture producer is in business for the purpose of earning a living. His gross receipts must at least exceed his variable costs. However, such surplus known as operating gross profit should cover the depreciation (that is, to provide replacement of the furniture making assets). Panayotou (1995) stated that if the surplus over variable costs is not large enough to cover interest on loans in addition to depreciation as well as earn a return on own capital, then he/she cannot remain for long in the industry.

By and large the furniture industry could be said to be a forest-based enterprise. This is in consonance with Falconer and Arnold (1989) who defined forest-based enterprises activities as those that use any raw materials or products that occur in the forest or woodland or from trees outside the forest. Wood furniture enterprises are thus forest-based enterprises.

The objectives of this study are to describe the socio-economic characteristics of small-scale furniture production and to also determine the profitability or otherwise of small-scale furniture production.

METHODOLOGY

Study Area

The study was carried out in Lafia metropolis located in Nasarawa state in the middle belt zone of Nigeria.

Sample Procedure

The survey covered small-scale furniture production enterprises in Lafia metropolis. A total of thirty (30) small-scale furniture makers were purposively selected for the study.

Data Collection

The tool used for collection of data was structured questionnaire, which were administered to the furniture producers in the study area. Data collected included demographic information such as age, educational qualification, year of experience in furniture production, input and output prices.

Data Analysis

Descriptive statistics such as mean, percentage, frequency distribution, correlation coefficient and budgetary analysis were used. Budgetary analysis involved the calculation of costs and returns of small-scale furniture enterprises sampled.

Analysis of costs and returns include:

- (a) Variable Cost (VC) - Labour wages and salaries, value of planks, varnish, nails, electricity and transportation.
- (b) Fixed Cost (FC) - Depreciation of structures, shed, knives, hammer and rent. The straight line method of depreciation was adopted in the study. It is represented thus:

$$D = (C-S)/n$$

Where

D= Annual Depreciation

C= Initial Costs of fixed assets

A=Salvage value

n=Production life of assets.

$$C = S/N$$

Where:

C = Cost of fixed assets

S = Salvage value

n= Economically productive years of fixed inputs

(c) Profitability was calculated using the following equations:

(i) Gross Revenue (GR) = Total output x price per unit of product

(ii) Gross Profit (GP) = GR – VC

(iii) Net Profit (NP) = GP – FC

(iv) Rate of return (ROR) = $\frac{TR}{TC} \times 100$
that is, Gross Return (TR)/Capital invested (TC)

(v) Rate of Return on Investment

$$(RORI) = \frac{(TR-TC) \times 100}{TC}$$

that is, Net Revenue/Capital Invested
= $\pi \times 100$

(vi) Net Income(NI) = $TR - TC(TFC + TVC)$
TR=Total Revenue; TC=Total Cost (Total Fixed Cost+Total Variable Cost)

RESULTS AND DISCUSSION

Socio-economic Characteristics of Respondents

It is apt to know the demographic characteristics of the small-scale furniture makers. This will enable one to state reasons for some of the observed behaviours and the level of influence these characteristics have regarding furniture making as an occupation and this is reflected in the correlation coefficient (r) of 0.8, a value close to 1 which thus showed that there was a very strong association between gender, educational level and source of income in small-scale furniture production.

In this sub-section the furniture producers' socio-economic characteristics such as gender, level of education, source of income were estimated as shown below.

Gender of Small-scale Furniture Production

All the furniture producers in the sampled area were male (100%) as shown in Table 1. The status and role of women in the society has always generated argument and debate all over the world. The traditional role of women has been variously defined to include training of children, care of husband and household (Ajayi and Ojutiku 2008).

Educational Level of Respondents

Educational level of ownership of the furniture outfits studied is as shown in Figure 1. The

Table 1: Gender representation of small-scale furniture producers in Lafia

Gender	Frequency	Percentage
Male	30	100.0
Female	0	0.0
Total	30	100.0

Source: Field Survey 2008

figure showed that 7 respondents (23.3%) had primary school education; 23 respondents (76.7%) had secondary school education while none had neither technical nor tertiary education. The literacy level is encouraging because the respondents would be able to comprehend practical demonstrations made by skill development instructors in the process of skill acquisition capacity building. This is in consonance with Ajayi and Ojutiku (2008) who stated that reasonable level of education will aid in the comprehension of practical demonstration by contact farmers or extension agents before they could learn a skill.

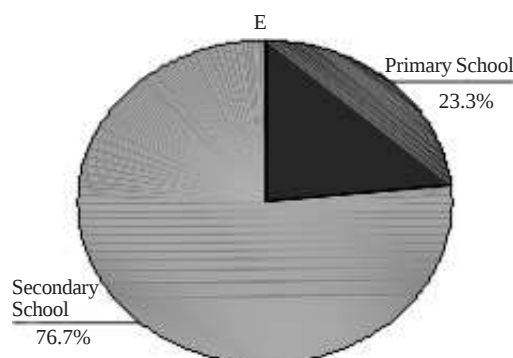


Fig. 1. Educational level of small-scale furniture producers in Lafia

Initial Source of Funding

Initial source of funding is an essential factor for any enterprise to take off and be successful. Figure 2 showed that 26 respondents (86.7%) got their initial source of funding from personal savings, while 4 respondents (13.3%) got theirs from family source. The study showed that no respondents had access to funding from customers, cooperative societies, poverty alleviation organizations and from any bank. This is an agreement with FAO (1987) who said that furniture production is largely produced by small and medium size enterprise using simple tech-

nology and technical know-how coupled with low capital input.

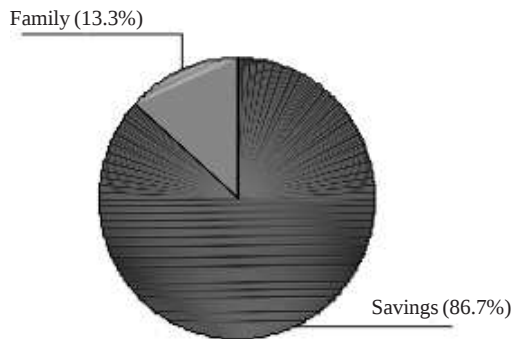


Fig. 2. Source of initial funding to furniture producers in Lafia

Year of Establishment

The year of establishment of an organization helps us to know how long the producer has been involved in the production of his particular line of product. This is germane to articulating his experience profile. The longer he has been at it, the more experienced he becomes. Table 2 showed that 2 (6.7%) of the respondents established their firms in the 1980s; 11 (36.7%) in the 1990s while 17 (65.7%) of the respondents established their firms in the year 2000. It could be stated that the longer the number of years spent in a vocation, the more knowledge and skills are acquired that are necessary for improved production. This is alluded to by Ajayi and Ojutiku (2008) who stated that spending long enough time on vocation is necessary to acquire enough knowledge and skills.

Table 2: Years of establishment of furniture firm

Year	Frequency	Percentage
1980s	2	6.6
1990s	11	36.7
2000	17	56.7
Total	30	100

Source: Field Survey 2008

Types of Wood Used in Furniture Production in Lafia

Different wood species are used to produce different grades of furniture products such as sitting room furniture, dining furniture, bed room furniture, etc. This is in consonance with

Omoluabi (1994) who stated that lumber or log is a basic raw material for furniture production. Table 3 showed the types of wood commonly used by furniture makers in the sampled area. Timber definitely is a forest product which makes furniture production a forest based enterprise. This is alluded to by Falconer and Arnold (1989) who defined forest based enterprise activities as those that used any materials or product that occur in forest or woodland or from the trees outside the forest.

Table 3: Types of wood used in furniture production in Lafia

S. No.	Scientific name	Common name
1	<i>Tectona grandis</i>	Teak
2	<i>Gmelina arborea</i>	Gmelina
3	<i>Khaya senegalensis</i>	Mahogany
4	<i>Mansonia heckei</i>	Makore
5	<i>Milicia excelsa</i>	Iroko
6	<i>Daniella oliverii</i>	Ogea

Source: Field Survey 2008

Source of Wood for Furniture Production

Wood is a major raw material that is used in furniture production (Omoluabi 1994). Table 4 showed that 16 (53.3%) of the respondents obtained wood from timber shed; 14 (46.7%) from the saw-mill and none from either the bush or any other wood source. This study has thus revealed that essentially the respondents obtain their wood from both the saw-mill and timber shed.

Table 4: Marketing model of furniture production in Lafia

Market Model	Frequency	Percentage
For sale	25	83.3
For contract	5	16.7
Total	30	100

Source: Field Survey 2008

Size of Workforce

Table 5 showed the size of workforce of small-scale furniture producers in the sampled area. The figure showed that 5 (16.7%) of the respondents had workforce that ranged from 1 to 4; 20 (66.7%) had workforce that ranged from 5 to 10; 3 (10.0%) had workforce that ranged from 11 to 16 while 2 (6.6%) had workforce that ranged from 19 to 21 respectively. The small-

scale furniture production outfits sampled generally confirms Arnold (1994) who said that a small-scale enterprise employs a minimum of 5 workers and a maximum of 50 workers. Only few of them 5 (16.7%) could be said to be micro-enterprises because they have between 1 to 4 workers only.

Table 5: Further analysis of those that produce for sale

Mode of Sale	Frequency	Percentage
Retail	15	60
Wholesale	10	40
Total	25	100

Source: Field Survey 2008

Marketing Model of Furniture Production

According to Lintu (1986), he said that the forestry sector tends to be very much production and product oriented. Therefore for it to get to the consumers, there is the need for the application of marketing science which is the key to the future growth and development of the sector.

Table 6 showed that 85.3% of the furniture producer in the area sampled produced mainly for sale while 16.7% produced on contract basis. This indicates that furniture production in the study area is more of for sale than on contract. The implication of this result is that those who produce for sale save money for the furniture production while those that produce on contract get money from the contractee to carry out furniture production.

Further Analysis of those that Produce for Sale

Lintu (1986) stated further that the type and number of people participating in the marketing function vary depending on the level of the chain of actions the type of product or service, type of marketing approach and the location of markets. The channel of marketing selected determines whether there are any middle men between the seller and the buyer.

Table 7 showed that 60% of the furniture producers in the sampled area retail their products while 40% sell their products on wholesale.

Budgetary Analysis

The budgetary analysis of small-scale furniture production in the study area is revealed in

Table 6: Budgetary analysis of small-scale furniture production in Lafia

Returns	Value (₦)
Furniture output (Total Revenue)	76, 900.00
Gross revenue	76, 900.00
Input	
(A) Variable Cost	
Plank	10, 000.00
Timber	25, 000.00
Nail	450.00
Adhesive	3, 957.14
Clothing	24, 000.00
Polish	7000.00
Labour	2, 500.00
Total Variable Cost	72, 907.14
(B) Fixed Cost (Depreciation at 20% Salvage Value)	
Spraying machine	1100.00
Hammer	77.62
Saw	77.62
Jack plane	210.00
Chisel	77.62
Total fixed cost	1, 542.86
Total cost	74, 450.00
Net income	2, 450.00

Table 7: Gross profit of small-scale furniture production in Lafia

Item	Value (₦)
Gross revenue (Total output x price/unit of product)	76, 900.00
Gross profit (GR-VC) $76,900-72,907.14 =$	3,992.86
Net profit (GR-FC) $76,900-1,542.86 =$	75,357.14
Rate of return (TR/TC x 100) $(76,900/74,450 \times 100)$	103%
Rate of return on investment (TR-TC/TC x 100) $(76,900-74,450/74,450 \times 100)$	3.29%

Source: Field Survey 2008

Table 8. The gross revenue obtainable for the study area in small-scale furniture production was ₦76, 000.00. The small-scale furniture firms earned ₦2, 450.00 as net income. The total fixed cost incurred was ₦72, 907.14, and the salvage value was 20% for depreciation. Thus a total cost incurred was ₦74, 450.00. The result presented in Table 9 showed that the gross profit which is gross profit less variable cost was ₦3, 992.56 while the net profit obtainable was ₦75, 357. The rate of return (ROR) is about 103%, while the rate of return on investment (RORI) was 3.29%, thus for every one naira invested in furniture production in the study area ₦3.29 will be earned. According to Alao and Popoola (2002), a positive RORI is an indication that a venture is viable.

The budgetary analysis showed that small-scale furniture production in the study area is

Table 8: Source of wood for furniture

Source	Frequency	Percentage
Timber shed	16	53.3
Saw mill	14	46.6
Total	30	100

Source: Field Survey 2008

Table 9: Size of furniture workforce in the sampled area

Size of workforce	Frequency	Percentage
1-4	5	16.7
5-10	20	66.7
11-16	3	10.0
17-21	2	6.6
Total	30	100

Source: Field Survey 2008

profitable with gross profit of ₦3, 992.86, net profit of ₦75, 357.14 and rate of return on investment of 3.29% which is positive and depicting that for every ₦ 1.00 invested by the producer, he will earn ₦ 3.29 in return .

CONCLUSION

The economics of small-scale furniture production is a veritable part of local value chains which are characterized by a limited number of stages between production, processing, trade, and end use. These phenomena coupled with small start-up capital makes small-scale furniture production easy to establish by would-be entrepreneurs. The viability of this venture is not in doubt. This has been succinctly shown by this study that small-scale furniture production in the study area is profitable because it has RORI of 3.29% which is positive and greater than zero. The study showed that small-scale furniture production in the study area is profitable because it has RORI of 3.29% which is positive and greater than zero.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are hereby made.

- Skill acquisition and development centers should be established by the government, the organized private sector (OPS) and Non-governmental Organizations (NGOs) where these furniture producers could go for refresher courses from time to time in order to enhance their technical capability.

- Access to micro-credit financing to enhance furniture production activities should be opened to these furniture producers.
- Women should be encouraged and empowered to go into small-scale furniture production.

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