

STRATEGIES FOR MEETING THE FISHING INPUT REQUIREMENTS OF ARTISANAL FISHERIES IN COASTAL AREAS OF ONDO STATE, NIGERIA

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Abstract

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The strategies for meeting the fishing input requirements of artisanal fisheries were studied in coastal areas of Ondo State. Data were obtained from two hundred and sixteen artisans using simple random sampling technique. Structured interview scheduled was used to obtain information from the respondents. Data were analyzed with the use of descriptive statistic such as frequency counts and percentage. Chi-square was used to test relationships between the variables. The results showed that 62.0% were male artisans compared to 38.0% female. Also, 74.1% were married, 34.3% had secondary education and 73.6% had fifteen years and above fishing experience. Loan was highly rated as the strategy for meeting the fishing input requirements by artisans while fund was the major problem. The chi-square analysis showed that strategies for meeting the fishing input requirement of artisans indicated significant association with Age ($\chi^2 = 0.01$, $p < 0.05$) and education ($\chi^2 = 0.01$, $p < 0.05$) while gender had no significant relationship ($\chi^2 = 0.06$, $p > 0.05$). Based on the study, it was recommended that artisans should be enlightened on the advantage of forming and joining fishermen association as a group through which their request on fishing input requirements to government and Non-governmental organizations can be met and the easiest means of sourcing for fund within their locality.

Key word: artisanal fisheries, artisans, coastal areas, fishing input, strategies

Introduction

The challenge to increase protein consumption in Nigeria appears to be more urgent now than ever. A high percentage of landed fish in Nigeria is from artisanal catch. An access to over 180 000 metric tons of artisanal fishery resources in the area and an estimated annual yield potential of 1 830 990 metric tons of fish from which a harvest close to 350 000 metric tons are made annually (Akinwumi et al., 2011). Artisanal fisheries in Nigeria provided more than 82% of the domestic fish supply giving livelihoods to one million fishermen and up to 5.8 million fisher folks in the secondary sector (Faturoti, 2011). Apart from being an income earner to many Nigerians especially people in coastal, riverine and lake areas of the country, some people earn their living from fish

processing and marketing while others engaged in fisheries research (Adeokun et al., 2006). Artisanal marine fisheries provide an essential source of sustenance, employment and financial well-being for coastal populations of developing countries (Andrew et al., 2012). Artisanal fisheries sector made up the most important sector, which accounts for the major fish supply in the developing world (Ibrahim, et al., 2009). Artisanal fishery is the harvesting of fish from rivers, streams, lakes and ponds by small scale fishermen using both traditional and modern fishing gears. It is the most important of fishery production in Nigeria and accounts for over 90% of her fishery production (Ogunbadejo et al., 2007). Mathew (2001) described ‘traditional’, ‘small-scale’ or ‘artisanal’ fisheries as used to characterize those fisheries that were mainly none mechanized with low level of produc-

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tion. However, they are the predominant fishery in tropical developing countries (Berkes et al., 2001). In Nigeria, the coastal artisanal fishers use the traditional dug-out canoes ranging from 3-18 metres in length while the gears used include cast nets, hand lines, basket traps, loglines, set gillnets and beach and purse seines (Inoni and Oyaide, 2007). The artisanal fisheries account for over 80 percent of the total fish production in Nigeria. This developmental awareness made the government of Nigeria to mandate each state through Agricultural Development Project (ADP) to serve as a link between the research institutes and the artisanal fisheries and as well intervene through procurement and distribution of subsidized inputs to the fishing communities. However, this impact of the various government direct interventionist strategies through the delivering of subsidized inputs could not be sustained. As such, this study seeks to assess various strategies for meeting the fishing input requirements of artisanal fisheries in coastal areas of Ondo state.

Objectives of the study

- Determine the personal characteristics of the Artisans.
- Find out strategies for meeting artisan's fishing input requirements.
- Identify problems faced by artisans in meeting fishing input requirements.

Hypothesis tested

H01: There is no significant relationship between the personal characteristics of artisans and strategies for meeting the fishing input requirements.

H02: There is no significant relationship between the personal characteristics of artisans and problems faced in meeting fishing input requirements.

Materials and Methods

The research was carried out in the coastal areas of Ondo State. About 80% of the study area is covered with water, Swamp and flood plains with a coastline of 80 km long. This makes Ondo State qualify as a maritime state and makes it rank among the highest artisanal fish producers in the country. Ondo is one of the six states that make up the South West geopolitical zone of Nigeria. It has interstate boundaries with Ekiti and Kogi States to the north, Edo State to the east, Delta State to the southeast, Osun State to the northwest and Ogun State to the southwest. The Gulf of Guinea lies to its south and its capital is Akure. Ondo State covers an area of 15 195.2 square kilometers and lies at latitude 7°10' north and longitude 5°05' east. It has a population of 3,460,877 and a population density of 218 people per square kilometer. The

study areas are Ilaje, Ese Odo and Irele Local Government areas of Ondo state.

Sampling procedure and data collection

The population for the study comprises all men and women involved in artisanal fisheries. Data for the study were collected from artisans using interview schedules that were conducted by the researchers, with the assistance of trained enumerators that were fluent in the local dialects of the respondents. Multistage random sampling technique was used to draw samples for the study. Three local governments that have fishing communities were selected out of the eighteen local government areas (LGAs) in the State. Secondly, six fishing communities were selected from each of the three LGAs earlier chosen to give a total of 18 fishing communities covered in the study. Subsequently, 12 artisans were randomly selected from each of the 18 communities, to constitute a total sample size of 216. Data collected include personal characteristics such as gender, age, marital status, household size, educational level, secondary occupation, membership of fishing and cooperative societies. Furthermore, data on strategies for meeting the fishing input requirements and problems faced by artisans in meeting the fishing input requirements were also obtained from the study.

Data Analysis

The primary data collected from the field was entered into the computer for processing. Data from the study were analyzed using the following analytical tools:

- Descriptive analysis such as frequency counts and percentages.
- Chi-square (χ^2) which was used to test relationships between the variables at $p < 0.05$ significance level.

Results and Discussion

Gender

The personal characteristics of artisans presented in Table 1 shows that majority (62.0%) of the artisans were male, however it should be noted that women were also actively involved in fishing and accounted for more than half of men (38.0%). The implication is that women had additional responsibility of fishing to fish processing and marketing which were their roles in most of the fishing communities. In a similar study, (Inioni and Olayide 2007) reported that the role of women in fishing cannot be over emphasized.

Age distribution

This indicated that artisans within the age range of 20–29 and the range of 30–39 falls within the same percentage of 26.4% each; and age range of 40 - 49 were 15.7%. This

Table 1
Personal Characteristics of the Respondents

| Characteristic | Frequency | Percentage |
|---------------------------------|-----------|------------|
| Gender | | |
| Male | 134 | 62.0 |
| Female | 82 | 38.0 |
| Total | 216 | 100.00 |
| Age (years) | | |
| 20–29 | 57 | 26.4 |
| 30–39 | 57 | 26.4 |
| 40–49 | 34 | 15.7 |
| 50–59 | 45 | 20.8 |
| Above 60 | 23 | 10.6 |
| Total | 216 | 100 |
| Marital Status | | |
| Married | 160 | 74.1 |
| Single | 33 | 15.3 |
| Divorced | 3 | 1.4 |
| Widowed | 20 | 9.3 |
| Total | 216 | 100 |
| Household size | | |
| 1–4 | 105 | 48.6 |
| 5–9 | 98 | 45.4 |
| 10–14 | 11 | 5.1 |
| 15–19 | 2 | 0.9 |
| Total | 216 | 100.0 |
| Education | | |
| No formal education | 59 | 27.3 |
| Primary | 54 | 25.0 |
| Secondary | 74 | 34.3 |
| Post-secondary | 29 | 13.47 |
| Total | 216 | 100.0 |
| Secondary Occupation | | |
| Farming | 110 | 50.927.3 |
| Business | 59 | 2.3 |
| Canoe/motorcycle/transportation | 5 | 0.9 |
| Canoe building | 2 | 16.7 |
| Carpentry | 4 | 100.0 |
| Others | 36 | 1.9 |
| Total | 216 | 100.0 |
| Association Membership | | |
| Fishermen | 113 | 52.3 |
| Co-operative | 107 | 49.5 |
| Total | 216 | 100 |

Source: Field survey 2013

shows that a total of 52.8% were below 40 years of age which implies that artisans were active in paddle of canoes, setting, casting and trawling of nets. Adekun et al, 2006 in similar study reported more youths among artisanal fishermen.

Marital status

Majority (74.1%) of the artisans were married. The implication is that married artisans would have helping hands from

the family members in canoe paddle and fish processing. In any venture where there are more youths there is the tendency of sustenance over the years. This result agreed with the report of Ekong (2002) that at 25 years and above, most rural people are married in most Nigerian communities. Marriage is an important factor in the livelihood of individuals as it is perceived to confer responsibility on individuals (Oladoja et al, 2008). Oladoja (2000) asserted that the marriage institution is still cherished and an indication of economic responsibilities of the respondents in caring for dependents.

Household

The household size of 1-4 was the highest (48.6%) compared to other household sizes. The results negate the assumption that rural communities are dominated by large household size which characterizes polygamous homes. The implication could be because of various enlightenment campaign embarked upon by the government at various levels and Non-governmental organizations on the need for birth control.

Education

The level of education as indicated showed that 25.0% had primary education, 34.3% had secondary education while 13.47% attained post-secondary education. It could be suggested that the educational exposure of artisans in the study area was responsible for smaller household size which is at variance with the traditional African rural communities. However, Eyo (2006) reported generally low level of education among artisanal fishermen in a similar study.

Secondary Occupation

Almost half (50.92) of the artisans were involved in farming while 23.5% were engaged in business. The reason for secondary occupation among the artisans could be argument in their income especially when catches decline due to overfishing or oil spillage. Stagnation and decline in capture fisheries has put pressure on fish farming as an alternative to meet increase in fish demand which support the assertion of Ogunremi (2011).

Association membership

Majority, 52.3% and 49.5% of the artisans belonged to fishermen and Co-operative association respectively. Association membership provides an easier opportunity of securing loan from association and government. Bolorunduro et al, (2004) opined that one of the best ways of reducing the recycling constant of subsistence in rural agriculture is through economic empowerment of the rural peasants, which can take place through their participation in Cooperative activities.

Strategies for meeting the Fishing Input requirements by Artisans

Table 2 showed the strategies for meeting the fishing input requirements as indicated by artisans. Loan (88.9%), subsidy (26.9%), building government shops (19.4%), Direct procure (1.4%) and Co-operative Society (0.9%). This implies that if loan is made available to artisans it can be used to purchase inputs and solve the problem of hoarding and other corrupt practices that are associated with subsidized input and input sold in government shops.

Table 2
Strategies for meeting the fishing input requirements of artisans

| Strategies | Frequency | Percentage |
|------------------------------|-----------|------------|
| Subsidy from Government | 58 | 26.9 |
| Loan provision by Government | 192 | 88.9 |
| Co-operative society | 2 | 0.9 |
| Building Government shops | 42 | 19.4 |
| Direct procure | 3 | 1.4 |

Source: Field survey 2013

Problems experienced by Artisans in meeting the Fishing Input requirements

Problems experienced by the artisans in meeting the fishing input requirements are presented in Table 3. Fund (91.2%) was the highest, expensive 38.4%, 19.9% seasonal and 4.2% non-availability for purchase. Through interview, most of the artisans were of the opinion that if fund was made available, there would be possibility of purchase of all needed fishing inputs.

Table 3
Problems faced by Artisans in meeting fishing input requirements

| Problems | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Fund | 197 | 91.2 |
| Non availability for purchase | 9 | 4.2 |
| Expensive | 83 | 38.4 |
| Seasonal | 43 | 19.9 |

Source: Field survey 2013

Multiple responses

In artisanal fisheries sector, fund is needed for constant application of latest ideas and use of modern fishing input which are essential for improving the efficiency of artisans in fish production and improve their standard of living.

Hypothesis 1: There is no significant relationship between the personal characteristics of Artisans and the strategies for meeting the fishing input requirement

Chi-square analysis of personal characteristics of artisans and strategies for meeting the fishing input requirements is shown in Tables 4, 5. Age ($\chi^2 = 0.016$, $p < 0.05$) and Education ($\chi^2 = 0.019$, $p < 0.05$) were significantly related to strategies for meeting the fishing input requirements by the artisans. It implies that the older and educated the artisans the more strategies they develop in meeting their fishing input requirements. However, gender ($\chi^2 = 0.067$, $p > 0.05$) has no significant relationship with strategies for meeting the fishing input requirements. It means strategies for meeting the fishing input requirements were not gender specific therefore necessary strategies can be applied either of the gender.

Table 4
Chi-square relationship between the demographic characteristics of artisans and strategies for meeting the fishing input requirements

| Characteristics | χ^2 | Df | Level of significance | Decision |
|-----------------|----------|----|-----------------------|----------|
| Gender | 3.36 | 1 | 0.07 | NS |
| Age | 12.23 | 4 | 0.02 | S |
| Education | 9.91 | 3 | 0.02 | S |

Source: Field survey 2013

Note: S = Significant, NS = Not Significant

Table 5
Chi-square relationship between the demographic characteristics of artisans and problems faced in meeting the fishing input requirements

| Characteristics | χ^2 | Df | Level of significance | Decision |
|------------------------|----------|----|-----------------------|----------|
| Gender | 2.53 | 1 | 0.11 | NS |
| Age | 11.12 | 4 | 0.03 | S |
| Educational background | 6.28 | 3 | 0.10 | NS |

Source: Field survey 2013

Note: S = Significant, NS = Not Significant

There was significant relationship between problems faced in meeting fishing input requirements and age of artisans ($\chi^2 = 9.03$, $p < 0.05$). Thus, the older the artisans the more problems they face. On the other hand, gender, education, years of fishing, marital status and house hold had no significant relationship with problems faced by artisans in meeting fishing input requirements.

Conclusion and Recommendations

Artisans in the study area were mostly male, married, in active age range with high level of formal education and majority had spent over fifteen years in the profession. The

results showed that age, and educations were significantly related to strategies for meeting the artisanal fishing input requirements of the respondents while no significant relationship exist between gender, education and problems faced by artisans in meeting the fishing input requirements.

The study therefore recommends the following:

Artisans should be enlightened on the advantage of forming and joining fishermen association as a group through which their request on fishing input requirements to government and Non-governmental organizations can be met and the easiest means of sourcing for fund within their locality.

There is the need to link up artisans with Nigeria Agricultural Cooperative and Rural Development Bank (NACRDB) as an alternative method to professional money lenders which charge high interest rates.

All fishing input imported should attract low import duties and government should distribute simple fishing input such as floats and hooks free to artisans and highly subsidize fiber Canoes and outboard engines.

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