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VALUATION OF FINANCING METHODS FOR WOODEN PALLATS ENTERPRISE IN BENIN METROPOLIS, EDO STATE, NIGERIA

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ABSTRACT

The study was carried out on financing methods for wooden pallet enterprise in Benin metropolis, Edo State. Ninety respondents were randomly selected using 80% and 20% sampling intensity where the number of producers were <14 and >350 respectively. Interviews were carried out with use of well structured questionnaire. Data were analysed using descriptive statestics, 't'test and ANOVA with arcsine tramsformation. Results showed that most commonly tree species used were khaya spp. (12.50 %) and Triplochiton scleroxylon (12.50%), the most commonly used families were Meliaceae and Sterculiaceae which stood equally at 16.67% each. The most preferred tree species was Alstonia boonei (12.50 %) while Meliaceae (18.18 %), Bombaceae, Combretaceae and five other famles stood at 9.09% as the most preferred families. It was shown that there was significance difference (P <0.05) among various pallet dimensions observed, indicating that pallet dimension in Guiness company dominated all the dimension observed in the study under review. Personal savings dominated all other sources of finanacing and there was significant difference among various sources of finananc (P <0.05). Results showed no significance difference (P>0.05) among various constraints faced by pallet enterprise and there was significant difference (P<0.05) among location effects on the contraints considred in the forgoing analysis. It is recommended that government should encourage specialized financial institution to assist in the funding of wooden pallet enterprise and also encourage commercial banks to lend money to the entrepreneur at low interest rate instead of leaving the financing of this important forestry sector to personal saving as main source of financing.

Key words: Benin metropolis, enterprise, finanacing, valuation, wooden pallet,

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INTRODUCTION

Financing of wooden pallet deserves special attention to evaluate, especially in the increasingly evidence of high inflation rate, low prospensity to save and lack of sincere finaacial government support for small scale enterprised. Tope (2017) has observed that inflation in Nigeria stands at 16.05% and it is one of the most important factors that affect decision making of an enterprenour because it greatly inflences his purchasing power domestically. Since, most publicly owned establishment frequently fail to engage in profit oriented and productive enterprises but rather operate in public interest such protecting the society from undue external influences (Macqueen,.2008). It is essential, however, to inquire how the enterprise sources its capital for general business, basic needs and social activities. A casual observation in Benin City and Environ reveals numerous unevenly distributed privately

owned pallets production sites, however, it is difficult to identify the buyers and selling points of these products within the immediate vicinity. A wooden pallet is used in the warehouse or industry to pile, store and transport manufactured goods efficiently. Therefore, it imperative to investigate how these important wood based enterprises fund their businesses since their buyers are hardly noticed around their business premisises. Contrarily, there is interrelationship between growth of industry, manufacturing areas and location of markets which has been reciprocal which explains country's industrial share and economic activity (Lecup and Nicholsen, 2000; Harris , 2008 and Barbeto,*et al*, 2018). In fact, manufacturing develops partly in region of largest markets in term of size which is augmented by favourable conditions for industrial growth. Thus, to remain in business year in and year out any enterprise must have the means of financing and disposition of the final product with exchange of equivalent cash value in return. Observation after series of enquiries from the producers show that every production of wooden pallet is based on order which stimulated the urges to probe further and enquire the methods of financing such an enterprise. The enterprise is one of the important forest based industries that uses timber offcuts without considering the anatomical features like; heart and sap content of the piece of wood or sometime, little presence of the bark is tolerated in the finished product. The products are made from low grade wood unsuitable for lumber or plywood such as low grade softwood and hard wood species (Klemperer, 1996). In this case soft wood species are not considered among the raw materials but only hard wood due to their readily availability as a result their abundance in the locality. In spite of this situation the output and quality of production is unperturbed, since there is abundant raw material which does not fit into carpentry and other constructional purposes. Invariably, increase the economic value of low grade sawn wood that would have ended up as fuel wood or lowly rated end uses.

Financing an enterprise adequately hinges positively on; improve revenue generation, expenditure policies and reform macroeconomic policies (including tax policies), incentives, subsidies, and technical and institutional supports. However, in Edo like every other States in Nigeria, pallet enterprise as a down stream activity within the forestry sector, has not really enjoyed these benefits. This is largely due to the fact that the State recent drive to increase internally generated revenues and renew policy to curb the tax evasion and avoidance have undue consequences on the economic activities of small and medium scale enterprises (Aidonojie, 2023). Numerous charges, levies and taxes are common feature in order to rump up drive for internaly revenue generation in the State. Despite these, forest is faced with a serious concern because core foresters desire sustainable forest management while the state government desires increased revenues from the estates.There is no dedicated financial institution for providing funds for small scale wood based enterprise with moderate interest rate, reduced risk and any form of tax holidays This is because there is no easy way to estimate a single, fully agreed-upon and universal funding institution which provide a clear information on capability of small and medium wood base industry, risk assessment and encourage forest sector development in order to meet sustainable development goals (Joshi, 1989 and Macqueen, 2008). This paper focuses on evaluating sources of the financing, common timber species used, and and constraints in financing of wooden panel enterprise.

MATERIALS AND METHODS

Study Area.

The study was conducted in Benin metropolis which is geographically located between latitude 6.1^0N to 6.8^0N and longitude 5.4^0E to 6.0^0E with a tropical climate characterized by humid forests. Benin metropolis has an annual rainfall of 1500mm-2000mm as well as an average temperature of 25^0C in the rainy season and 28^0C in the dry season (Aigbe *et al*,2017). Moist tropical forest dominates the state with lowland rainforest accounting for 76.5% of the total land area (FORMECU, 1999). The area is endowed with abundant hard wood species which are suitable for pallet enterprise and other wood based industries, however the forest resources are depleting steadily and continuously as a result of timber exploitation which always out class regeneration which

impacts heavily on biodiversity and phusical environment of the area (Fuwape, 2003). The prospect of production depends to a large extent on forest resources which the enterprise relies on to sustain its daily activities as well as increase production to meet ever rising demand. Benin metropolis comprised of Egor, Oredo, Ikpoba-Okha and Ovia North East Local Government Areas.

Sampling Method

Reconnaissance visits were made to the pallet production sites to elicit information on the total number of production sites in Benin City and their locations using snowball sampling technique. This sampling technique invoves a process where an intervied person suggests other relevant respondents (Jancsis and Javor, 2012). Five production sites were identified to ascertain the total number of Pallet Producers in each site comprising of Uselu, Technical College Road, Ovbiogie, Otofure and New Benin. Uselu had which had 350 wooden pallet producers dominating the values recorded in other locations summed together while Otofure had the least wooden pallet producers which stood at two producers only (Table 1). A sampling intensity of 80% was used for all the locations that had less than 14 pallet producers while 20 % sampling intensity was used for Uselu that had 350 pallet producers were randomly selected in the study under review.

Table 1 Location of Wooden Pallet Producers

Location	NWP	SI %	NQA
Uselu	350	20	70
Technical College	14	80	11
Ovbiogie	3	80	2
Otofure	2	80	2
New Benin	6	80	5
Total	375		90

Key:

NWP= Number of wood pallet producers

SI%= percentage sampling intensity

NQA= Number of copies of Questionnaire administered

Data Collection and Statistical Analysis.

Primary data were collected with the aid of structured questionnaire, which was randomly administed on pallet producers in the selected areas. Measurement of pallet dimensions, assessment of timber species were also carried out in the selected production sites within Benin metropolis. Data were analyzed using descriptive statistics like, frequency and percentage and inferential statistics using analysis of variance (ANOVA).

RESULTS AND DISCUSSION

A total of 17 tree species were listed as wooden raw materials used for Pallet production in Benin metropolis which were involved in various levels of utilization such as most commonly, most preferred and least preferred used (Table 2). The study revealed that the most commonly used timber species for production of pallet, were *Khaya spp* and *Triplochiton scleroxylon* (12.50%) while the most commonly used families were Meliaceae and Sterculiaceae accounting equally for 16.67 % each. The most preferred timber species for pallet production was *Alstonia boonie* accounting for 12.50% while the least timber species was *Hevea brasiliensis* accounting for 8.33% occurrence. The latter were spent Rubber trees whose latex production had drasticatly declined largely due to old age, low latex yield and long period of latex production. It belongs to the family of Euphorbiaceae (40%)

which was the least preferred family of the identified timber species for the forgoing study.

Table 2 Identified Tree Species used for Pallet Production

Scientific names	Local names	Family	%	Fmy%
most Commonly used tree species and family				
Albizia Lebbeck	Albizia	Mimosoideae	8.33	11.11
Piptadeniastrum africanum	Ekhimi	Mimosoideae	8.33	11.11
Khaya spp.	Mahogany	Meliaceae	12.50	16.67
Guarea spp.	Obobo	Meliaceae	8.33	16.67
Lovoa trichiloides	Walnut	Meliaceae	8.33	16.67
Triplochiton scleroxylon	Obeche	Sterculiaceae	12.50	16.67
Nesogordonia papaverifera	Danta	Sterculiaceae	8.33	16.67
Mansonia altissima	Mansonia	Sterculiaceae	8.33	16.67
Ceiba pentandra	Okha	Bombaceae	8.33	11.11
Bombax buonopozense	Bombax	Bombaceae	8.33	11.11
Nauclea diderrichii	Opepe	Rubiaceae	4.17	5.56
Terminalia spp.	Afara	Combretaceae	4.17	5.56
Tectona grandis	Teak	Verbenaceae	4.17	5.56
Mangifera indica	Mango	Anacardiaceae	4.17	5.56
Milicia excels	Iroko	Moraceae	4.17	5.56
Cordia millenii	Oma	Boraginaceae	4.17	5.56
Afzelia africana	Apa	Caesalpinoideae	8.33	5.56
Brachystegia erycoma	Okhuen	Caesalpinoideae	8.33	11.11
Least Prefered Species and family				
Hevea brasiliensis	Rubber	Euphorbiaceae	8.33	40
Uapaca guineensis	Oya	Euphorbiaceae	4.17	40
Lophira alata	Eki	Ochnaceae	4.17	20
Pycnanthus angolensis	Akoun	Myristicaceae	4.17	20
Irvingia spp.	Irvingia	Irvingiaceae	4.17	20
Most prefered species and family				
Albizia lebbeck	Albizia	Mimosoideae	9.09	9.09
Cordia millenii	Oma	Boraginaceae	4.17	9.09
Terminalia spp.	Afara	Combretaceae	9.09	9.09
Brachystegia eurycoma	Okhuen	Caesalpinoideae	8.33	9.09
Alstonia boonei	Alstonia	Apocynaceae	12.50	9.09
Bombax buonopozense	Bombax	Bombaceae	9.09	9.09
Khaya spp		Meliaceae	4.17	18.18
Lophira alata	Eki	Ochnaceae	4.17	9.09
Irvingia spp.	Irvingia	Irvingiaceae	4.17	9.09
Lovoa trichiloides	Walnut	Meliaceae	9.09	18.18

Pycnanthus angolensis	Akoun	Myristicaceae	9.09	9.09

Key: Fmy %= family percentage occurrance

The findings corroborate the views of German Inssurance Association (2017) expressing that timber species like Abura, African Mahogany, Khaya and Canarium are commonly used in making of pallets in most of west African countries due to their durability, high resistance to insect degradation and fungal attacks. However other characteristics such as colour, specific gravity, moisture content, grain strinkage and swelling strength were not given a particular consideration in wooden pallet construction which are sensory characteristic for industries (Tsoumis, 2024). The additional processes required in other wood based industries are not of any significance in pallet production such as seasoning, application of adhasives and planing which to a large extent reduces the production line and invariably minimize cost of production considerably which affects expenses and price of final product (Lapinskaite and Kuckailyte, 2014). Obviously, it helps in no small way for effective cost allocation system which is vital to control manufacturing costs (Quesada-Pinedo, 2010). It highlights significant savings down the production sream and consequently reduces production cost. In fact, processes like tooling design, application of glue, paint, finishing are not included in wooden pallet enterprise and ultimately never found their existence in the production process.

Six identified industries that patronized wooden pallet producers were Lager breweries, glass production industry, 7up bottling company, Coca cola, ceramics and Guinness (Table 2). The dimensions of wooden pallet desired by these industries differed from one another in the study under consideration. The results revealed that the length, breadth and width of pallet were significantly different among themselves as well as among the companies that patronize the pallet producers ($P<0.05$). The dimension of wooden pallet utilize by Guinness breweries dominated the dimensions used by other companies in the foregoing analysis.

Table 3. Dimensionss of wooden Pallet utilized by various industries (cm)

Industries	Length	Breadth	Width	Total	Mean
Lager Breweries	120.5	100.5	10.7	231.7	77.23cd
Glass production	120.0	100.0	15.3	235.3	78.43bcd
7up	120.0	100.0	10.4	230.4	76.80d
Coca cola	120.0	100.0	10.4	230.4	76.80d
Ceramics	120.0	120.0	13.0	253.0	84.33ab
Guinness	132.0	117.0	10.4	259.4	86.47a
Total	732.5	637.5	70.2	1440.2	
Mean	122.08a	106.25b	11.7c		

The findings agree with the common knowledge that there are uniqueness of every industry as a result of coporate strategy, even though similar raw materials are employed in its activity compared with other industries which enable Guiness to utilize dominant dimension of wooden pallet. Of truth is that the existence of pronouced pallet dimension variations is driven by effort to optimise the benefits which are accruable from the raw materials depending on the final products and to satisfy management goals.. Thus, every industry follows a general principles and aims, however, there are variations in investment planning which include different tasks and phases as well as control which form parts of long term

development planning of the enterprise and varying preferences of forest land owner (Heinonen *et al,* 2020). It is also obvious that each industry is invariably able to secure its objective, there are variation in day to day activities and what its management considers proper. The method applied in its construction is dependent upon the nature of contents to be transported, its weight, shape and suseptability to damage.

Sources of Finance for Pallet Production Business

Four (4) major sources of funding for pallet production were identified. Saving was listed as the primary source of funding the pallet production enterprise. These were savings carried out by the pallet producers who put aside some personal income since the respondents affirmed that they did not get any support from the government while other sources of funds include; meeting's contribution/donations, loan from banks and cooperatives (Table 3). The results showed that there were significant difference among various sources of fund ($P<0.05$) while savings dominated other sources of funds considered in foregoing analysis.

Table 4. Sources of Finance for Pallet Production Business (Arcesine transformed %)

	AMC	Savings	Banks	Cooperatives	Total	Mean
Land	19.37	53.13	23.58	8.13	104.21	26.0525
Machinery	18.44	51.94	17.46	11.54	99.38	24.8450
Operation	12.92	58.05	16.43	8.13	95.53	23.8825
Salaries	5.74	60.67	14.18	5.74	86.33	21.5825
Total	56.47	223.79	71.65	33.54	385.45	
Mean	14.1175bc	55.9475a	17.9125b	8.3850c		

Key AMC= Association, meeting and contribution

This findings corroborate with the view of Tomaselli (2006) that private funding is the main source of investing in small and medium scale forest based enterprises because the entreprenours depend mostly on their own funds to finance their businesses since grants and subsidies do not cover most of the activities in forestry sector, especially privately owned establishment. The reason is because financing and investments by domestic public institution depend on factors such as government policies, funding budget capacity, objectives, priorities and types of forest activities .

The importance of finance to the industrialization of an economy cannot be over emphasized because finance is the key to investment, growth and development of an economy (World Bank, 1989). Studies have shown that finance is one of the major problem encountered by producers in developing countries like Nigeria, since they rarely get support from the government (Evbuomwan, *et al,* 2013 and Aroso, *et al,* 2016). The strong emphasis on financing indicates that insufficient financial resources constitute one vital factors that mitigate against promotion of sustainable management of forest based activities as well as deforestation (Tomaselli, 2006).

Constraints faced in the pallet enterprise

Table 5 shows that there was no significant difference ($P>0.05$) among the constraints that faced the pallet enterprise when considered wholly in the study, indicating that all the identified contraints apparently are impacting equally on the pallet enterprises. The observation made in Uselu showed predominance of constraint effects over every other locations under review.

Table 5. Constraints faced in the pallet enterprise

Markets	RSP	HIT	HIIL	LAL	IIF	Total	Mean
Uselu	54.33	43.58	40.98	49.02	19.37	**207.28**	**41.47[a]**
Technical College	18.44	17.46	9.89	18.44	8.13	**72.36**	**14.47[b]**
Ovbiogie	5.74	5.74	5.74	5.74	5.74	**28.70**	**5.74[c]**
New Benin	12.92	12.92	12.92	12.92	12.92	**64.60**	**12.92[b]**
Otofure	5.74	5.74	5.74	5.74	5.74	**28.70**	**5.74[c]**
Total	**97.17**	**85.44**	**75.27**	**91.86**	**51.90**		
Mean	**19.43[a]**	**17.09[a]**	**15.05[a]**	**18.37[a]**	**10.38[a]**		

KEY
RSP- Rejection of supplied panels,
HIT- High incidence of tax,
HIIL- High rate of interest on loan,
LAL- Lack of access to loan,
IIF- Inadequate infrastructural facilities

The findings somewhat corroborrate with the views expressed by Adedokun, et al (2005) that small scale wood-based enterprises face problems that are especially related to limited markets, poor access to forest and other raw materials, limited financial resources and shortage of manpower. It is obvious that wooden pallet enterprise may not be able to accomplish the task of sustainable production and steady suuply of its products to industries that utilize it or maintain the ouput at the level required by the industries due to some challenges. Obviously, it is apparent that the industry is currently saddled with numerous constraints, namely; rejection of supplied wooden pallets, high incidence of tax, high rate of interest on loan,lack of access to loan and inadequate infrastructural facilities.

CONCLUSION

The wooden pallet production enterprise derives its major raw materials from timber species such as Khaya spp and Triplochiton scleroxylon which were most commonly used largely due to their durability and high resistence to insect degradation. It was observed that personal saving is the dominant source of funding for the enterprise since government funding participation depents on its policy, funding budget capacity, priority and types of forest activities. The task of ensuring sustainable production of wooden pallet is faced with some constraints ranging from rejection of supplied pallets (RSP) to industries that placed order on them, to high taxation, high rate of interest on bank loan to inadequate infrastructural facilities which to a large extent affect the output and the total income accruable to the enterprise considerably. It is primarily faced with the problem of rejection of supplies followed by lack of access to loan, taxation and high interest rate on loan. Government should assist in ameliorating the issues of funding of this enterprise through tax reduction, tax exemption and creating easy access to loans from banks as this would aid the growth and the development of the economy on the long run.

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