

Economies of Gum Arabic marketing: A Panacea for Poverty Alleviation in North-Eastern Nigeria

Haliru, Y. U^{1*}, Ibitoye, S.J² and Otitolaiye, J.O²

¹Rubber Research Institute of Nigeria, PMB 1049, Benin City, Edo State Nigeria.

²Department Agricultural Economic and Extension, Faculty of Agriculture, Kogi State University, Nigeria.

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The study analysed the economies of gum arabic marketing in Adamawa, Taraba and Yobe states of Nigeria. Data were collected through the use of structured questionnaire administered on 150 respondents. The data were analysed using descriptive and inferential statistics. The results indicate the mean age of the respondents as 53years, 18 years as the average years of gum arabic marketing experience. Most of them (about 65%) had no formal education. The profitability analysis revealed a total of 626,465.00 kg of gum arabic was sold by the respondents and got total revenue of \$ 17,454.65 (₦2, 618,197.533). This gives Gross Margin (GM) and Net Profit (NP) per kilogram of gum arabic sold as \$0.025 (₦ 3.74). The changes on the income and expenditure status of the respondents show mean increase in income of \$13.22 (₦ 1983.0) per marketer while their mean expenditure increase was \$ 1.59 (₦ 238.53). This shows that gum Arabic marketing in the study area can serve as a panacea for poverty alleviation when properly harnessed.

Keywords: Gum Arabic Marketing, North-Eastern Nigeria, Poverty alleviation.

INTRODUCTION

Marketing can be defined as the movement of goods and services from the point of production up to the final consumer. That is, all the activities involved in ensuring products reach their consumers are referred to as marketing. Abolagba, (2008) thus defined marketing as economic, cultural and environmental changes that tend to interconnect people together around the world with much emphasis on increasing economic integration through movements of goods and services across the border.

The marketing processes create product utility functions called the theory of consumer behavior

stated as form, time, place and possess utility. This influences market conduct, structure and performance which gave birth to the three marketing function theories; namely the functional approach, institutional approach and the commodity approach. Functional approach refers to the major activities specifically performed to co-ordinate the marketing business. This comprises of the exchange, physical and facilitating functions. Functional approach looks at the jobs out to be done in marketing without caring who does them; while the institutional approach is concerned with whom the jobs performs by different middlemen and the related agencies at various levels. The Commodity approach is concerned with the marketing channels of commodities.

The nature of agricultural commodities (seasonal,

*Corresponding Author Email: haliru.umar@gmail.com

bulky and high perishability) invariably influences its marketing channels. However, Timmer, 1983 as cited by Umar (2010) observed that most agricultural commodities' market channel operate simultaneously as follows:

Consider P, S, T = Processing, Storage and Transportation, respectively.

- (i) Farmers (S.P.T) → rural consumers.
- (ii) Farmers (S.P.T) → rural retailers (T) → rural consumers
- (iii) Farmers (S.T) → resident producer/ assembler (P.S.T) → rural retailers (T) → rural consumers.
- (iv) Farmers (S.T) → resident producer/ assembler (P.S.T) → non-resident wholesaler (S.T) → urban consumer.
- (v) Farmers (S.T) → non-resident wholesaler (P.S.T) → urban wholesaler, retailer or consumer.

Marketing generally produce losers as well as gainers depending on the entrepreneur's ability to interpret and operate under the prevailing macroeconomic situations.

The economic and fiscal forces that exist if left free in the market can possibly create either abundance of a goods and services due to oversupply or scarcity due to over demand. These factors forced many countries in the world to establish some policy strategies to control supply and demand of commodities especially the import and export goods. The neoclassical theory (the export – led growth model) laid emphasis on policies to expand export market that will lead to greater and efficient utilization of resources to enhance socio – economic development and alleviate poverty. Umar (2010) stated that production of cash crops in Africa is highly motivated by cash income generated by the produce/products. That is, the better the market situation of a crop is, the more encouragement for production it has on the farmers to supply the produce.

Gum Arabic Marketing in Nigeria

Marketing of Gum arabic in Nigeria started since 1914, when the then Northern Province Governor, Mr. Howbey R. Palmer visited Sudan and saw how Gum Arabic business was thriving. Immediately he came back to Nigeria he ordered for sample collection of similar produce in Nigeria and sent it to

Premier Institute, London for analysis. The result revealed that the produce was similar to that found in Sudan. Nigeria thus started Gum arabic trade with London, while the first gum arabic market centers in Nigeria were at Geidam and Damaturu both in the present Yobe state (Baseline Survey on Gum arabic, 2002). Farmers/collectors of gum arabic have no specific market location or union. Only the middle men purchasing gum arabic that have distinct markets and unions (Umar, 2006). Grade 1 gum arabic (*Acacia senegal*) which is most patronized is usually processed in to powder form by the only local processing industry in the country, (DANSA FOODS) Company located in Kano to add value.

The seasonal price variations of gum arabic in Nigeria indicates an increase in price of gum arabic during the period under review with Yobe state having the highest off – season price of ₦ 500,000 (\$ 333,333.30)/tonne in 2005. Raw Materials Research and Development Council-RMRDC (2004) also reported that due to some factors which include irregular supply of the product, gum arabic is always short of its demand of the local industries in Nigeria. This led Nigeria to import about 129,550 kg refined gum arabic in just 2001 at a total cost of ₦ 39.64(\$ 0.2643) million.

Nigeria is the second largest producer and marketer of gum arabic in the world after Sudan which produces a total estimate of about 18,000 metric tonnes per annum (RMRDC, 2004). Ligali (2005), also reported that an attractive increase on gum arabic price in Nigeria domestic market reached about ₦ 25, 000.00(\$ 166.67)/50 kg in 2005.

Poverty; Concepts and Evaluation in Nigeria

In an economic term, poverty is any condition that makes one to live on less than U.S \$1.00 per day (Onyeabor and Agwu, 2004; Dike, 2002). Thus poverty is believed to have negative impact on both physical and spiritual status on its victims. It is physically noted on its victims' daily mode of activities. In general, the poor are those that 'have limited and insufficient food, poor clothing and dirty shelter (Victor, 2002), cannot afford medical care and recreation; cannot meet family and community obligations and other necessities of life. Thus, people are regarded as "poverty-stricken" when

their income, even if adequate for survival, falls clearly behind the average obtainable income in their immediate community (Victor, 2002).

In spite of Nigeria's oil wealth (the 6th oil producing nation in the world), the country constitutes about 70% poor; and also as reported by the United Nations Development Programme (UNDP) that Nigeria is the 26th poorest nation in the world (Onyeabor, and Agwu, 2004; Dike, 2002). Poverty is therefore a serious issue in Nigeria as about 70% her population is poor. Worse still, is the fact that the nation as a matter of policy do not have any guideline to determine and measure poverty as is found in some countries talk less of combating it with much seriousness it deserves. For instance, in the US 1995 'Official Federal Policy notion of poverty guidelines', a precise dollar amounts of about \$15,150 for a family of four was stipulated. Poverty guidelines, which are issued by The Department of Health and Human Services, determine financial eligibility for federal programs and household incomes for basic necessities. The poverty threshold, (which is the statistical version of the poverty guidelines), is used by the 'Census Bureau' to calculate the number of persons in poverty in the United States (Schwarz 1998). No tresses of these departments/activities are seen in Nigeria.

Categories of Poverty

Victor (2002) classified poverty into two main categories, namely: Case Poverty, and Insular Poverty.

(i) Case Poverty: This manifests in poor family with "junk-filled yard and dirty children playing in the bare dirt". Other qualities peculiar to the individuals or family afflicted by Case poverty are: mental deficiency, bad health, inability to adapt to the discipline of modern economic life, excessive procreation, alcoholism, insufficient education, or perhaps a combination of several of these handicaps including social vices (Victor, 2002). These conditions hinder them from having the general wellbeing of life. This type of poverty is common in Nigeria, especially in the North – Eastern part. Alleviating a case poverty requires the study of the victim(s) characteristics and that of the environment he lives in. Because case poverty is

mainly caused by individual inability to live a productive life based on personal deficiency.

(ii) Insular Poverty: Is the type of poverty as one that manifests itself as an *Island* whereby nearly everyone is poor in the community. It is assumed that the environment in which the people found themselves may have made them poor or may have frustrated them. In Nigeria, this type of poverty is only found on assumption and based on ignorance; but in the real sense, Nigeria has fertile land which can lead to wealth establishment when exploited rather than poverty alleviation. Although there is presence of inadequate infrastructure to facilitate meaningful economic development in many parts of the country especially the North – East due to bad governance experienced in many states of the North.

METHODOLOGY

Study Area

The study was carried out in Adamawa, Taraba and Yobe States of North-Eastern Nigeria. Geographically, the states are in Semi-Arid zone with a mean annual rain fall of 160.2 mm, and temperature fluctuating between 14°C to about 44°C (Yobe and Adamawa States Diaries, 2009, 2010 respectively). These conditions promote the production of gum arabic (Aghughu, 2004).

There are diverse ethnic groups well over 50 different tribes found in these states with major languages spoken as Hausa, Fulfulde, Kanuri, Kilba, Margi, Bura Bachama, Chamba and Fali among others.

Data Source and Collection

Primary data were used for the study. The data were collected through the use of questionnaire administered through oral interviews on gum arabic marketers in the study area. The questionnaire was designed to solicit information on the benefits (income) generated by the respondents from the sales of gum arabic, value of assets before and after engaging in gum arabic marketing which were used to evaluate the degree of poverty alleviation among the respondents as well as the constraints they face in the business of gum arabic.

Table 1. Age distribution of the Respondents.

Age (Years)	Frequency	Percentage (%)
≤ 20	2	1.33
21 – 30	12	7.33
31 -40	6	4.00
41 -50	41	27.33
51 – 60	44	29.33
61 – 70	41	27.33
71 and above	5	3.33
Total	150	100.00
Mean	53 (years)	

Source: Field survey, 2012.

Methods of Data Analyses

Descriptive statistics such as mean, percentages and frequency distribution were used in analyzing the socio economic variables in the study, while Gross Margin model was used to evaluate returns on capital invested by the respondents in the study. The model is stated as follows:

$$GM = TR - TVC \text{----- (1)}$$

$$GM_{fk} = (TR - TVC)/N \text{----- (2)}$$

$$GM_{kg} = (TR - TVC)/kg \text{----- (3)}$$

$$NP = GM - TFC \text{----- (4)}$$

Where:

GM = Gross margin for gum arabic marketing (₦)

TR = total revenue realized from gum arabic marketing (₦)

TVC = total variable cost incurred in gum arabic marketing (₦)

GM_{fk} = gross margin per marketers of gum arabic (₦)

GM_{kg} = gross margin per kilogramme of gum arabic sold in the study area (₦)

Kg = total quantity of gum arabic sold in the study area (Kg)

N = total number of respondents

NP = net profit for gum arabic marketing of the respondents (₦)

TFC = total fixed cost incurred during gum arabic marketing (₦)

Depreciation on fixed cost items were computed using straight line method for easy computation and accurate values for the items used.

RESULT AND DISCUSSION

Age

The age distribution of the respondents is presented in [Table 1](#). The result shows that only 1.33% of the gum arabic marketers were either 20 years or less than. Those with ages of 41 - 60 years constituted 56.66% of the total respondents. This indicates that gum arabic marketing in the study area was dominated by middle age people. The reason may be due to the laborious nature of the processes involved in gum arabic marketing such as moving from village to village searching for the produce, careful sorting according to grades, shade drying of the produce and bagging.

The youth usually don't have the patience to undergo these processes, which agrees with the findings of Adigun et al., (2011) who said that older/Middle Ages persons usually have higher ability of patience, and patience in business influences higher gains for the entrepreneur. This is in line with the finding of Giroh et al., (2010) who reported that middle age people have relatively higher degree of risk bearing than the young people in agricultural business.

Gum arabic Marketing Experience

[Table 2](#) depicts the years of experiences of the respondents' in gum arabic marketing. Most of the respondents (57.33%) indicated that they have been in the business for twenty one years and above.

Table 2. Distribution of Experience in Marketing of gum arabic by the Respondents.

Marketing Experience (Years)	Frequency	Percentage (%)
1 – 5	9	6.00
6 – 10	17	11.33
11 – 15	21	14.00
16 – 20	17	11.33
21 and above	86	57.33
Total	150	100.00
Mean	18 (years)	

Source: Field survey, 2012.

Table 3. Educational Distribution of the Respondents.

No. of years spent in formal school	Frequency	Percentage (%)
(0)	97	64.67
(1 – 6)	30	20.00
(7 - 12)	21	14.00
(13 - 17)	2	1.33
Total	150	100.00
Mean (Years)	8.8	

Source: Field survey, 2012.

Only 6% of the respondents were new in the business of gum arabic (1 – 5 years). Those with 6 - 20 years experiences constituted 42.66% of the total respondents. The gum arabic marketers were thus expected to be efficient based on their long stay in the business as Wood, (2008) stated in his study on measuring experience that the greater impacts of marketing objectives are gained through experiences. Thus experience may serve as a useful factor in determining the effectiveness of marketing events among marketers (Wood, 2008). This is due to the fact that experience creates behavioural confidence in the business and increases buyers – sellers' engagement and stronger relationship.

Educational status

The educational status of the respondents (Table 3) revealed that most of the marketers (64.67%) did not have formal education. There was only 1.33%

had tertiary education. The age spent in formal school by the respondents was 8.8. The implication of this high illiteracy among the respondents would be poor management of the gum arabic businesses as education is a crucial factor to the quality and performance of entrepreneurship. This explains the fact that despite the abundance of gum arabic in the area as well as its high demand worldwide, poverty prevails among the larger population (70%) in North – Eastern Nigeria (Eboh, 2006).

Profitability Analysis of Gum arabic Marketing

Table 4 depicts the profitability analysis of gum arabic marketing in the study area using Gross Margin model (GM).

The result indicates a total of 626,465 Kg of gum arabic was sold by the 150 respondents; and generated a total revenue of ₦ 392,729,630.00. The total gross margin was ₦ 351,969,121; and the gross margin per marketer was ₦ 2,346,461.00; while the

Table 4. Gross Margin and Profitability Analysis of Gum arabic Marketing.

Variables (Items/Activities)	Total Value (₦)/Marketer
(A) Depreciated Fixed cost:	
(i) Scales	3312.34
(ii) Head pans	1216.33
(iii) Mudus (Measures)	233.34
Total fixed cost	4,762.0
(B) Variable cost:	5962.89
(i) Labour cost	3910.17
(ii) Operating cost	261,863.67
(iii) Purchasing cost	271,736.73
Total variable cost	
(C) Total cost	276,498.73
(D) Total revenue (TR)	2,618,197.533
(E) Gross margin (GM) (D - B) Gm/Kg	2,346,461.00
(E/H)	3.74
(F) Net profit (NP) (D - C) NP/Kg	2,341,698.8
(F/H)	3.74
(G) Total respondents	150
(H) Total Quantity of gum arabic sold	626,465.00 Kg

Source: Calculated from Data collected on field survey, 2012.

GM per kilogramme of gum arabic sold was calculated as ₦ 3.74.

On the other hand, the total net profit calculated was ₦351,254,821.00, and the net profit per marketer was ₦2,341,698.8. This implies that gum arabic marketing was highly profitable in the study area as the respondents made net profit of ₦ 2,341,698.8 each, giving a profit per kilogramme of gum arabic sold of ₦ 3.74. This conformed to the earlier studies conducted by (Umar et al., 2011) on cost and returns of gum Arabic and some selected tree crops production in Adamawa and Yobe states, Nigeria.

Income Status of Respondents Before and During Engaging in Gum Arabic Marketing

Table 5 revealed that before engaging in gum arabic marketing, 64% of the respondents were below

poverty line as they could not earn up to \$1.00 per day. There were only 17% of the respondents that earned above \$2.00 and are considered rich. This confirms to the findings of Ajayi, (2004) who reported that 58.15% of North – Eastern Nigeria population live in extreme poverty, 27.03% moderately poor, and only 15% were rich. On the other hand, the Table shows a drastic change in the income status of the respondents which indicates only 6% of the respondents that were below poverty line, 22% moderately poor and majority (69.3%) earn above \$2.00.

The percentage change in mean income status among the respondents was 172% ($20.85 - 7.63 \div 7.63 \times 100$). This implies that gum arabic marketing in the area had positive impact on poverty alleviation. This is in line with the study of (Giroh et al., 2007) on the analysis of farmers' awareness on gum arabic production in selected Local Government of Jigawa state, Nigeria.

Table 5. Income Status of Respondents Before and During Engaging in Gum Arabic Marketing.

Income Status \$/day (₦)	Before		After	
	Frequency	%	Frequency	%
0.1 - 0.999 (15 - 149.9)*	96	64.00	9	6.00
1.00 - 1.999 (150 - 299.9)	15	10.00	33	22.00
2.00 - 2.99 (300 - 449.9)	13	8.67	4	2.67
3.00 and above	26	17.13	104	69.30
Total	150	100.00	150	100.00
Mean (\$)	7.630		20.85	

Source: Calculated from field survey, 2012

* Figures in parentheses are naira value equivalent.

Table 6. Expenditures Status of Respondents Before and During Engaging in Gum Arabic Marketing.

Expenditures Status \$/day (₦)	Before		After	
	Freq.	%	Freq.	%
0.1 - 0.999 (15 - 149.9)*	119	79.33	11	7.33
1.00 - 1.999 (150 - 299.9)	27	18.00	79	52.67
2.00 - 2.99 (300 - 449.9)	3	2.00	38	25.33
3.00 and above	1	0.67	22	14.67
Total	150	100.00	150	100.00
Mean (\$)	0.85		2.44	

Source: Calculated from field survey, 2012.

* Figures in parentheses are naira value equivalent.

Expenditures Status of Respondents Before and During Engaging in Gum Arabic Marketing

Table 6 revealed the expenditures range of the respondents before and during engagement in gum arabic marketing. Before engagement in gum arabic marketing the result indicated about 79% of the marketers spent less than \$1.00 per day (extreme poverty) and less than 1% spent above \$3.00 a day (the rich). After engagement in gum arabic marketing the result depicts about 53% of the respondents spent between \$1 – 2/day implying

were moderately poor, while about 15% spent \$3.00 and above per day, leaving only about 7% were still in extreme poverty as they spent less than \$1.00 a day.

The percentage change in the purchasing power of the respondents as calculated in this study was 187% ($2.44 - 0.85 \div 0.85 \times 100$). This implies that the gum arabic marketing has increased the purchasing power of the respondents greatly. This is an indication of poverty alleviation among the respondents (*ceteris paribus*). The result lays credence to the work of Zendillo, (2008) who found

out that agricultural marketing is an important means of poverty reduction especially in developing countries.

CONCLUSION AND RECOMMENDATIONS

The study assessed revenue generated from sales of gum arabic in north – east Nigeria with the view to examine its possibility to serve as an alternative strategy for poverty alleviation in the zone. Gum arabic marketing in Nigeria is a venture that is yet to get a sound footing as one of the major commodity trade, mainly due to ill political wills of governments to promote the produce market. Most of the respondents were poor financially and engage in the gum arabic marketing between December and April. It is necessary to mention that for Nigeria to earn higher revenue from gum, production and marketing of grade 1 gum arabic should be emphasized. Mokwunye and Aghughu, (2010) however reported that Nigeria may soon compete with Sudan in the supply of gum arabic in the world market as Indians prefer Nigerian grade 2 gum to that of any other country.

The significance of human development capacity cannot be over emphasized. The major factor that catalyzes poverty status is capital which is itself is a function of some prevailing environmental factors (Victor, 2002). Eric (2006), reported on the public expenditures sharing across the country between 2001 and 2005 by Federal Government of Nigeria that Adamawa, Taraba and Yobe states were lagging behind most other states in the country. This might be the major factor causing the persistence poverty in the north; as this have impacts on Internal Generated Revenue (IGR) due to multiplier effects on the budget on the economy of the zone.

Gum arabic marketing may serve as an alternative strategy for poverty alleviation only when a holistic approach is deemed necessary by the three tiers of government. This has proven so as over 60% of

Sudan's economy is from gum marketing. Also in Chad, Nigeria's closest competitor on gum arabic marketing has taken a bold step to establish a gum arabic central market in order to make the business more efficient. Why can't Nigeria do the same?

Poverty is endemic in Nigeria especially in the northern part of the country. An effective alleviation of the poverty situation in the area requires a holistic approach by all tiers of government through effective programmes that promote agricultural production and marketing. Thus, the following recommendations were made in order to improve gum arabic business in the country:

- i. There should be an enlightenment campaign by government in the gum arabic production states for people to understand the economic importance of gum arabic and the need to be involved in the business
- ii. Government should set quality standardization laboratories in each gum arabic producing state for proper characterization of the produce in order to meet the international market standards of the produce effectively. This would also help to stop discounting the produce price at international market.
- iii. Government/and individuals should establish more gum arabic processing industries in addition to Dansa Food and Jigaco gum arabic processing companies located in Kano and Jigawa states respectively. This is to enable the country earn more revenue through value addition instead of exporting raw produce with low economic value. This will also create more jobs for our teeming youths; hence increases income per capita and alleviate poverty in the region.

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