ASSESSMENT OF SMOKE FISH PACKAGING IN DORON-BAGA METROPOLIS, BORNO STATE NIGERIA.

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ABSTRACT

This study examined how smoked fish are being packaged in Doron-Baga metropolis. A random sampling technique was used purposely to select one hundred and fifty respondents who are currently involve in smoked fish packaging. Data were collected by means of structured questionnaire. Data collected were analyzed using percentages and frequency. Results revealed that smoked fish packaging is predominantly traditional in the study area. Modern method of smoked fish packaging is nearly absent when compared to smoked fisheries resources produced and packaged from the area

INTRODUCTION

Assessment of smoked fish packaging implies a careful evaluation of smoked fish and smoked fish products and how they are being promoted or presented to ensure appeal and acceptance. Smoked fish packaging involves grouping several individual smoked items together in a package (putting them or wrapping them up as a package) in a suitable or attractive way in which to sell the product. It involve the use of containers made of cardboard, plastic, foil or other material in which the smoked fish are packaged for sale, storage or transportation. According to Agbon *et al*, (2002) the long distance of distribution necessitates some processing and storage. Ayuba and Omeji (2006) reported that lack of adequate fish handling, processing techniques and storage facilities contributes significantly to the low supply of fish to rural dwellers that form three quarters of the population in the developing countries. Packaging forms an important part of food processing because it facilitates handling during storage and distribution within the market chain. Packaging materials must possess certain characteristics, such as adequate strength to protect the packaged product from damage. It must be readily available and easy to use and should be clean to prevent contamination by undesirable substances (Sveinsdottir 1998). This study will contribute to the data bank for identifying any gap in the packaging technologies used by the respondents. It will also give applicable and efficient recommendations, which will greatly improve the development and increase production and distribution of fish and fish products. It will better the standard of living of the rural dwellers in this project sites. It will also enhance fair distribution of the national economy through foreign exchange earnings

The objective of this study is to evaluate the existing smoked fish packaging technologies and identify the major factor affecting its mechanization in this area of the North-eastern part of Nigeria and also to give applicable and efficient recommendations.

MATERIALS AND METHOD.

The study area was Doron-Baga metropolis of Borno state in the North-east geopolitical zone of Nigeria. It lies on latitude 13° 06' 12" N and longitude 13° 52' 18" E (Collins Maps 2011). Specifically, the data collection was carried out in Doron-Baga, Fish Dam and Quatan Turarac. Simple stratified random sampling was used being divided into three units (sites) mentioned above. The survey covers major market and smoked fish packaging sites in the neighbourhood of these three areas. Primary data were collected through the use of structured questionnaire and draws out information on the socio-economic characteristic of the selected respondents; some of the parameters investigated by the questionnaire included the existing smoked fish packaging technologies, methods of smoked fish packaging, materials used in smoked fish packaging, the efficiency of smoked fish packaging technologies and level of hygiene practices observed during packaging. The areas were visited on their various market days when most target respondents were expected to turn out in large numbers. Fifty questionnaires were distributed for each of

the units. In all one hundred and fifty questionnaires were administered to one hundred and fifty respondents in the study area. There was nearly 100% valid response rate from the respondents due to close supervision of the procedure involved in administering the questionnaires. Data collected were analyzed using descriptive statistic of frequency tables and percentage.

RESULT AND DISCUSSION.

Table 1: Demographic characteristics of the respondents.

Variables	Categories	Frequency	Percentage
State of origin	Adamawa	5	3.33
	Bauchi	20	13.33
	Benue	1	0.67
	Borno	88	58.67
	Enugu	1	0.67
	Gombe	2	1.33
	Jigawa	4	2.67
	Kaduna	1	0.67
	Kano	2	1.33
	Kastina	2	1.33
	Kebbi	7	4.67
	Kogi	1	0.67
	Kushili Fusili (chad)	1	0.67
	Lagos	1	0.67
	Niger	2	1.33
	Ogun	1	0.67
	Plateau	1	0.67
	Sokoto	1	0.67
	Taraba	1	0.67
	Yobe	7	4.67
	Zamfara	1	0.67
Nationality	Nigerians	149	99.33
	Others	1	0.67
Gender	Male	123	82.00
	Female	27	18.00
Age	10-19 years	26	17.33
	20-29 years	66	44.00
	30-39 years	26	17.33
	40-49 years	22	14.67
	50 years and above	10	6.67
Marital status	Married	71	47.00
	Widowed	5	3.33
	Divorce	33	22.00
	Single	37	24.67
	Zero response	4	2.67
Educational qualification	No formal education	67	44.67
	Primary education	17	11.33
	Secondary education	52	34.67
	Tertiary education	14	17.33

Table 2: The Respondents and Smoked fish packaging

Variables	Categories	Frequency	Percentage
Experience of respondents in smoked fish packaging	1-10 years	95	63.33
	11-20 years	28	18.66
	21 years and above	27	18.00
Reason for engaging in smoked fish packaging	As a means of livelihood	113	75.33
	As a hobby	12	8.00
	As an intermediary between processing and marketing	25	16.67
Weekly income earned from smoked fish packaging	☐1,000-☐10,000	53	53.33
	☐11,000-☐20,000	48	32.00
	☐21,000 and above	49	32.67
If you access to government lo an will you still be engaged in smoked fish packaging	Yes	150	100.00
	No	0	0.00
Amount of money required for business expansion	Less than ☐50,000	18	12.00
	Above ☐50,000	132	88

Table 3: Materials and methods used in smoked fish packaging

Variables	Categories	Frequency	Percentage
Method of smoked fish packaging being used	Traditional method	108	72.00
	Modern method	42	28.00
Kind of materials being used	Carton (cardboard box)	138	92.00
	Carton (cardboard plastic)	3	2.00
	Wooden structures	4	2.67
	Sacks (sack cloth)	5	3.33
	Sacks (polyethylene)	0	0.00
	Others	0	0.00
Kind of ropes used along with the materials used above	Wooden ropes	121	80.67
	Plastic ropes	12	8.00
	Metallic ropes	5	3.33
	Others	12	8.00
Purpose of packaging	Short term st orage only (within 1 - 30 days)	12	8.00
	Short term storage with short distance transportation (within 1 -30 days)	20	13.33
	Short term storage with long distance transportation (within 1 -30 days)	50	33.33
	Long term storage with short distance transportation (31 days and above)	21	14.00
	Long term storage with long distance transportation (31 days and above)	47	31.33
Level of hygiene practice observed	Very high	24	16.00
	Medium	94	62.67
	Low	24	16.00
	None	8	5.33

Table 1 shows that almost all of the respondents (99.33%) were Nigerian while a respondent (0.67%) was a foreigner (Chadian). This is because Borno state of Nigeria is bounded at her north-eastern border by the Chad Republic. Majority of the respondents (58.67%) were from Borno state; followed by Bauchi state (13.33%); Yobe and Kebbi state accounted for 4.67% each; Adamawa state had 3.33% ; Jigawa state had 2.67%; Kano, Kastina and Niger state each had 1.33%; others such as Kogi state has 0.67%. From the result in Table 1 majority of the respondents (82%) were male while only 18% were female. This might be due to certain cultural belief in some part of northern Nigeria that disallows married women from active public functions. Most of the respondents (44%) were within the age group of 20-29 years, followed by age group 10-19 years and 30-39 years (26% respectively) while age group 40-49 years accounted for 22%; the least respondents was age group 50 years and above (6.67%). Less than half of the respondents (47%) were married; 24.67% were single; 22% were divorced; 3.33% were widowed; while the respondents who refused to declare their marital status accounted for 2.67%. It can be observed from the table that 34.67% of the respondents had secondary education; while 17.33% had tertiary education. This implies that more than half (52) of the respondents were educated.

Table 2 shows that majority of the respondents (63.33%) had spent between one to ten years in smoked fish packaging; 18.67% spent between eleven to twenty years; while 18% spent twenty-one years and above. This indicates that most of the respondents are experienced, but only few are well experienced. More so, 75.33% of the respondents were engaged in smoke fish packaging as a source of livelihood; 16.67% took it because it is an intermediary between processing and marketing; while about 8% took it as a hobby. This implies that fish packaging if properly harnessed could reduce unemployment rate among youths in developing countries. This is further buttressed by the fact that 35.33% of the respondents realized between □1000-□10,000 every week; 32% realized between □11 000- □20,000 per week; while 32.67% realized □21,000 and above per week. All the respondents (100%) have affirmed without reservation to remain in smoked fish packaging business if granted access to government loan. While 88% said they needed above □50,000 loan to expand their smoked fish packaging business; only 12% said they needed below □50,000.

Table 3 shows that most respondents (72%) used traditional method of smoked fish packaging; while 28% used modern method. Regarding the materials used for packaging, 92% of the respondents used carton (cardboard box); 3.33% used sacks (sackcloth); those that used wooden structures accounted for (2.67%) while those that used carton (cardboard plastic) was 2%. Along with the materials used above, majority of the respondents (82.67%) used wooden ropes; those who used plastic ropes and other ropes accounted for 8% each; while 5% of the respondents used metallic ropes. Concerning the purpose for which the smoked fish were being packaged, 33.33% of the respondents packaged for short-term storage with long distance transportation (within 1- 30 days); 31.33% did it for long term storage with long distance transportation (31 days and above); 14% accounted for long term storage with short distance transportation; 13.33% packaged for short term storage with short distance transportation (within 1-30 days); only 8% did it for short term storage only. About the level of hygiene practices, only 16% of the respondents observed very high level of hygiene; majority (62.67%) went with medium level; 16% of the respondents also went with low level while 5.33% were very unhygienic.

CONCLUSION

From the study, it was observed that smoked fish packaging in the study area was predominantly traditional, smoked fish are packaged fairly though suitably but not attractively. They have no access to modern smoked fish packaging technologies. It is therefore; recommended that there should be immediate intervention by the government or the private sector to salvage packaging of smoke fish in this area for both local and international market since there is abundance smoked fisheries products coming out of the place due to access to Lake Chad.

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