

ATTITUDES, KNOWLEDGE LEVEL AND SOURCES OF INFORMATION OF GUM ARABIC PRODUCERS IN GUBIO LOCAL GOVERNMENT AREA OF BORNO STATE, NIGERIA

^{*1}Ogwuche, P., ²Obinne, C.P.O., ¹Igbinosa, O.F., ¹Ogieriakhi, S.N. and ¹Ebenuwa, C.I.

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

²Faculty of Agriculture, University of Agriculture, Makurdi, Nigeria.

*Corresponding author: ogwuचेpe@yahoo.com

ABSTRACT

The study surveyed the attitudes, knowledge level and sources of information of male and female Gum Arabic producers in Gubio Local Government Area (LGA) of Borno State. Data for the study were collected from 150 respondents through purposive sampling of five towns, namely Karoto Kanguri, Karaguwa, Musari, Opilli and Fele. These farmers were selected based on their direct involvement in the production of Gum Arabic in Gubio Local Government Area (LGA). The instrument for data collection was a structured interview schedule. Descriptive and inferential statistics were used to analyze the data. The study showed that there was no significant difference ($t_{cal} = 1.71 < t_{tab} = 2.66$) between the knowledge level of male and female farmers at $P = 0.05$. The study further explored the constraints such as lack of empowerment, poor production equipments and non availability of improved seedlings which militate against the achievement of the production potentials of Gum Arabic farmers in the study area. Both male and female Gum Arabic farmers have positive attitudes towards Gum Arabic production. Relative/friends recorded the highest percentage in terms of information received by both male and female Gum Arabic farmers in the production of Gum Arabic. Extension Department of the Borno State Agricultural and Rural Development Authority should intensify efforts to promote information, especially since, from the result of this study, the levels of information flow from relative/friends are higher compared to that of extension agents.

Keywords: Knowledge, Attitude, Information, Gum Arabic, Producers

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INTRODUCTION

Against the background of the Federal Government's decision to diversify the nation's economy in order to increase its sources of foreign exchange, the agricultural sector was considered as one of the alternatives to petroleum. The choice was informed by its renewable potentials, ensuring continuous supply of its output besides

the indirect benefits of environmental protection, soil amelioration, and more opportunity for rural population. In realization of the above goal and the attainment of rapid industrialization drive, the Federal Government through the National Accelerated Industrial Crops Production Programme, made Gum Arabic one of its mandate cash

crops for mass production (Okatahi, 1996). The mandates of the National Accelerated Industrial Crops Production programme include: Strengthening the National Accelerated Industrial Crops Production Programme; Promoting the agricultural commodities development and marketing companies. Timely supply of production inputs such as seeds, seedlings, fertilizers, credit, agro-chemicals, and technology support and extension services. The act establishing the National Accelerated Industrial Crops Production Programme came from the existing (2003) agricultural policy. Gum Arabic refers to the dried exudates obtained from the stems and branches of *Acacia Senegal* and other related species of *Acacia* of the family *Leguminosae* (Okatahi, 1996).

Gum Arabic from Nigeria is a product of *Acacia Senegal* and *Acacia seyal* species. The three major states producing Gum Arabic in Nigeria are Borno, Jigawa and Yobe with Borno being the highest producer. Production of Gum Arabic is concentrated in the 'Gum belt' of Borno state. The belt covers part of the clayed and sandy plains of the state. *Acacia Senegal* produces the grade one gum which is collected by tapping the mature trees. Harvesting or tapping starts from December to April. Tapping begins when the trees are just starting to shed their leaves. One traditional method of tapping involves making incisions into the stem with a small axe, which, over the years was replaced with a specially designed tool. After the superficial injury, tears of gum form on the exposed surface and are left to dry and harden. After five weeks, the first collection is made, with further collection from the same trees at approximately 15 days interval, until the end of February.

Gum Arabic is used as an excellent ingredient for coating cereal and snack foods. It is also used in baked foods like cakes and muffins. Gum Arabic is used

in lithographic processes and pharmaceutical products. It is also used as a source of soluble dietary fibre which helps to maintain total cholesterol in healthy men and also helps to speed oral rehydration (NAGAPPEN, 2002). Half of the Gum Arabic production goes to sweets manufacturers. Gum Arabic is used as an emulsifiers, it is water soluble and a completely safe natural product. Gum Arabic is available in coarse, kibble, powder and granules. Gum Arabic powders are available in coarse, medium and fine form (JTCL., 2002). *Acacia Senegal* produces fuel and fencing materials as well as yields a cash crop which, while contributing little per tree or even per hectare, plays an important role in augmenting the flows of cash in rural areas with few other natural resources (Okatahi, 1996).

As a result of its industrial significance as raw material, Gum Arabic is currently being exported from Nigeria to the industrialized nations like the United State of America, France, United Kingdom and Germany. United State of America imported 1,880mt (metric tonnes) of Gum Arabic valued at \$3, 050, 000 between 1992 and 1995. India in 1995 bought 2, 542mt of Gum Arabic valued at \$1, 150, 025, the European Union countries imported 3, 683mt of the produce in 1995 valued at \$5, 956, 000 (Lawal, 1998). Food and Agriculture Organization (F.A.O.) estimated that Nigeria can earn over 4million US dollars annually from the export of Gum Arabic (Olori, 2002). Olori (2002) quoted the Minister of Agriculture and Natural Resources as saying that Nigeria has the potentials of controlling up to 30% of the world market of Gum Arabic. This is due to the fact that, in Nigeria, *Acacia* tree species occur in the Sudan and Sahelian ecological zones which cover the states of Adamawa, Bauchi, Gombe, Borno, Jigawa, Kano, Katsina, Zamfara, Kebbi, Sokoto and Yobe.

The Rubber Research Institute of Nigeria, Iyanomo, Benin City was in 1994 given the mandate to conduct research into all aspects of Gum Arabic production. It was mandated to apply the results of such investigations to the promotion of production, harvesting, processing and utilization of Gum Arabic in Nigeria. Since the goal of any research is geared towards meeting the needs of the target population. It is important to carry out the survey of the attitudes, knowledge level and sources of information of male and female Gum Arabic producers in Gubio Local Government Area of Borno State where conditions necessary for Gum Arabic production prevailed.

Objectives: The general objective of the study was to assess the attitudes, knowledge level and sources of information of male and female Gum Arabic producers in Gubio Local Government Area of Borne State, Nigeria.

Specific objectives of the study were to: analyze the socio-economic characteristics of the respondents (age, educational attainment, income level and farm size); analyze respondents attitude towards Gum Arabic production; determine production constraints, the sources of information to farmers, and the knowledge level of male and female farmers with respect to production of Gum Arabic.

METHODOLOGY

Study Area: Borno State is located in the North-East of Nigeria within latitude 11° N and longitude 13° E and longitude 90° S and latitude 15° W. Apart from English, other languages spoken in the state are Kanuri, Shuwa, Guduf, Marghi, Babur, Fulani, Waha and Hausa. It has an area of about 69, 436sq km and it is a frontier of the Sahara Desert in Nigeria (Malgwi et al. 1997).

Data Collection: The primary data were collected in the months of August to

September, 2005. Five enumerators were used to assist in administering the questionnaire to the respondents. Prior to this, the enumerator were trained to ensure that they understood the research instrument.

Data Analysis: Data were subjected to both descriptive and inferential statistics. Descriptive statistics used were frequencies and percentages. These were used for the analysis of data on personal and socio-economic characteristics of the respondents like age, sex, educational attainment, farm size and yield. T-test was used to test the mean difference of male and female farmer's knowledge level of Gum Arabic production in the study area.

RESULTS AND DISCUSSION

The socio-economic characteristic of farmers in the study area is as shown in table 1 below. About 29% of the respondents fell below thirty-nine years. The data revealed that farmers below this age constituted the highest group of Gum Arabic farmers. This population is believed to have more strength to work hard on their farms. The table further revealed that the age range of farmers between 60 and 69 years constituted fourteen percent and the respondents that fall between seventy years and above constituted 24.67% and this signifies that both the young and old are involved in Gum Arabic production.

Majority of the Gum Arabic farmers (89.33%) were males while only 10.67% were females. The reason is that Muslims women are kept in 'Purdah' while their male counterparts are free to move to anywhere and work. About three percent (2.67%) of the respondents had adult education while forty-four percent had quranic education. About thirty-five percent (34.66%) cultivated between one to two hectares while thirty eight percent cultivated between three to four hectares of Gum Arabic, which

implies that the production of Gum Arabic in the study area is still within the subsistence level.

Many of the respondents (56.00%) had yield of between 101 –

500kg per annum. Those that had yield greater than 2000kg of gum per season constituted only one point three – three percent.

Table 1: Socio-economic characteristics of farmers in the study area (N =150)

Socio-economic characteristics	Percentage
<i>Age (years)</i>	
Below 39	28.67
40 – 49	19.33
50 – 59	13.33
60 – 69	14.00
70 and above	24.67
<i>Sex</i>	
Male	89.33
Female	10.67
<i>Education</i>	
Adult Education	2.67
Quranic education	44.00
Primary	24.00
Secondary	16.00
Post secondary	4.00
No formal education	9.33
<i>Farm Size</i>	
1 – 2	34.66
3 – 4	38.00
5 – 6	16.67
7 – 8	6.00
9 and above	4.67
<i>Yields (Kg)</i>	
100	0.67
101 – 500	56.00
501 – 1000	21.33
1001 – 1500	16.00
1501 – 2000	4.67
> 2000	1.33

Source: Field Survey Data, 2005.

The respondents (farmers) attitude towards Gum Arabic production is as shown in table 2 below. Seventy six point six-seven percent (76.67%) of the respondents agreed that Gum Arabic production is too laborious. Majority of the respondents felt that Gum Arabic takes too long to mature. This result is in agreement with that of Okatahi (1996) who stated that Gum Arabic attains maturity at the age of 4 – 7years after

establishment. Majority of the respondents (97.33%) considered Gum Arabic as the best crop for protecting environment. This result agrees with the view of Olori (2002) who opined that desert encroachments, which have threatened the livelihoods of the inhabitants of the greater part of the northern states, could be arrested through the growing of Gum Arabic. Eighty nine point three -three percent

(89.33%) disagreed that Gum Arabic has low economic returns after processing. This is in disagreement with the view of NAGAPPEN (2002) who stated the best

prices are obtained after processing and when the gums are separated into different grades.

Table 2: Respondents attitude towards Gum Arabic production

Attitude statement	Response (%)	
	Agree	Disagree
Gum Arabic is laborious for my consideration	76.67	23.33
Gum Arabic production is for the well-to-do in the society	10.67	89.33
Gum Arabic takes too long to mature	94.67	5.33
I feel that Gum Arabic has low economic returns after processing	10.67	89.33
Gum Arabic has unstable market	98.00	2.00
Gum Arabic cultivation has a lot of economic potentials	94.00	6.00
Gum Arabic is one of the best crop for protecting the environment	97.33	2.67
Gum Arabic increases yield of arable crops when interplanted	91.33	8.67
Gum Arabic is not capable of improving soil condition	10.00	90.00
There is no bright future for the country in Gum Arabic International markets	7.33	92.67
I feel that Gum Arabic is a major industrial material	96.67	3.33
I feel that the renewed effort by government to boost Gum Arabic production is worthwhile	96.00	4.00

Source: Field Survey Data, 2005.

The Production Constraints of Gum Arabic is as shown in Table 3 below. Forty-nine point three-seven percent (49.37%) of the respondents considered lack of empowerment as the main problem militating against the production of Gum Arabic. About twenty percent (20%) of the respondents considered poor production equipments as the main problem militating against the production of Gum Arabic. The reason had been that they were incapable of purchasing quality

implements or equipments due to lack of funds. About fourteen percent (14%) considered non-availability of labour as the main problem militating against production of Gum Arabic.

Ten percent (10%) of the respondents considered lack of improved seeds/seedlings as the main problem militating against Gum Arabic production. The reason had been that it takes some technical know-how to germinate the seeds and also to maintain the seedlings in the nursery.

Table 3: Production constraints of Gum Arabic farmers

Production Constraints	Percentage
Lack of empowerment	49.37
Poor production equipment	20.00
Shortage of fertilizers	5.20
Non-availability of labour	14.11
Lack of improved seeds/seedlings	10.20
Lack of shortage materials	1.12

Source: Field Survey Data, 2005.

Sources of information on Gum Arabic to the respondents were presented in Table 4 below. Many respondents (25.33%) indicated that they got their information from relatives/friends. This result might be connected to lack of proper education to get quality information on Gum Arabic production. About twenty four percent (24.35%) received information from middlemen/buyers. This is due to the fact that the middlemen/buyers were well equipped with much knowledge on Gum Arabic production and were one time Gum Arabic farmers who had made money and became middlemen/buyers. The percentage of respondents that received information from extension agents was twenty two percent (22%). This is due to the fact that majority of the respondents were illiterate. The respondents that received information from contact farmers constituted eleven percent (11%), an indication that there was a barrier in communication between Gum Arabic farmers in the study area.

Table 4: Sources of information on Gum Arabic by the respondents

Sources of information	Percentage
Contact Farmers	10.67
Extension Agents	22.32
Relatives/Friends	25.33
Middlemen/Buyers	24.35
Research Institutes	17.33
Total	100.00

Source: Field Survey Data, 2005.

The study showed that there was no significant ($p > 0.05$) difference ($t_{cal} = 1.71 < t_{tab} = 2.66$) between the knowledge level of male and female farmers about Gum Arabic production. This implies that both male and female farmers have been informed about the production of Gum Arabic in the study area.

CONCLUSIONS AND RECOMMENDATION

People involved in Gum Arabic production are mostly within the ages of 20 and 60 years and are predominantly males with little or no education. This trend has helped in the high output of the commodity but renders the processing and marketing ineffective as they lack the capacity to process and export the commodity, which could improve the socio-economic standard of the people.

Males with Quranic and primary educational background dominates the production of Gum Arabic in the studied area and had more information and knowledge than their females' counterparts as a result of the dichotomy created by the prevailing Islamic religion in the area.

The existence of extension services and other outlets of information dissemination have not been adequately exploited by the farmers probably because of their ignorance of such service and channels as they relied on relatives or friends for their information needs.

There were no significant ($p < 0.05$) differences between the male and female farmers in Gubio Local Government area with respect to attitudes, knowledge levels and sources of information on Gum Arabic production.

Extension workers must intensify effort to promote information, especially since, from the result of this study, the levels of information flow from relatives/friends are higher compared to that of the extension agents. This will accelerate the acquisition of the skills, knowledge and attitude by Gum Arabic producing farmers.

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