

---

COST EFFECTIVE MECHANISMS FOR MOBILIZING THE YOUTHS FOR FISH  
PRODUCTION AND MARKETING IN NIGER DELTA REGION OF NIGERIA

ONU, F. M.<sup>1</sup>; UGWOKÉ, E. O.<sup>1</sup>; AGBOEZE, M. U.<sup>2</sup>;  
and  
IKEHI, M. E.<sup>3</sup>

<sup>1</sup>Department of Vocational Teacher Education, University of Nigeria, Nsukka, Nigeria.

<sup>2</sup>Department of Adult Education and Extra-mural Studies, University of Nigeria, Nsukka, Nigeria.

<sup>3</sup>Department of Vocational and Technical Education, University of Benin, Benin-city, Nigeria.

ABSTRACT

The study was carried out to identify the cost effective mechanisms for mobilizing the youths in the Niger Delta region of Nigeria for fish production and marketing. Three research purposes guided the study. The study adopted descriptive survey research design. The population for the study comprised of 400 youths in the region. The instrument for data collection was structured questionnaire. Each item in the questionnaire was assigned four response options of Strongly Agree (SA= 4), Agree (A=3), Disagree (D=2) and Strongly Disagree (SD=1). Three lecturers from the Department of Vocational Teachers Education University of Nigeria, Nsukka validated the questionnaire. The reliability of the questionnaire items was established using Cronbach method and a co-efficient of 0.71 was obtained. The researchers administered copies of the questionnaire to the respondents with the help of research assistants. Criterion mean value of 2.50 was used for decision making. The study found out nine and ten cost effective approaches for mobilizing the youths for fish production and marketing, respectively, and recommended that the identified strategies should be taught to the youths and adopted by relevant government and non-governmental organizations, especially those in the Niger Delta region of Nigeria.

*Keywords:* Production, Marketing, Cost-effective mechanism, Fish Farming.

*JEL Index Classifications:* D51, E20-29, M31.

1. INTRODUCTION

Agriculture is a major sector of Nigeria's economy, contributing about 40% to the gross domestic product (GDP). In 2011, agriculture contributed 40.19% (crop; 35.78%, livestock; 2.58, forestry; 0.51%, fishing; 1.32%) and in 2012 its contribution was 39.19% (crop; 34.83%, livestock; 2.55, forestry; 0.50%, fishing; 1.31%), (National Bureau of Statistics, NBS, 2012 & 2013a). About 80% of Nigeria's domestic food production comes from household farmers, particularly crop production and forestry while fishery and livestock are largely supported by imports (NBS, 2013a). Among the several forms of agricultural practices in the coastal areas of the Niger Delta region of Nigeria are fishing and fish farming. Fishing is the harvesting of fish from its natural source, referred to as "capture fishery" while fish farming is the rearing of fish in artificial or natural ponds referred to as "aquaculture" or specifically, "fish culture". Fish

farming as well as fishing is an integral component of the overall agricultural production system in the Niger Delta region. Fishing, as a major occupation of the region provides an estimated 50% of the fish consumed in Nigeria (Bene & Neiland, 2004; Uyigue & Agho, 2007).

In light of the persistent damage of agricultural produce in the region due to adverse effects of flooding, drought and scorching temperature resulting from climate change and the rising unemployment rate of about 23.9% (NBS, 2013a), fish farming therefore becomes a potential alternative farming as well as a means to self-employment in the region. Aquaculture, the farming of aquatic organisms, including fish, molluscs, crustaceans and aquatic plants, is often cited as one of the means of increasing food production in food-deficit countries (Inoni, 2007). Being a coastal region, the climate and environment support the survival of various aquatic species particularly fish. The most commonly reared fish species are Tilapia species, *Heterobranchius* species; *Clarias* spp and *Heterotis* spp (Agwu, 2006).

All over the world, the trend to move from capture to culture fisheries is gaining more ground. Niger Delta with its natural aquatic endowment need to take advantage of fish culturing to meet the demand for protein in the region and across the nation. This could be achieved if the youths in the region are empowered to take into fish production through appropriate mechanisms and support. Mechanism is a natural or established process by which an activity takes place or is brought about. Mechanisms for mobilizing the youths refer to approaches or activities that can be done to encourage them into gainful production such as fish farming. However, studies have shown that the youths in the region are showing little or no interest in agriculture (Onu & Ikehi, 2013), particularly in fish production. A study conducted by Margaret (2010) revealed a very poor youth turnout in fish production. The author found from a sample of 300 respondents, that majority of the fish farmers fell within the age bracket of 41 – 45 years (26.3%), while very few young people are engaged in fish farming at age 26 – 30 years (4.3%) and non from age 16-25years (0%). To encourage the youths in the Niger Delta region of Nigeria to be interested and to participate in fish production, a more robust approach is needed to mobilize them. This will help to reduce youth unemployment rate, youth restiveness and militancy in the region.

Fish farming holds the greatest potentials to rapid boost of domestic animal protein supply in Nigeria. The outlook of aquaculture production is worrisome given the growing demand for fish and the declining yield of natural fish stocks due to over-exploitation (Inoni, 2007). There are about 1.75 million hectares of suitable land for aquaculture in Nigeria and 25% of this will yield about 656,820 MT (metric tonnes) of fish per year when placed under cultivation (Tobor, 1990). Nigeria currently requires about 2.66 million MT of fish annually to satisfy the dietary need of her citizens although the country can barely meet 30% of this requirement as the aggregate domestic fish supply from all sources (capture and culture) is less than 0.7 million MT per year (Lasisi, 2013). The terrain of most part of the Niger Delta states is swampy and prone to seasonal flooding, which makes a vast expanse of land in these areas less suitable for crop farming (Inoni, 2007). The prevailing hydrographic conditions, therefore, makes fish farming a very attractive production to which the abundant land and water resources can be put to use (Inoni & Chukwuji, 2000).

Fish farming, like every other type of agricultural activity requires relevant production and effective marketing strategies, in order to maximize profit. Production is the creation of goods and services which have value in use and exchange (Talathi, Naik & Jalgankar, 2011). It involves the combination of different natural and artificial resources to create goods and services to satisfy a want. A fish farmer combines both natural and man-made resources to produce harvestable fishes which are consumed on demand by people and fish-input industries. The production practices and stages in fish farming require cost effective management for better output and profitability. Cost refers to the expenses incurred per unit of output, and could be the total amount of funds used in production (Talathi *et al*, 2011). Cost-effective mechanism aims at economical production in terms of what is achieved in the amount of money spent. It

encourages alternative source or method of achieving stated goals with less expenditure. In fish farming, cost-effective approach includes local fish feed formulation from byproducts and kitchen wastes as well as wastewater reuse. Others include the use of sewage to grow microorganisms which the fish feed on as well as on-the-sea-cage-production of fish (Kaul, Juwarkar, Kulkarni, Nandy, Szpyrkowicz & Trivedy, 2002). Considerate sales options such as buy five-get-one-extra could attract more buyers and improve fish marketing in the region.

Marketing is the creation of value that occurs as goods move from producer to consumer (Drummond & Goodwin, 2011). Agricultural marketing is comprised of all activities involved in the supply of farm inputs to the farmers and movement of agricultural products from farmers to consumers. There are many pricing tools for fish farmers as well as many marketing methods accessible to them too. The basic, perhaps naïve, method is to produce, harvest and then sell on the cash market rather than farmers using forward contracts, production contracts, hedging and options in the futures market, and many other tools to derive from the futures market (Olson, 2010). Proper training in effective marketing strategies will help improve fish production in the region especially by the youths. Youths in Nigeria are those aged between 18 and 35 (Vivienne, Peter, Dan, & Micah, 2011).

The population of the Niger Delta region is estimated at 30 million with the youths (below 30 years of age) comprising nearly two-thirds of its population (Vivienne, *et al*, 2011). Despite vast oil resources, the region is characterized by extremely high poverty levels. Nearly 70% of youths in the region live below the poverty line and unemployment rate is far above the national average youth unemployment level (Vivienne *et al*, 2011; NBS, 2013b). Central to breaking the vicious cycle of poverty will be the creation of productive opportunities for young people in the region and in the whole country. The Niger Delta region is in Southern Nigeria, and is comprised of nine states of Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers.

The region covers an area of 70,000 km<sup>2</sup>, with sandy coastal ridge barriers, brackish or saline mangroves, permanent and seasonal swamp forests as well as lowland rain forest (Nigerian National Petroleum Cooperation, NNPC, 2005). The region is crisscrossed by a large number of rivers rivulets, streams, canals and creeks. The aquatic nature of the region favours the production of fishes which can fully be consumed by the high population in the region with external supply to people of other regions in Nigeria. With the rising population in the region and Nigeria at large, a ready market stands to consume the fishes produced. The region is known to have small but competent market places where these fishes after processing can be easily sold. Improved production and marketing of fish in the region would also increase exportation and the contribution to GDP in Nigeria. This study is aimed at determining:

- Status of youths in the Niger Delta Region of Nigeria.
- Cost-effective mechanisms for mobilizing the youths for fish production in the Niger Delta Region of Nigeria.
- Cost-effective mechanisms for mobilizing the youths for fish markets in the Niger Delta region of Nigeria.

## 2. METHODOLOGY

The study adopted descriptive survey research design and was carried out in the Niger Delta region of Nigeria. The population for the study is made up of all the youths in the region. The study used Bayelsa, Delta, Cross-River and River states as the sampled states due to their riverine nature and high capacity to support fish production. Sample for the study was made up of 400 randomly selected youths, 100 from each sampled state. The instrument for data collection was a structured questionnaire which was divided into 3 parts corresponding to the three purposes of the study. Each item in the questionnaire was assigned four response options of Strongly Agree (SA=4), Agree (A=3), Disagree (D=2) and Strongly Disagree (SD=1). The

instrument was face-validated by three experts from the department of Vocational Teacher Education (VTE) at the University of Nigeria, Nsukka. The reliability of the instrument was calculated using the Cronbach alpha method which yielded 0.71. The researchers administered 400 copies of the questionnaire and all were successfully retrieved for data analysis. Statistical tools such as frequency (F), simple percentage (%), mean ( $\mu$ ) and standard deviation ( $\sigma$ ) were used. Decisions were made at mean criterion value point of 2.50. Items below the value point were regarded as “Disagreed” while items equal to or above the value point were regarded as “Agreed” and accepted as a mechanism for mobilizing the youths.

### 3. RESULTS

The findings of the study were obtained according to the purposes of the study and presented in tables 1 and Appendices 1-2.

Table 1: Status of youths in the Niger Delta Region of Nigeria (n=400)

s/n	Grouping	F	%
1.	Sex;		
	Male	202	50.5
	Female	198	49.5
2.	Age range;		
	18-24	116	29.0
	25-30	284	71.0
3.	Educational status;		
	No formal Education	9	2.2
	Primary School	15	3.8
	Secondary School	179	44.8
	Higher Degree	197	49.2
4.	Employment status;		
	Employed	63	15.7
	Not Employed	337	84.3
5.	Marital Status;		
	Single	324	81.0
	Married	76	19.0

Data in Table 1 reveals that the number of female youths (198, 49.5%) in the region, is relatively similar to the number of males (202, 50.5%). Majority of the youths are between 25-30 years old (284, 71.0%), unemployed (337, 84.3%) and unmarried (324, 81.0%). Furthermore, 2.2% of the youths in the region had no formal education, 3.8% and 44.8% had primary and secondary school education, respectively while 49.2% schooled to a higher degree.

The data in Appendix 1 reveals that nine (s/n 1-5, 7 and 9-11), out of 11 items had mean values ranging from 2.63 to 3.73. These values are greater than the mean criterion value point of 2.50, indicating that the items are cost effective mechanisms for mobilizing the youths for fish production in the Niger Delta Region of Nigeria. The remaining two items (s/n 6 and 8) had mean values of 2.21 and 2.37 which are below 2.50, indicating that they are not cost effective mechanisms for mobilizing the youths for fish production in the Niger Delta Region of Nigeria. The standard deviation of all the items ranged from 0.50 -1.03, indicating that the respondents were neither far from the mean nor from one another in their responses.

Appendix 2 shows that the mean values of all the items (s/n 1-10) fell between 2.98 to 3.33. The values are greater than the mean criterion value of 2.50, indicating that the items are cost effective mechanisms for mobilizing the youths for fish marketing in the Niger Delta Region of Nigeria. The standard deviation of all the items ranged from 0.50 -1.03, indicating that the respondents were neither far from the mean nor from one another in their responses.

#### 4. DISCUSSIONS

The findings of the study in Table 1 revealed that about 84.3% of the youths in the region, the majority of which had either secondary education or higher education, and are not employed. This is a reflection of the generally high unemployment rate in the country, as indicated by NBS (2013a) and Vivienne *et al.*, (2011). The unemployment situation has probably made the youths, especially those with 25-30 years of age, unmarried as gainful employment is necessary to meet up with socially and marital responsibilities. The unemployed youths may also be forced to engage in youth restiveness, armed robbery, and youth militancy

The findings of the study in Appendix 1 shows that there are many cost effective approaches for mobilizing the youths of the Niger Delta for fish production. Some of them are organizing public training and awareness programmes for the youths on fish farming, teaching the youths the use of sewage to grow microorganisms which the fish feed on as well as providing financial assistance to the youths who are interested in fish farming. This is in line with the reported cost effective fish production strategies as suggested by Kaul *et al.* (2002). However, the respondents disagreed with the use of on-the-sea cages rather than construction of ponds and teaching the youths the use of domestic wastewater for fish pond management, as mobilization strategies. This finding is in disagreement with Kaul *et al.* (2002) that the use of on-the-sea cages rather than construction of ponds and the use of domestic wastewater are cost effective strategies for fish production.

Data presented in Appendix 2 indicated that the respondents agreed that all the listed strategies are cost effective mechanisms for mobilizing the youths in the region for fish marketing. This finding backs the views of Drummond & Goodwin (2011) and Talathi *et al.*, (2011) that strategies such as forward supply contracts, forward production contracts and process and package among others are cost effective approaches for fish marketing.

#### 5. CONCLUSION AND RECOMMENDATIONS

It is the wish of youths to have the opacity to meet their social and allied responsibilities, and a dream of every government to lower youth unemployment rate, level of dependency as well as improve the economy through small and medium enterprises (SMEs). Fish farming provides such avenue to achieve these purposes, especially in coastal regions like the Niger Delta Region of Nigeria. Mobilizing the youths (the active workforce) is an effective approach to sustainability and development. The greater majority of the youths in Nigeria and more especially in the Niger Delta region are unemployed and dependent on their parents, adult relatives and friends. Relevant authorities such as the Federal and State ministries of agriculture, trade and labor as well as other well-meaning non-governmental organizations in the country, particularly in the Niger Delta region, should adopt the identified cost effective strategies to mobilize the youths for fish production and marketing.

#### REFERENCES

- Agwu, E. A. (2006). Status of fish farming in Isoko area of Niger Delta Nigeria; implications for extension and global approaches to extension practices. *Journal of agricultural extension*, 2(2), 0794-1005.
- Bene, C., & Neiland, A. E. (2004). Africa's inland fisheries: overview of current methodologies with an emphasis on livelihood analysis. *Naga world food centre quarterly magazine*, 26: 3-20.
- Drummond, H. E., & Goodwin, J. N. (2011). *Agricultural Economics*, third edition. USA, Upper Saddle River. Prentice Hall. Pearson education publishers.
- Inoni, O. E., & Chukwuji, C. O. (2000). Cost Structure, Output, and Profitability in Fish farming in Different Hydrographic Environment in Delta State. *Journal of Agribusiness and Rural Development*, 1 (3): 52-68.

- Inoni, O. E. (2007). Allocative efficiency in pond fish production in delta state, Nigeria: a production function approach. *Agricultura Tropica et Subtropica*; 40 (4) 127-134.
- Kaul, S. N., Juwarkar, A. S., Kulkarni, V. S., Nandy, T., Szpyrkowicz, L., & Trivedy, R. K. (2002). *Utilization of wastewater in agriculture and aquaculture*. India, Jodhpur. Pawan Kumar Scientific Publishers.
- Lasisi, I. (2013). Ceremony of female fish farmers from the South West zone. Agodi Fish Farm Ibadan. Report of the Ministry of Agriculture and Natural resources Oyo State.
- Margaret, U. U. (2010). Access to Agricultural Information by Fish Farmers in Niger Delta Region of Nigeria. *Library Philosophy and Practice*; ISSN 1522-0222.
- National Bureau of Statistics. (2012). Gross domestic product for federal republic of Nigeria (The Presidency). Revised 2011 and estimates for q1- q4, 2012. Retrieved 24<sup>th</sup> May, 2013, from [www.nigerianstat.gov.ng](http://www.nigerianstat.gov.ng)
- National Bureau of Statistics. (2013a). Gross domestic product for federal republic of Nigeria (The Presidency). Revised 2011 and estimates for q4, 2012- q1, 2013. Retrieved 24<sup>th</sup> May, 2013, from [www.nigerianstat.gov.ng](http://www.nigerianstat.gov.ng)
- National Bureau of Statistics. (2013b). Unemployment in Nigeria. Retrieved 24<sup>th</sup> May, 2013, from [www.nigerianstat.gov.ng](http://www.nigerianstat.gov.ng)
- Nigerian National Petroleum Cooperation (2005). Towards Rebuilding the Niger Delta 1999 – March 2004. Nigeria National Petroleum Corporation.
- Olson, K. D. (2010). *Economics of farm management in a global setting*. United States of America. John Wiley & Sons Inc.
- Onu, F. M., & Ikehi, E. M. (2013). Factors influencing students' choice to study agricultural science in south-south Nigeria. *Journal of Agriculture and Biodiversity Research*; 2: 4, 80-86.
- Talathi, J. M., Naik, G. V., & Jalgaonker, V. N. (2011). Introduction to Agricultural economics and agribusiness management. India, New Delhi. Ana Books Pvt. Ltd.
- Tobor, J. G. (1990). The Fish Industry in Nigeria: Status and Potential for Self-sufficiency in Fish Production. *NIOMR Technical Paper no. 54*.
- Uyigue, E., & Agho, M. (2007). Coping with climate change and environmental degradation in the Niger Delta of Southern Nigeria. Community Research and Development Centre (CREDC), Benin, Nigeria. CREDC Press.
- Vivienne, B., Peter, S., Dan, O., & Micah, M. (2011). A report on Niger Delta Region Youth Assessment. Foundation for Partnership Initiatives in the Niger Delta (PIND). Abuja, Nigeria.

## APPENDICES

## Appendix 1:

Mean ratings of the respondents on cost-effective mechanisms for mobilizing the youths for fish production in the Niger Delta Region of Nigeria [n=400]

s/n	Items	$\mu$	$\sigma$	Decision
1.	Motivating the youth to stimulate their interests in fish production.	3.46	.61	Agree
2.	Organizing public training and awareness programmes for the youths on fish farming.	3.58	.50	Agree
3.	Introduction of affordable fast growing fish species for fish farming.	3.52	.58	Agree
4.	Providing inputs such as fingerlings and feeds on loan for youths.	3.13	.93	Agree
5.	Encouraging and providing the means of using natural lagoons and flood prone wastelands as ponds.	2.63	.99	Agree
6.	Use of on-the-sea cages rather than construction of ponds.	2.21	.96	Disagree
7.	Encouraging the youths to master the formulation and compounding of local balanced feed for the fishes.	3.17	.76	Agree
8.	Teaching the youths the use of domestic waste water for fish pond management.	2.37	1.03	Disagree
9.	Teaching the youths the use of sewage to grow microorganisms which the fishes feed on.	3.35	.65	Agree
10.	Organizing free awareness campaign workshop for teaching the youth the managerial skills required for successful fish farming.	3.73	.60	Agree
11.	Providing financial assistance to the youths who are interested in fish farming.	3.54	.61	Agree

## Appendix 2:

Mean ratings of the respondents on cost-effective mechanisms for mobilizing the youths for fish markets in the Niger Delta region of Nigeria [n=400]

s/n	Items	$\mu$	$\sigma$	Decision
1.	Opening of fish extension marketing service by ministries of agriculture and trade to encourage exportation of fish and fish by-products.	3.10	.87	Agree
2.	Teaching the youths how to use forward supply contracts to restaurants and fish-input companies for disposing fish products.	3.29	.64	Agree
3.	Exposing youths to the techniques of using forward production contracts between the youth fish farmer and restaurants or fish-input companies.	3.25	.65	Agree
4.	Encouraging youths on how to process and package fish for markets unlike regular cash and carry.	3.25	.74	Agree
5.	Encouraging the youths to adopt the sales options of buy more-get- extra to attract more buyers.	3.19	.77	Agree
6.	Preparing the youths on how to use appropriate advertisement to create awareness for the buyers.	3.33	.68	Agree
7.	Teaching the youths the technique of lowered price for large scale buyers.	3.10	.72	Agree
8.	Teaching the youths the marketing strategy of lowering price during on and off season (not insisting on fixed price per quantity).	2.98	.83	Agree
9.	Exposing the youths to the practice of direct wholesale supply in large cash market.	3.06	.90	Agree
10.	Teaching the youths the required approaches for taking home delivering on request.	3.02	.87	Agree

© 2010-2014 Sacha International Academic Journals,  
Meridian Centre, 258 Kingsland Road, Hackney, London E8 4DG, England, United Kingdom.  
In Compliance with the Standards Approved by the UK Arts and Humanities Research Council

Abstracting and Indexing in:  
IndexCopernicus USA, British International Libraries,  
Social Science Research Network Worldwide, Econlit (USA), Open-J Gate

For the Advancement of Knowledge to the World. [www.sachajournals.com](http://www.sachajournals.com)