

Analysis of Worth Assessment of Information Sources and Some Socio-Economic Characteristics of Artisanal Fishers in Niger Delta

Gbarabe Roland¹, Simon Letsoalo² and Ngodigha Sabina^{3*}

^{1&2}Department of Agricultural Economics and Extension, North-West University, South Africa.

³Department of Agricultural Education, Isaac Jasper Boro College of Education, Sagbama, Nigeria

***Corresponding Author:** Ngodigha Sabina, Department of Agricultural Education, Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria. Email: alatari3004@gmail.com

ABSTRACT

Worth assessment of information sources of some socio-economic characteristics of artisanal fishers in selected coastal areas of Nigeria was carried out in the coastal States of Bayelsa, Rivers and Akwa Ibom. Data for the study was obtained from well structured questionnaire. Descriptive and inferential statistical analyses were employed. Results showed that income range between ₦11,000 and ₦50,000. The artisans were mostly married people who had fairly large families with an average of two wives. Pressing information needs were: effects of fishing methods, effects of use of explosives to fish, effects of different mesh size, effects of bad fishing practice and water pollution. Others includes: types of materials for boat making, use of safety materials, information on gear maintenance, dangers of rough sea and where to acquire cheap fishing tools. Information on use of different types of fishing gear as well as processing and storage were recorded as not a need. Information worth assessment correlated positively with number of wives and marital status, but negatively with income and number of children. These findings if well managed could make significant contributions to food security, employment generation and multiplier effect on the economy of the Niger Delta.

Keywords: assessment, artisanal, fishers, information, Niger Delta, Worth

INTRODUCTION

Agriculture serves as the backbone of Africa's economy. According to [1] about 70% of Africans and roughly 80% of the continent's poor, live in rural areas and depend on agriculture for their livelihood. Millions of people depend on fisheries, an aspect of agriculture as a source of employment and living in Nigeria [2] [3]. Fishery activities are executed through two main methods in Nigeria namely artisanal or capture fishery and fish farming or aquaculture.

Artisanal fishery covers the operations of small scale canoes. Fishers operating in the coastal areas, creeks, lagoons, rivers, streams, lakes, inshore water and inland rivers use both traditional and modern fishing gears [4] [5]. It is the most important of fishery production in Nigeria and accounts for 82 to 85% of her fishery domestic production and giving livelihood to one million artisans and 5.8million fisher folks in the secondary sector [6] [7].

Artisanal fishers could be identified by labour intensiveness, low productivity, low income, low technology and lack of skilful techniques [8]. They also make use of fishing nets of various sizes, hooks and lines, dugout canoes, boats [9] and above all have access to little information.

However, if increased production must be achieved, artisanal fishers will need to avail themselves with information on current practices of fishing which are disseminated through various sources of information communication. Information dissemination is a significant tool for promoting national development and artisanal fishers can only make progress, increase production when needed information on fisheries are disseminated to them as and when due.

The role of information in enhancing agricultural development cannot be over emphasized, to accelerate the pace at which information reaches the artisanal fisher, several

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approaches have been used. Poor and unreliable information infrastructure, high illiteracy levels, low income, lack of electricity and high cost of ICTs has been identified as factors that have limited accessibility of information services in rural areas [10]. The attributes of good information as identified by [11] are relevance (significance of the information), timeliness (rightness of the information), credibility/accuracy (integrity and exactness of the information), cost-effectiveness (cheaper but valuable source of information), consistency (steadiness of the information), accessibility (user-friendliness of the information) and usability (ease with which the information is put to use) to mention but few. Nevertheless, all these aforementioned attributes lead to an improved decision making [12] [11].

The success of these attributes depends on the information access points. These information access points are the channels through which information are communicated to the artisanal fishers such as newspapers, journals, bulletins, community leaders, extension agents, friends, and radio and farmer groups [13]. Other sources are family members, neighbour farmers, extension services, input providers and mass media [14]. Personal experience, workshops and seminars, training, friends and neighbours, Ministry of agriculture, magazines of agriculture, extension officers, local Government officers, Non-Governmental Organizations and posters [15].

However, the information been disseminated through the information access points depend on the information needs of the fisher. Which includes: where to obtain loan, how to market fish, fish processing and storage, access to

modern fishing facilities, new methods of catching fish, organisation of fishery cooperatives, middlemen exploitation, where to acquire fishing tools at cheaper rates, effects of water pollution and effects of bad fishing practices [8].

Similarly the worth of the information is a determinant of the information needs of the artisanal fisher. Information that does not meet the need of the fishers is likely to be scored low on the worth continuum. The worth of the information is a subjective value which is the reflection of the artisans' complete impression of information and the amount the fishers are willing to pay for specific information at a given time. Thus, this study seeks to determine if there is any relationship between some socio-economic characteristics of artisanal fishers and information worth assessment.

METHODOLOGY

The study was conducted between January 2018 and December 2018 in three out of the seven states in the coastal region of Nigeria. These states are; Bayelsa, Rivers and Akwa Ibom states. The states cover a landmass of about 18,050 km², of which more than 60% is land. The area lies between Longitude 5 ° 00 and 6°.45' East and Latitude 5 ° 00 and 6°.30' north. It is bounded in the west by Delta State, the north by Imo and Abia States and east by Cross Rivers State. On the southern flank is the Bight of Benin, which covers about 160 kilometres of the state's coastline. The states have a wide coastal belt inter-lace with rivulets and streams, which form part of the Niger Delta [16].



Fig1. Map of Nigeria showing study area (Bayelsa, Rivers and Akwa Ibom States)

The study made use of the quantitative method in its analytical approach. This method was used

because set of predetermined questions were used to collect data from the sample size in the

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study population. Population of the study was all full time artisanal fishers in the selected coastal states of Nigeria. The total number of registered artisanal fishers per state were 315 in Bayelsa, 304 in Rivers and 201 in Akwa Ibom state. The multi-stage sampling technique was used in the selection of the sample of which it was in three stages. In the first instance, out of seven states, three were purposively selected,

because these states were more involved in artisanal fishing. Four local government areas were also purposively selected from each of the three states due to their more riverine nature in the second stage, after which a random sampling was used based on online Rao soft calculation making a sample size of 477 respondents out of 820 artisanal fishers as shown in the table below.

Table1. Composition of the sampling size.

States	Number of LGA	Population	Sample size
Bayelsa	4	315	174
Rivers	4	304	170
Akwa Ibom	4	201	133
Total	12	820	477

Source: Agricultural Development Project (2013)

The data for this study was obtained from primary sources based on structured questionnaire. The Statistical Package for Social Sciences (SPSS) version 20 was used to process quantitative data gathered from the structured questionnaire. Descriptive and inferential statistical analyses were employed. Using the analysis, calculations of the measures of central tendency as well as frequencies in percentages were computed. Inferential statistics used was multiple regression analysis.

RESULTS AND DISCUSSION

The respondents were mostly married (80.30%). This could be due to the fact that fishers operate

nuclear families [7] with majority (205) having 3 – 4 children (46.40%), and 1- 2 wives (95.70%). The larger the family size, the higher the quantity of fish caught [17], which when sold will meet their financial needs [18].

A total of 243 (55%) of artisanal fishers earn monthly income of between ₦11,000 – ₦50,000 while 22.40% earn between ₦1 – ₦10,000, 16% earn from ₦51,000 to ₦100,000 and 6.60% earn ₦101,000 and above with a mean of 2.07. This could be due to the fact that most inhabitants of the fishing communities have left the fishing industry for other occupation due to the dwindling fisheries resources [19] [18].

Table2. Socio economic characteristics of Artisanal

As shown in table 3, information on effects of

different mesh size, effects of bad fishing

Income (₦) at ₦360/\$		
N1-10,000	99	22.40
11,000-50,000	243	55.00
51,000-100,000`	71	16.10
101,000 and above	29	6.60
Total	442	100
House hold size		
1-2	157	31.00
3-4	205	46.40
5- 6	71	16.10
6 and above	29	6.60
Total	442	100
Wives		
1-2	423	95.70
2-4	19	4.30
Total	442	100
Marital Status		
Married	355	80.30
Single	87	19.70
Total	442	100

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practice/ water pollution, effects of different fishing methods and effects of use of explosives to fish were the pressing needs of fishers in the Niger Delta. Fishers have come to realize the effects of these information types on the depleting fisheries resources [18] and so they are very ready to gather new and enough

information that will increase harvest and improve their livelihood. Other information types such as: types of materials for boat making, use of safety materials, information on gear maintenance, dangers of rough sea and where to acquire cheap fishing tools were also needful to the fishers.

Table3. *Worth of the Information*

Information type	Timeliness (%)	Adequacy (%)	Relevance (%)
Use of different type Of fishing gear	less timely(15.6)	less adequate(0)	less relevant(39.4)
Water trend/movement	timely(50.4)	adequate(50.4)	less relevant(49.3)
Weather trend	timely(75.6)	adequate(63.6)	relevant(69.9)
New methods of catching fish	timely(50.2)	adequate(50.7)	relevant(70.2)
Types of material for boat making	timely(77.1)	adequate(91.6)	relevant(100)
Use of motorized vessels	less timely(19.9)	adequate (79.0)	relevant (81.0)
Brackish or fresh water fishing	less timely (49.3)	adequate (50.2)	relevant (77.6)
Access to modern fishing facilities	less timely (10.6)	adequate (68.1)	relevant (69.0)
Use of non-motorized vessels	timely (50.4)	less adequate (49.8)	less relevant (49.3)
Effects of different fishing methods	timely(95.2)	adequate (65.0)	relevant (70.1)
Use of safety materials	timely (69.2)	adequate (64.7)	relevant (93.2)
Effects of use of explosives(dynamite)	timely (50.4)	adequate (91.8)	relevant (77.4)
Effects of different mesh size	timely(94.4)	adequate(85.5)	relevant(93.4)
Information on gear maintenance	timely(50.2)	adequate(93.5)	relevant(93.7)
Effects of bad fishing Practice/ water pollution	timely(78.3)	adequate(50.2)	relevant(100)
Modern technique in boat/engine maintenace	timely(99.3)	Less adequate(27.1)	relevant(94.6)
Dangers of rough sea/ waves	timely(78.9)	adequate(50.2)	relevant(99.1)
Processing/storage	less timely(49.3)	less adequate(43)	less relevant(45.5)
Effects of deforestation	timely(50.7)	less adequate(1.0)	relevant(50.4)
How to obtain loan (where, when and requirements).	Less timely (15.7)	less adequate(2.5)	relevant(93.4)
Available government grants and provision of other incentives.	less timely(0.9)	adequate(50.6)	relevant(100)
Organization of fishing cooperatives.	timely(50.4)	Less adequate(32.5)	relevant(100)
Negative activities of middlemen or exploitation.	timely(99.4)	less adequate(49.3)	relevant(81)
Where to acquire cheap fishing tools	timely(54.0)	adequate(59)	relevant(93)

Information on use of different types of fishing gear observed as not a need to the fishers could be due to the fact that fishers were taught from birth on how to fish and so they know the particular fishing gear to harvest any fish at any given time. Processing and storage recorded as not a need might be attributed to the fact that fishers are more comfortable with smoke drying their catch with *Rhizophora* species commonly found in the Niger Delta, that gives the processed catch a particular taste and aroma

liked by buyers of their products, than any other means of processing and storage of their fisheries product.

Table 4 shows a regression analysis carried out to determine the relationship between the some socio-economic characteristics of the respondents and their information worth assessment. Information worth assessment is the dependent variable, while the socio-economic variables income, children, wives and marital status were the independent variables.

Table4. *Influence of Socio-Economic Characteristics of Artisanal Fishers on Information Worth Assessment*

Variables	B	SE	T
Constant	234.309	1.437	163.028
Income	-9.722	5.697	-1.706
Children	-38.336	5.197	-7.376
Wives	53.747	7.837	6.858
Marital Status	10.568	19.712	0.536

*Significant at 10%, ** Significant at 5% $R^2 = 0.957$ $n = 442$, F -ratio= 1204.669. Field Survey 2018

Different functional forms were tried and the form that gave the best result was used for interpretation. The selection was based on the value of the R-square, number of significant variables and conformation to the a priori expectations. The semi-log form was found to best explain the relationship; the R-square value indicates that about 95% of the variability in information worth assessment among the respondents was determined by some socio-economic characteristics.

The coefficient for income was negative and significant at 5%. This implies that as the income of the respondent increases their information worth assessment tend to decrease. However, there was a positive significance between the number of wives and information worth assessment. This implies that the information worth assessment of the respondent tend to increase as the number of his wives increases. Marital Status was also positively correlated with the dependent variable as most of the respondents were married. This implies that marriage aids information assessment in the Niger Delta.

Number of children correlated negatively with information worth assessment. The correlation was significant at 5% level. The negative correlation implies that those with less number of children have more information worth than those with high number of children. The implication is that the number of children does not mean more information worth, that the fewer children, the better the information that can be acquired and consequently the higher the productivity [19]. This could be due to the fact that the children might not be interested in gathering information pertaining to the fishing business because they are in school in pursuit of formal education.

CONCLUSIONS

Findings from the study revealed that almost all information items were needs of the artisanal fishers. The regression shows there is significant relationship between some of the socio-economic characteristics of the artisanal fishers and the information worth. Based on the regression analysis, there is significant relationship between some socio-economic characteristics of respondents and their information worth assessment.

RECOMMENDATIONS

Effective information dissemination methods like packaging and repackaging information

should be employed in the study area. This will help the artisanal fishers to improve on their fishing techniques for enhanced fish production. Other intervention agencies providing information on different information needs of the artisanal fishers should complement government efforts in providing valuable information in order to increase their level of production.

Worth of the various information types based on the timeliness, adequacy and relevance of information types be provided on time and adequately only on the ones that are relevant to the needs of the fishers. This will be the basis for increased fish production.

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REFERENCES

- [1] Dulle F, Benard R, Ngalapa H. Assessment of information needs of rice farmers In Tanzania: A case study of Kilombero Districts, Morogoro. Library Philosophy and Practice paper. (2014); 1071: 1.
- [2] Simon AA, Kereke FO. Innovation and Entrepreneurship. International Journal of Knowledge. (2013); 1(2): 41-56.
- [3] FAO. State of world Fisheries and Aquaculture Food and Agricultural Organization. Rome (SOFIA). (2010).
- [4] Bolarinwa JB. Public relations and extension services in Nigerian Fisheries Industry, International Journal of Agricultural Research. (2014); 9(7):327-330.
- [5] Okeowo TA, Bolarinwa JB, Dauda I. Socioeconomic Analysis of Artisanal Fishing and Dominant Fish Species in Lagoon Waters of EPE and Badagry Areas of Lagos State. International Journal of Research in Agriculture and Forestry. (2015); 3(1):38-45.
- [6] Faturoti O. Nigeria: Fisheries contribute \$US1 billion to economy. 25th Annual Conf. Fish. Soc. Nigeria, 2010, Badagry, Lagos, Nigeria. Fish Centre, Cairo, Egypt.
- [7] Akinwumi FO, Akinwumi IO, Ogundahunsi OA. Characterization of Artisanal Fishery in the Coastal Area of Ondo State, Nigeria. International Research Journal of Agricultural Science and Soil Science. 2011; 1(3):83-89.

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- [8] Annune EA. Information needs and information dissemination to artisanal fishermen in selected communities in three local government areas of Benue State, Nigeria. 2012 University of Nigeria Nsukka (Master Thesis).
- [9] Ngodigha SA, Abowei JFN, Gbarabe R. Palaemon Fishery in River Nun estuary, Bayelsa State, Niger. African Science and Technology Journal. 2013; 7(1):142-149.
- [10] Mtega WP. "Access to and Usage of Information among Rural Communities: a Case Study of Kilosa District Morogoro Region in Tanzania" The Canadian journal of Library and information practice and research. 2012;7(1). Available from <https://journal.lib.uoguelph.ca/index.php/perj/article/viewArticle/1646/2462> Retrieved on 22nd January 2013.
- [11] Osikabor B, Oladele IO, Ogunlade I. Worth assessment of information and their access points by small scale cassava farmers in Nigeria. South African Journal of Agricultural Extension. 2011; 39(2): 69-78.
- [12] Ogola PA. Assessing communication channels and the impact of agricultural information used by farmers in watermelon production in Yimbo east ward, Siaya County. Nairobi. 2015. University of Nairobi (PhD Thesis).
- [13] Mtega W, Benard R. The state of rural information and communication services in Tanzania: A meta-analysis. International Journal of Information and Communication Technology Research. 2013; 3(2): 64 – 73.
- [14] Boz I, Ozcatalbas O. Determining information sources used by crop producers: A case study of Gaziantep province in Turkey. African Journal of Agricultural Research. 2010; 5(10): 980-987.
- [15] Ogboma MU. Access to Agricultural Information by Fish Farmers in Niger Delta Region of Nigeria. Library Philosophy and Practice (e-journal). 2010.
- [16] Michael H. Niger River in Encyclopaedia of Earth M. Micginly (ed). Washington, DC National Council for Science and Environment. 2013
- [17] Inoni OE, Oyaide WJ. Socio-economic analysis of artisanal fishing in the South agroecological zone of Delta State, Nigeria. Agricultural Tropica et Subtropica. 2007;40(4):135-149.
- [18] Ngodigha SA, Gbarabe R, Austin A (2018) Using fishers knowledge in community based fisheries management in River Nun Estuary, Niger Delta. Tansylvanian Review of Systematical and Ecological Research. 2018; 20(2):75 – 84. DOI: 10.2478/trser-2018-007. [www.stiinte.ulbsibiu.ro>trser](http://www.stiinte.ulbsibiu.ro/trser)
- [19] Matovalo DS. Enhancing Farmers Access to and use of Agricultural Information for Empowerment and Improved Livelihoods : A case of Morogoro Region Tanzania, A PhD Thesis, University of Dar es salam. 2018

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