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HOUSEHOLD POVERTY STATUS OF ARTISANAL CONTRACT FISHERMEN IN SOUTH - SOUTH, NIGERIA: A COMPARATIVE ANALYSIS

Kesit K. Nkeme*, [1]Namso N. Frank[1] and Ubokudom E. Okon[1]
[1]Department of Agricultural Economics and Extension, Akwa Ibom State University, Ikot Akpaden, Mkpat Enin, P.M.B. 1167, Uyo, Akwa Ibom State, Nigeria.
*Corresponding author: kknkeme@yahoo.com

Abstract
This study compared the household poverty status of artisanal contract and non-contract fishermen in the South-South region of Nigeria using Principal Component Analysis (PCA). Multi-stage sampling technique was used to select a total of 371 fishers (191 and 180). The result shows that out-board engines were the most common and treasured asset owned by households, followed by washer nets, canoe and land. Equally, there were differences in the mean value of fish caught by both contract (38.143kg) and non-contract (24.50kg) fishers. Though, all of the fishers used canoes, but almost half (48.2%) contract fishers powered their canoes with outboard engines as against 20.8% of the non-contract fishers. This is indicative of improved economic welfare among the households and the fisher's household estimated poverty line was ₦28, 561/= for contract and ₦12, 257/= for non-contract fishers based on 2018 prices. The poverty gap which is the estimated expenditure shortfall of the poor households was 49.13% and 38.14% of the respective poverty line and that the 23.72% and 29.32% of the contract and non- contract fishermen household were severely poor respectively. On the coping strategies, the study found out that the preferred coping strategies of contract fishers are artisanal-fishing-based whereas that of non-contract fishers are not. The study recommended mobbing of investible resources through conscious and consistent education on the need to join cooperative societies instead of going into contract which most may be impoverishing. Equally, creating an easy and enabling environment for the operation of trade by government is recommended.

Keywords: Income-poverty, fishers, artisanal, contract, non-contract

Introduction

The potential of fishery resources and its contributions in the Nigerian economy has shown it as an important sector that hold the key to eradication of extreme hunger, poverty and attainment of the millennium development goal (Federal Department of Fisheries (FDF), 2005). Apart from the shrimps (*Penaeusnotalis)* which 80% are exported, the Nigerian waters has an annual potential of 6000-13,000mt skipjack, 1800-35,000mt yellow fin, 3000-5000mt and 1800-3500mt of big eye in the EEZ (Elliot, 2001). However, this potential has not been fully exploited. This is because the artisanal fishermen who are responsible for 89% of the total home production are challenged by socio- economic condition of production, and most especially availability and cost of credit (Ben-yami, 2000). Their contribution to the total fish landing decrease from 97% in 1976 to 82% in 1992 before the increase to 89% in 2000 (Pramod & Pitcher, 2011).

The Nigerian government and indeed the International agencies rose to the plight of the artisanal fishermen with various policies, programmes and institutional reforms (Ovie and Raji, 2006).

The integral goals of these policies and programmes were for improvement of the fisher's income, eradication of poverty and increase living standard of the populace. However, most of the programmes were either short lived, truncated by lopsided implementation or they died with successive government. Corroborating the inverse relationship between programmes and artisanal fish landings, the Nigerian Guardian, of 4th December, 2006 quoted a serving Minister of State for Agriculture and Rural Development, *"Nigeria is no exception to other developing countries with high fishing effort resulting in decline of fishing output"*. This statement is still valid today because the present economic reality is more pathetic. The chief and sole culprit to the dwindling landings of artisanal fishermen is availability and cost of credit.

This singular challenge has created a "gap" of approximately 700,000-900,000mt in home

production/demand which is augmented by fish import of about 600,000mt annually at an estimated cost of ₦400m *(US$3.2m, EUR 2.44m)* (Pramod and Pitcher, 2011). Apart from the negative impact on financial and nutritional level of the populace, the artisanal fishermen are held bound in a vicious web of poverty. Delgdo, Wada, Rosegrant, Meijer and Ahmed, (2003) reported that artisanal fishers are among the resource poorest people in agricultural sector and their situation is a far cry from the developing country's standard of living. Ben-yami, (2000) gave the average annual income of a fisher in a typical fishing settlement at approximately US$400 per annum (p.a.). With an average family size of nine (9) persons according to him, the estimated *per capita income* is US$115 p.a. and a daily poverty line of US$0.83. This is considerably less than the "absolute poverty level" of US$301 p.a. *per capita* and US$2.05 daily poverty line for rural areas accepted by FAO and other UN-related bodies. The situation is compounded by higher prices of commodities, petroleum products and manufactured goods at the fishing settlements due to the remoteness and distance from major urban markets. He also reported that substantial income differential was a rule within these communities with some people having practically no income but depending on their larger family groups on one hand, and on what they can get out of the sea, on the other. In Akwa Ibom State (one of the states in South-South of Nigeria), the Socio-Economic Study (2005) put the food poverty line per adult per month at ₦2,382 ($18), ₦4,954 ($38) per adult per month for overall poverty line and a daily State poverty line of $1.3. The result also has the estimated severity of poverty at 22.42%. They concluded that this point to wide spread and deep-rooted poverty in the State. Ashelman, (2015) submitted that of all suggestions on the public policy debate on poverty, the growing amount of evidence suggests that the primary means of escape is injection of copious amount of investible capital into both the micro and macro levels of the economy. Mnenwa and Maliti (2010) confirmed that an enabling policy framework and strategic investment in Tanzanian economy can potentially engender growth and reduce poverty. Other authors, Hammond (2005) and Amani (2005) all hailed broad – based agricultural development as the panacea to both economic growth and poverty reduction.

It is the quest for this investible capital and the unwillingness of the formal credit institutions to disburse credit to the artisanal fishermen that the fishermen opt for governance structure that will readily and practically provide for the missing/lacking fishing gadget(s) or capital for their daily fishing expedition. The readily available governance structure is the synergy with fish vendors/mammies in the form of "fishing contract". Contract fishing is an agreement between a fish vendor/mammy (principal) and fisherman (agent) for the supply of missing/lacking fishing gadget(s) or capital to the agent and the purchase of caught fishes by the principal. It is mostly unwritten forward agreements, but frequently with repayment schedule at the discretion of the fisherman. It does not only offer means that effectively connect artisanal fishers and large-scale fish vendors/mammies, it is a response to various kinds of market imperfections along the system and timely provides the needed inputs, production services, credit, reduce risk and give access to the markets. Acemoglu, (1999) described it as a mechanism designed to resolve the trade-off between incentive and insurance.

Whichever definition is applied, agricultural contract is said to be one of the 21st century fundamental instruments for sustainable development and poverty reduction (World Bank, 2008). This is because the world of agriculture has changed dramatically and the emerging new phase of agriculture is led by the private sector and this gives rise to integrated supply chains that link financiers to producers in agricultural contract. The major determinant to participate in these emerging agricultural markets, secure livelihood and stay out of poverty is accessibility of investible capital. To this end, financial intermediation by the private sector has become a rule not an exception. In substantiation to this fact, the World Bank reported that the Gross Domestic Product (GDP) growth originating from agriculture is at least twice as effective in reducing poverty as GDP originating outside agriculture. They found that it was 3.5 times more effective in China's growth and 2.7 times effective in the case of Latin America. However, in general terms, they identified getting a job as the "most promising path out of poverty" by "poor" people (World Bank, 2005) and contract

fishing is synonymous with getting artisanal fishermen to work. The big question is, does contract fishing have the magic wand to reduce poverty among the artisanal fishermen in the study area?

Conventional researchers examined the poverty status of artisanal fishers based on the assumption that artisanal fishermen are a homogenous lot. Study on contract fishing in Nigeria is relatively new and heterogeneity rather than homogeneity defines the rural world (World Bank, 2008). Therefore, it is pertinent to evaluate the poverty status of artisanal fishermen based on their credit (contract) status. Examining the artisanal fishers poverty status based on their contract involvement will enable better understanding and application of this 21st century agricultural fundamental instrument "contract" for sustainable development and poverty reduction and will enhance appropriate amelioration policies.

Objectives

The study is to empirically analyse the poverty status of artisanal fishing in Akwa Ibom State – a South-South State in Nigeria. The specific objectives are to: (a). Examine the assets base of contract and non-contract fishermen (b). Analyse the Mean Output of contract and non-contract fishermen. (c) Compare the households' poverty status of contract and non-contract fishermen (c). Analyse the determinants of poverty for both group of fishermen and (d) Analyse the poverty coping strategies of contract and non-contract fishermen.

Methodology

Study Area

This study was carried out in Akwa Ibom State, Nigeria. The State is located at latitude 4^0N, 33^0E and N5°, 33^0E and longitude N7°, 35^0E and N8°, 25^0E. By land mass, it is the tenth largest State in Nigeria with an area of 8,412 square kilometers. It has a population of 3.92 million (National Population Commission, 2006) with an average population density of 350 people per square kilometer and a projected population of 263 million by 2030. The State is one of the core States in the Niger Delta region located in the South-South geo-political zone in Nigeria. It has the largest wetland in West Africa and the longest coastland in Nigeria which spans over 129km (IFAD-CBNRMP Report (2005). The State is drained by three main rivers - Imo, Qua and Cross river. The Akwa Ibom coastline is dotted with many fishing communities (of variable sizes according to the number of fishing units (canoes) and number of fishermen.) Within this fishing communities are some coastal settlements (*ine*) with a significant concentration of artisanal fisherfolks. The main languages are Ibibio, Annang and Oron while the main occupations are fishing, farming, trading and artisanship.

Sampling Techniques

Multi-stage sampling technique was used in selecting samples for the study. First, six coastal Local Government Areas (LGAs) were purposively selected. The selection was based on the commercial fishing status of the LGAs and the intensity of fishing activities. Information on the fishing intensity in the Local Government Areas (LGAs) were obtained from Moses, (1990), FAO, (2005) and reconnaissance survey. The Local Government Areas are; Ibeno, Ikot Abasi, Itu, Mbo, Oron and Uruan. Secondly, sample frame of fishing settlements in each selected LGA was collected from the Fishery Department of the State Ministry of Agriculture. From the sample frame, seven (7) fishing settlements were randomly selected from each selected coastal Local Government Areas. The last stage of sampling was the stratified selection of nine (9) fishermen each from the selected seven fishing settlements. Three Hundred and Seventy-Eight (378) questionnaires were administered, out of which 371 were retrieved, giving a response rate of 98.15%. The 371 artisanal fishing households (191 contracts and 180 non-contracts) were used for the analysis.

Primary data was used for the analysis. The relevant primary data were obtained through survey of artisanal fishers in the study area. The main instruments for data collection were well-structured questionnaires administered on households by trained enumerators under the supervision of the author. Primary data of interest were socio-economic characteristics of artisanal fishermen, daily expenditure profile on food (12-month food expenditure aggregate was generated as part of the total household expenditures calculation), household and fishing assets endowments, inputs utilized, output of fishermen, sales value, labour

supply, number of crews, boat size, years of experience etc.

Methods of data Analysis

There are basically two main approaches to the estimation of poverty. Income and consumption poverty approaches. With income poverty approach, poverty line is established based on the estimated amount of money necessary to meet the basic necessities for a given period in a given location (Maharjan and Joshi, 2009**).** However, it has been argued that poverty line in consumption-poverty approaches, lacks a consensus on the correct measure of consumption to use (Maharjan**,** Joshi,2009). A combination of analytical tools was employed in this study. They include: descriptive statistics, Foster, Greer, and Thorbecke (FGT) weighted poverty index and probit regression techniques.

Estimation of poverty line and poverty status: The analysis of poverty status involves the estimation of the standard of living of the households, estimation of the poverty line, and the computation of the poverty profile.

Estimate the Standard of Living: Fishermen's household expenditure was used as the basis for analysis of their standard of living. The household expenditure was converted into per capita expenditure by dividing it by the number of members of the household. This was further converted into adult equivalents based on the nutritional requirement, sex, and age of household members, using the nutrition-based adult equivalent scales provided by FOS (2004). The product of the nutrition equivalent scales and the number of household members that fall in any of the age-by-sex categories, gave the monthly Mean/Adult equivalent Household Expenditure (MAHE). Two-thirds of the MAHE of the sampled households gave the poverty line for the study (World Bank 1996, FOS 1999, Amaza, Abdoulaye, Kwaghe, and Tegbaru, 2009). The formula is as shown below (Omonona, *et al.* (2007):

Poverty line =Per capita monthly food expenditure for the *ith* household

2/3 means per capita monthly food expenditure of all households.

Table1: Nutritional (calorie-based) equivalent scales

Years of age	Male	Female
0–1	0.27	0.27
2–3	0.45	0.45
4–6	0.61	0.61
7–9	0.73	0.73
10–12	0.86	0.78
13–15	0.96	0.83
16–19	1.02	0.77
20 and above	1.00	0.73

Source: Adapted from FOS (2004) in Amaza, Abdoulaye, Kwaghe, and Tegbaru, (2009).

Estimating poverty status: Poverty status of the fishermen was estimated using Principal Component Analysis (PCA). PCA was used because of its ability to analyze the inter-relationships among a large number of variables and to explain these variables in terms of a smaller number of variables, with a minimum loss of information. Each household/fishing asset was assigned a weight (factor score) generated through the PCA. These weights were used in the estimation of Wealth Index (WI) – a composite measure of the cumulative living standard of households (Amaza, Abdoulaye, Kwaghe, and Tegbaru, 2009). The next step was the calculation of the covariance matrix which is the starting point of all factor analysis. The index for each household which is an expression of the original variables is first principal component and mathematically expressed as:

$A_{ij} = f\,(a_{ij} - a_i)\,(s^*) + \ldots + f_{ik}(a_k - a_k)(s_k)$ -- *(1)*

Technically, the procedure solves the equations $(R - \lambda I)\,vn = 0$ for λn and vn. ----- (2)

Where: R is the matrix of correlations between the scaled variables (the *as*) and vn is the vector of coefficients on the n*th* component for each variable. Solving the equation yields the Eigenvalues (characteristic roots) of R, λn, and their associated eigenvectors, vn. In general, once eigenvectors are found from the covariance matrix, the next step was to rank them by eigenvalue from the highest to lowest. This gives the components in order of significance with the sum of their squares

summing to their total variance. SPSS 19, mathematical package was used for the computation.

The resulting assets are given standardized weights in relation to a standard normal distribution with a mean of zero and a standard deviation of one. The assigned weights are then used to construct an overall WI, applying the following formula:

$$W_j = \sum_{k=0}^{n} [bi(aji - xi]/si \quad \text{-------} \quad (3)$$

Where: Wj is a standardized WI for each household; bi represents the weights (scores) assigned to the (k) variables on the first principal component; aji is the value of each household on each of the k variables; xi is the mean of each of the k variables; and si the standard deviation. These standardized scores are then used to create the break points that define wealth categories. A negative index (–Wj) means that, relative to the states' measure of wealth, the household is poorly endowed and hence worse-off (poor or poorly endowed) while a positive figure wealth index (Wj) signifies that the household was well-endowed (non-poor), Amaza, Abdoulaye, Kwaghe, and Tegbaru (2009).

Determinants of Poverty Status: Theoretically stated poverty in Nigerian's artisanal fishing is a function of socio-economic condition of production and mostly availability and cost of capital and not on lack of fishery resources itself. In analysing factors that affect the poverty status of the fishing households, a probit regression model was used with dummy variable (1, 0) for poverty status as the dependent variable. This studies regresses some of these characteristics against a dummy variable (1, 0) for poverty status to assess its impact. The mathematical modelled in linear form for probit model is shown below according to Oni, Oladele and Oyewole (2005).

$$Y = \beta_0 + \beta_i Q_1 + \in_i$$

Where: Y is dichotomous dependent variable showing poverty status = dummy variable, Y = 1 if a household is classified as poor, Y = 0 if a household is classified as non-poor, β_0 = the intercept, β_1 = regression coefficient, $\in_i$ = the error term. The variables are: Q_1 is age of the fisherman (years), Q_2 is education level of the fisherman (class), $Q_3$is Appvalue (current appraised boat value) of the fisherman. Q_4 is Crew No. (Number of crew members in a fishing boat per fisherman Q_5 is hours of labour per fishing trip of the fisherman (hours), $Q_6$is quantity of fuel use by the fisherman per trip (litres), Gretl mathematical package was used for the analysis.

Results and Discussion

This study is based on the premise that poverty incidence is associated with household's characteristics and fishing productive assets. Hassan and Babu (1991) have found that the level of asset ownership in a household is an indication of its endowment and provides a good measure of household resilience in times of adversities. This is because artisanal households can easily fall back on its assets in times of need by selling or leasing them. The study shows that the most common asset of the respondent is the out-board engine. Field survey reveals that majority of the fishers own an out-board engine, though some were relatively very old with only the salvage values in place. These engines were used to power the wooden canoes owned by the fishermen. They all were of the notion that, it was the ultimate for any meaningful fishing operation since sizeable fishes are only caught at the deep sea. This result is in tandem with Amaza, Abdoulaye, Kwaghe, and Tegbaru (2009).

Table 2 presents the assets owned by artisanal households covered in the study. Out board engines were the most common and treasured asset owned by households, followed by washer nets, canoe and land. Though, all of the fishers used canoes, but almost half (48.2%) contract fishers powered their canoes with outboard engines as against 20.8% of the non - contract fishers. This is indicative of improved economic welfare among the households. This is because the out-board engines enables the exploration of the oceanic suburb where quantity and quality fishes are found. The proportion of households that owned fishing baskets (0.8 contracts and 4.7 non contracts), line and hooks (1.3 contracts and 5.6 non contracts), traps (0.0 contracts and 4.1 non contracts) in the area suggests that most fishing households did not mechanized their fishing outfit. Instead, they still relied on hand paddled canoes for their fishing activities. The implication is that the non -contract fishers will only explore the lakes and oceanic suburbs and

this has direct repercussion on the quantity and quality of fishes accessed by them

Table 2: Percentage distribution of Fisher's households' Assets

Asset	Contract (%)	Non contract (%)	Mean (All Respondents)
Radio sets	3.4	9.1	6.25
TV sets	2.3	7.4	4.85
Mobile phones	1.5	0.6	1.05
Land	5.3	5.6	5.45
Bicycles	0.1	6.8	0.95
Motor cycles	4.7	4.4	3.55
Motor vehicles	0.3	0.1	0.2
Mattresses	0.4	0.3	0.35
Canoe	7.6	5.4	6.5
Out board Engine	48.2	20.8	34.5
Paddles	1.6	1.0	1.3
Washer Nets	21.3	17.1	19.2
Lines/Hooks	1.3	5.6	2.45
Twines	0.2	0.1	0.15
Fishing Basket	0.8	4.7	5.45
Floats	0.6	0.3	0.45
Traps	0.0	4.1	2.05
Cast Nets	0.9	1.3	1.1
Lanterns	0.3	0.2	0.25
Torches	0.2	0.1	0.15
Total	100	100.0	100.00

Source: Survey data, 2019.

Fish Output for Contract and Non Contract Artisanal Fishers

Result of the caught fish output of both contract and non-contract artisanal fishers shows a mean different value of 38.143kg and 24.50kg, standard deviation of 4.419 and 8.165 with standard mean error of 0.463 and 0.913 respectively. Their t-statistics values are 80.189 and 27.727 and the degrees of freedom are 90 and 79 respectively. Both are statistically significant at 5% level. These differences are not unconnected with the fishing (gadgets) assets at their disposal since comparatively, poverty is the denial of choices, opportunities and a violation of human dignity (World Bank, 2001).

Table 3: T - test of Mean Output for Contract and Non Contract Artisanal Fishers

	Test Value = 0					
					95% Conf. Interval Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Contract Fisher Output	80.189	191	.000	38.143	37.22	39.06
Non Contract Fisher Output	27.727	180	.000	26.313	24.50	28.13

Contract Fisher Output: Std. Deviation = 4.619 Std. Error Mean = 0.563
Non Contract Fisher Output: Std. Deviation = 8.365 Std. Error Mean = 0.813
Source: *Extracted from computed print-out by the Author, 2019.*

Poverty Level of Contract and Non-Contract Fishers

The monthly mean/adult equivalent household expenditure (MAHE) of the sampled fisher's household gave an estimated poverty line of ₦28,561/= for contract fishers and ₦12,257/= for non-contract fishers based on 2018 prices. These estimated amounts were the two-third of the monthly mean/adult equivalent household expenditure and was at least expected to meet the monthly minimum basic food and non-food requirements of an adult in the study area.

Fisher's household whose expenditure was below the estimated poverty line were classified as poor and any above it was classified as non-poor.

Table 4: Poverty status of Contract and Non-Contract Fishermen in the Study Area

	Contract Fishermen		Non-Contract Fishermen		Different
Poverty Index	Poverty line (₦)	%	Poverty line (₦)	%	%
Poverty Head Count	28,561	32.27	12,257	53.48	21.21
Poverty Gap		49.13		38.41	10.72
Severity		23.72		29.32	05.60

***Source**:* Survey data, 2019.

Using the estimated poverty lines, 32.27% and 53.48% of the contract and non- contract fishermen households were classified as poor in the study area. The poverty gap which is the estimated expenditure shortfall of the poor households is 49.13% and 38.14% of the respective poverty line of the contract and non- contract fishermen household respectively. The results further reveal that 23.72% and 29.32% of the contract and non-contract fishermen household respectively were severely poor. Comparison of the poverty status of two classes of fishermen reveals that the poverty level is higher by 21.21% in contract fishermen household than in non-contract fishermen. This might be the most reason for their contract engagement with the fish vendors/marketers – a mean to get out of poverty. This is in line with Ashelman (2015). However, the percentages of aggregate expenditure shortfalls and poverty severity are higher in non-contract fishermen.

Determinants of Household Poverty amongst Artisanal Fishermen on Akwa Ibom State

Determinants of household poverty were estimated using Ordinary Least Square analytical method. The results are given below:

Table 5: Contract Fishermen Poverty Determinants

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	2.38978	0.495627	4.822	<0.0001	***
Age.	−0.0332697	0.0110409	−3.013	0.0030	***
Edu.	0.0896434	0.0586023	1.530	0.0012	**
Appvalue	1.45596e-06	8.26397e-07	1.762	0.0798	*
Crew No.	0.158385	0.0277198	5.714	<0.0001	***
Labour Hrs.	−0.188576	0.0366699	−5.143	<0.0001	***
Fuel	0.0491849	0.0208451	2.360	0.0194	**

Mean dependent var	0.582418	S.D. dependent var	0.494521
Sum squared resid	31.88243	S.E. of regression	0.426832
R-squared	0.279717	Adjusted R-squared	0.255021
F(6, 185)	11.32667	P-value(F)	1.12e-10
Log-likelihood	−99.72920	Akaike criterion	213.4584
Schwarz criterion	235.8865	Hannan-Quinn	222.5504

Source: *Extracted from computed print-out by the Author, 2019***.**

Analysis from contract fishermen poverty status shows that age of the fishermen, education, current appraised boat value, numbers of crew per boat, hours of labour at sea and quantity of fuel used per fishing trip were all significant variables to contract fishermen poverty. This implies that an increase in the quantity of these variables except age will check poverty. From the analysis, a decrease in age of the contract fishers will check poverty. This is so because the contract fishers were younger and this potent energy, vigour and even resilience at sea.

Table 6: Non Contract Fishermen Poverty Determinants OLS Model

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	508.708	557.962	0.9117	0.3632	
Age.	−21.0547	11.5432	−1.824	0.0699	*
Edu	136.137	60.8304	2.238	0.0265	**
Appvalue	0.00074	0.000862	0.8544	0.3940	
Crew No.	53.1885	28.8001	1.847	0.0665	*
Labour Hrs.	277.256	52.9101	5.240	<0.0001	***
Fuel	−14.1763	21.5192	−0.6588	0.5109	

Mean dependent var	2779.962	S.D. dependent var	705.3203
Sum squared resid	33765403	S.E. of regression	440.5157
R-squared	0.625009	Adjusted R-squared	0.609923
F(6, 174)	41.43020	P-value(F)	6.11e-34
Log-likelihood	−1362.162	Akaike criterion	2740.325
Schwarz criterion	2765.957	Hannan-Quinn	2750.716

Source: *Extracted from computed print-out by the Author, 2019***.**

Analysis from non-contract fishermen poverty status shows that age of the fishermen, education, numbers of crew per boat and hours of labour at sea were all significant variables to non-contract fishermen poverty. This implies that an increase in the quantity of these variables except age will check poverty. From the analysis, a decrease in age of the contract fishers will check poverty. This is so because the younger the non-contract fishers, the more versatile the sources of income as seen from the coping strategies.

Coping Strategies of the Fishermen's household

Analysis of the major strategies utilised by the fishing households in coping with poverty are presented below. The strategies for contract fishers in order of preference include daily fishing (29.84%), increase hours of fishing (29.84%), borrowing from financiers (15.08%), skipping of meals (3.26%), house hold members employment (3.93%) and reduction in the quantity of meals consumed (3.61%). The strategies for non-contract fishers include harvesting of fingerlings/fryers (29.30%), increase number of income sources (17.52%), house-hold members employed (8.03%), %), reduction in the quantity of meals consumed (5.84%) and borrowing from friends /relations (5.47%). There is a contrast in the coping strategies between the two categories of fishers. The preferred coping strategies of contract fishers are artisanal fishing based whereas the preferred coping strategies of non-contract fishers are not except for harvesting of fryers. The general consumption-based coping strategies of reduction in the quantity of meals consumed, skipping of meals and; purchased and consumption of less preferred meals constituting 12.73% is an indication of the poverty status of the fishers. This coping strategy is especially common for the fishers/household's launch. However, they supplement their launch with "sipping garri" garnished with dried/toasted fingerlings/fishes/crayfish while at sea/home. This practice obviously engender nutrition especially for the younger members of the households as the literature has it that fish is the cheapest form of protein for the peasants. Another strategy used in coping with food poverty is engagement in wage labour as fish processors/driers/fire wood fetchers by members of the household to complement the efforts of the household head and also to meet some personal needs. These finding corroborates Amaza, *et.al*, (2009). Equally, the coping strategies of daily fishing (17.29%) and increase hours of fishing (18.02%) of the fishers is an indication of the poverty status of the fishers. This is because the study "Voices of the Poor" by World Bank reported that poor people identified getting a job-whether through self-employment or from wages-as their most promising path out of poverty (World Development Report, 2005)

Table 7: Ranked Poverty Coping Strategies used by the Artisanal Fishermen

		Contract Fishers		Non- contract Fishers		All Fishers %
	Variables	Coefficient	%	Coefficient	%	%
1	Checking of Household size	7	2.30	10	3.65	2.97
3	Reduced Expenditure on Education	9	2.95	14	5.11	4.03
4	Harvesting of fingerlings/fryers	11	3.61	80	29.20	16.40
5	House-hold members employment	12	3.93	22	8.03	5.98
6	Increase No. of Income sources	0	0.00	48	17.52	8.76
7	Daily fishing	91	29.84	13	4.74	17.29
8	Borrowing from friends/ relations	6	1.97	15	5.47	3.72
9	Borrowing from financiers	46	15.08	3	1.09	8.09
10	Increase hours of fishing	91	29.84	17	6.20	18.02
11	Skipping of meals	13	4.26	11	4.01	4.14
12	Reduction in meal quantity	11	3.61	16	5.84	4.72
13	Purchased of less preferred food	8	2.62	14	5.11	3.87
14	Sales of some fishing Assets	0	0.00	11	4.01	2.01
		305	100	274	100	100

Source: Data analysis 2019 (Multiple Responses)

Conclusion and Recommendations

It is said that there is no unique route for any sector or country to move from an agriculture-based to an urbanized and eventually to a high-income country. However, the literature has a consensus on the route out of poverty for "poor" people - getting a job, and for those already on the "agricultural-based jobs" in developing economies - getting sufficient investible funds is the panacea. This study compared the household poverty status of artisanal contract and non-contract fishermen in the South-South region of Nigeria. The result shows that there were differences in the mean value of fish caught by both contract (38.143kg)and noncontract (24.50kg) fishers, and that out board engines were the most common and treasured asset owned by households, followed by washer nets, canoe and land. Though, all of the fishers used canoes, but almost half (48.2%) contract fishers powered their canoes with outboard engines as against 20.8% of the non-contract fishers. This is indicative of improved economic welfare among the households. The fisher's household estimated poverty line was ₦28,561/= for contract and ₦12,257/= for non-contract fishers based on 2018 prices. The poverty gap which is the estimated expenditure shortfall of the poor households was 49.13% and 38.14% of the respective poverty line and that the 23.72% and 29.32% of the contract and non- contract fishermen household were severely poor respectively. It therefore concluded that poverty level is higher by 21.21% in contract fishermen household than in non- contract fishermen. It is suggested that this might be the most reason for their engagement in contract with the fish vendors/marketers – a mean to get out of poverty. On the coping strategies, the study found out that the preferred coping strategies of contract fishers are "artisanal-fishing-based" whereas that of non-contract fishers are not. Example, the contract fishers have chosen to go on daily fishing whereas the non-contract have chosen to diversify their sources of income. The study recommended mobbing of

investible resources through conscious and consistent education on the need to join cooperative societies instead of going into contract which may be impoverishing. Equally, creating an easy and enabling environment for the operation of trade by government is recommended. Generally, availability and accessibility of investible fishing funds is recommended.

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