Journal of
Fisheries and Aquatic Science

ISSN 1816-4927

Academic
Journals Inc.

www.academicjournals.com

Journal of Fisheries and Aquatic Science 8 (6): 706-713, 2013
ISSN 1816-4927 / DOI: 10.3923/jfas.2013.706.713

Emerging Income Generating Activities of Fisherfolk in Riverine Communities of Niger State, Nigeria

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ABSTRACT

Recent changes observed in the past decade in political, social and economic developments prompted the study on emerging income generating activities of fisherfolk in riverine communities. A total of 165 respondents were randomly selected for the study from eleven riverine fishing communities in two council areas of Niger State. While primary data was generated with open-ended questionnaire and analyzed descriptively with cross tabulation across gender. The result revealed few number of farming activities but constituted the bulk (75.7%) of the income generating activities engaged by respondents compared to a few (24.3%) non-farming activities. Out of twenty identified income generating activities, only 13% were on emerging income generating activities and 87% on existing income generating activities. On gender involvement, men (83.6%) dominate women (26.4%) in almost all the income generating activities except trading (6.7%) which was controlled by women. Identified emerging income generating activities were television viewing center, film rental, fish farming, commercial driving of taxi and motorcycle, politics, mobile phone enterprise and petrol selling. Observed attributes of the emerging income generating activities were there attractiveness to young people, generation of daily, weekly and monthly incomes against longer gestation periods for most agricultural income activities. The evidence here strongly suggests income from farming and non-farming income generating activities help fisherfolk to make ends meet. Opportunities provided by mobile phone services will help them save cost and time through communication and information whereas, fish farming could provide income during off farming season in the riverine communities. As such, they need empowerment on information dissemination through extension advisory service, inputs, credits and infrastructure to improve income earning activities. Policy makers and change agencies should take recognition of new emerging income opportunities in designing rural empowerment schemes in the riverine communities to meet their needs.

Key words: Income, fisheries, farming, non-farming, Nigeria

INTRODUCTION

In Nigeria, about 69% of the rural population that are poor and seek their livelihood in agriculture and other opportunities existing within them. Among the extreme poor in rural households are fisherfolk considered to be the poorest of the poor. Fishfolk poverty has a linkage to their over dependency on fish resources exploitation from the wild peculiar to fishers collaborated the assertion of Crawford (2002) on the poverty of fisherfolk. Attempts at escaping from poverty

made victims to engage in multiple income activities or diversify income sources for survival. In this direction, Barrett *et al.* (2001) argued that most people get their earnings from more than one single source. Observed development over the years attracted the interest of researchers on rural dwellers involvement in multiple income generating activities.

Carletto *et al.* (2007) defined rural income generating activities to encompass agricultural production, agricultural wage employment, non-agricultural wage employment, non-farm enterprises, transfers and non-labor income sources. While rural non-farm or non-agricultural activities are viewed as all rural economic activities outside of agriculture. For Abdulai and Crolerees (2001) income diversification is allocation of productive resources among different income generating activities both on-farm and off-farm. From the perspective of fisheries, Ayeni and Mdaihli (1996) described income earning activities as job done by fishermen (all the three categories) in addition to fishing to earn income. It translates to various coping strategies fisherfolk adopt for survival to meet needs. FAO (2004) identified the benefits of income generation activities in fisheries to be threefold: to reduce pressure on fishery resources, to allow the fish resource to regenerate and to reduce fisherfolk dependence on fishery resources as the only source of livelihood.

Studies by Minot *et al.* (2006), Barrett *et al.* (2001) and Ruben and van den Berg (2001) enumerated overall aim of household income diversification to include:boost income when the resources needed for main activity are lean to support sufficient livelihood to beat low income, to exploit strategic complementary and positive interactions between different activities and to earn cash income to finance farm investment in the face of the credit market. For the authors, another reason for income activities is for households being food secure as a survival strategy against hunger among the poor. However, Babatunde and Qaim (2009) upheld that richer households tend to be more diversified as a means to increase overall income. Barrett *et al.* (2001) argued in opposition that nonfarm activity is positively linked with earning and wealth in rural Africa and provides an opportunity to be tapped towards the reduction poverty for rural dwellers. It is not surprising for fisherfolk to seek for additional income from other means in the face of declining fish catch and low income to meet family needs.

Evidences in the literature revealed that rural non-agricultural income represents on average 42% of rural income in Africa, 32% in Asia, 40% in Latin America and 44% in Eastern Europe (Davis, 2004; FAO, 1998). While, Bryceson (2002) stated that during the past 15 years, there has been an increase in non-agricultural income in rural areas in sub-Saharan Africa. Meanwhile, agricultural and non-agricultural livelihood diversifications available to fisherfolk in fishing communities are wide and dynamic. Both Crawford (2002) and FAO (2004) reported some income activities of fisherfolk in Asian countries to include sea-weed farming, vegetable gardening and renting of fish pond. Studies carried out around the Kainji Lake basin by Ayeni and Mdaihli (1996, 1997) and Mdaihli and Alamu (1994) found fisherfolk income-generating activities to cut across crop farming, livestock rearing, trading on petty goods (food vendors, bread, sugar, kerosene, kola nut and biscuits). Alamu and Mdaihli (1994) revealed fruits gathering and skill acquisition in tailoring, weaving, brick layer, canoe construction, carpentry, mechanical repairers like radio, bicycle, watch and grinding. These studies found major crops grown to be sorghum, rice, maize, millet, groundnut, guinea corn, yam, cowpeas and cassava. Choice of crops grown conforms to food consummation patterns of the people and beyond.

Some interventions to support income generating activities of women in the lake basin was the distribution of 530 improved cockerels in one hundred fishing communities at subsidized rate of

N150.00 at Foge Island and environ with 81% survival under the Nigeria-German Kainji Lake Fisheries Promotion Project (NGKLFPP) otherwise known as GTZ project (Ayeni and Mdaihli, 1997). Another effort of NGKLFPP project was distribution of over 1 million wood lot in sixty villages made up of ornamental trees, fruit trees and other timber trees to improve shade, shelter, fruits and firewood.

In the past decade, there were new income generating activities springing up in rural communities linked to political, social and economic changes. This prompted the quest for the study on emerging income generating activities of fisherfolk within in the past five years. Specifically, it was designed to verify farming and non-farming activities, differentiate between old and emerging income activities and to determine gender involvement in the activities.

MATERIALS AND METHODS

Study area: Niger state lies on the 3.20° East and longitude 11.30° North. The state is bordered to the North by Zamfara State, West by Kebbi State, South by Kogi State, South West by Kwara State, North-East by Kaduna State and South East by Federal Capital Teritory (http://www.nigerstate.gov.ng/about-niger.html). Also, the state shares international boundary with the republic of Benin along Agwara LGA in North West. Niger State is in the North central geo-political zone of the country (Niger State Planning Commission Bureau of Statistics (NSPCBS, 2011). NSPCBS (2011) showed that it has a population figure of 3,950,249 in 2006 of which 2, 032, 725 (51.45%) were male and 1, 917, 524 (48.55%) were female. Literacy level of male and female population was 48.40 and 34.75%, respectively (NPC, 2006). Major cities are Minna, Bida, Kontagora, Suleja and New-Bussa with daily markets. There exist 25 local governments areas and land mass of 76,363 km^2 i.e., 29,484 square meters (http://en.wikipedia.org/wiki/Niger_State). Presently, three dams (Kainji, Jebba and Shirroro) are situated in the State and new one is under construction at Zungeru. The majority of the populace in the State (85%) are farmers and fishing while others constituting (15%) are involved in vocations such as white collar jobs, business, craft and arts. Report of National Agricultural Extension and Research Liaison Services and Project Coordinating Unit revealed that the State is fragmented into 3 agricultural zones (Kuta, Bida and Kontogora) with 419, 467 contact farmers, 220 extension agents, 15 subject matter specialist, 37 extension blocks and 1:1097 extension agent farmer ratio (NAERLS and PCU, 2001). The state is agrarian with many inland water bodies like rivers, lakes, streams and tributaries that support fishing activities.

Methodology: Adopted sampling method was multistage techniques and the first step was the purposive selection of two L.G. As with riverine fishing communities namely Borgu and Magama out of the existing 25 L.G.As in the State. From the selected two councils, 11 fishing communities were purposively chosen for the study were Malale, New-Bussa, Musawa, Monai, Yuna and Gwatanwara, Kaya, Sakakinjika, Yunawa, Tunga Angulu and Tunga Alhaji Ibrahim. Study population comprised of people living in the selected eleven fishing communities. While the sample size was estimated 280 fisherfolk that engage in fishing, fish processing and fish marketing in the communities. From 280 sample size, a total of 165 were randomly selected as respondents for the study. Primary data were collected by open-ended questionnaire through a face to face interview in the months of June and July, 2010. Generated data were descriptively analyzed with cross tabulation across gender.

RESULTS AND DISCUSSION

Table 1 illustrates respondent's engagement in farming and non-farming income generating activities. Information revealed that farming was few in number (25%) but constituted the bulk (75.7%) of the income generating activities of respondents against non-farming activities found to be more in number (75%) but only few (24.3%) use it for income activities. Evidence here attests that agriculture still remains the most important and dominant diversified income generating activity of respondents in the area. Collaborating the result was studied by Babatunde and Qaim (2009) which found farming as the most important income generating sources for poorest household, accounting for two-third of overall incomes. It implies that fisherfolk derive more benefit and value (food and income) from farming activities than non-farming activities. As such agricultural activities should be given priority in any intervention to boost income diversification of fisherfolk in fishing communities. It suggests the need for empowerment through extension advisory services, inputs, credit and infrastructure to improve agricultural production, value addition, marketing and benefit.

Figure 1 represents summary of emerging and old income generating activities stratified along gender. Emerging income generating activities are viewed as new surfacing economic activities respondents were found to be involved. Benchmark of existing or old income activities in the area were taken from studies of Ayeni and Mdaihli (1997) as well as Alamu and Mdaihli (1994). Out of twenty different income activities, 87% were found to be on old income activities and 13% of the emerging category of income generating activities within the period of five years under consideration. Finding here was in agreement with Ekong (2003) and Matthews-Njoku and Adesope (2007) statements that most rural people in various locations in Nigeria engaged in varied income generating activities besides farming to make a living. Engagement in emerging income generating activities suggests that respondents were making use of new economic opportunities to earn income. Both genders engage in the old and emerging income earning activities but, men (65.10 and 21.90%) dominate women (8.50 and 4.50%), respectively in all the old and emerging activities. Men overriding dominance of women can be traced to cultural and religious believes of most men found to be Muslims. Women effort at diversifying income in both the existing and

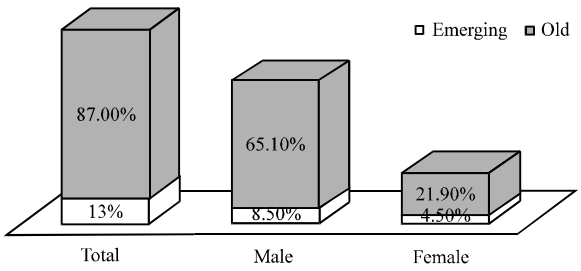

Fig. 1: Summery of income generating activities

Table 1: Respondents farming and non-farming income generating activities

Activities	Number	Percentage	Respondents involvement	Percentage
Farming	5	25	125	75.7
Non-farming	15	75	53	24.3
Total	20	100	178	100

Source: Computed from field data (2010)

Table 2: Gender involvement in emerging and old income generating activities

	Total		Man		Women	
Parameters	No.	%	No.	%	No.	%
Emerging activities						
Fish farming	4	2.2	2	1.1	2	1.1
Viewing centre and film rentage	1	0.5	1	0.5	0	
Commercial motor driver	2	1.1	2	1.1	0	
Politics	1	0.5	1	0.5	0	
Motorcycle driving	6	3.4	6	3.4	0	
Mobile phone business	8	4.5	2	1.1	6	3.4
Selling petrol	1	0.5	1	1.1	0	
Sub total	23	13.0	15	8.5	8	4.5
Old activities						
Crop	109	61.2	92	51.6	17	9.6
Livestock rearing	9	5.0	7	3.9	2	1.1
Fish marketing	3	1.6	0	3	1.6	
Trading	20	11.2	8	4.5	12	6.7
Civil servants	2	1.1	2	1.1	0	
Carpenter	2	1.1	2	1.1	0	
Plating hair	2	1.1	0	2	1.1	
Security	1	0.5	1	0.5	0	
Produce storage	2	1.1	0	2	1.1	
Teaching Quran	1	0.5	1	0.5	0	
Food vender	1	0.5	0	1	0.5	
Technician	2	1.1	2	1.1	0	
Hiring boat	1	0.5	1	0.5	0	
Sub total	155	87.0	116	65.1	39	21.9

Source: Computer generated from field data (2010)

emerging income activities explain their zeal for economic independence rather than being dependent on the spouse. The evidence here buttresses the fact that fisherfolk no longer depend on fisheries as sole income but rather engage in farming and non-farming income generating activities to make ends meet.

Result in Table 2 relates to details of emerging and old income generating activities stratified along gender involvement. Prominent income generating activities in the old were farming (61.2%), distantly trailed by trading (11%) and livestock rearing (5%) whereas in the emerging category where the commercial motorcycle driver (3.4%), mobile phone (4.5%) and fish farming (2.2%). Revelation here reaffirms the importance of agriculture in fisherfolk households' income diversification in the fishing communities. The result strengthens the assertions of Davis *et al.* (2008), Haggblade *et al.* (2007) and FAO (1998) that rural households are involved in a range of economic activities and that agriculture while remaining important, is not the sole or in some cases, even the principal activity of the poor. The role of crop and livestock in household food security explains their prominence in income and food security of poor fisherfolk in fishing communities. Women competitive advantage in trading on petty goods (12%) should be strengthened and encouraged. Growing of petty trading signifies changes in taste of rural dwellers due to increase in population in the various segments of the rural society in fishing communities.

Popular emerging income activities were fish culture (2.4%), commercial motorcycle driving (3.6%), mobile phone business (4.2%), viewing center/video renting (0.6%), politics (0.6%), commercial motor driving (1.2%) and selling of petrol (0.6%). Ifejika (2011) study found that fisherfolk around Kainji Lake basin engaged in about twenty income generating activities which cut across economic activities in agriculture (75.7%) and services (24.3%) top by farming (63.6%), trading (16.4%), livestock (6.7%), fish farming (6.1%) and commercial motorcyclist (5.5%). The outstanding feature of the emerging non-farming income activities is their propensity to attract youth interest, the generation of income on a daily, weekly and monthly basis for operators over long duration crops. They authors attributed the emerging trend in non-agricultural activities to changes in democratic governance and policies on private sector driven economy in the past decade which gave rise to GSM service providers and competition among states. Respondents' engagement in selling of top-up and recharging of mobile phone battery to make money demonstrate social and economic value of mobile phone due to access to services of global mobile system of communication infrastructure in the area. Mobile provides opportunities for rural riverine communities to reap from agricultural production through access to information and make income. Fish farming is one of the new emerging income generating activities attributed to its popularity in recent times around New-Bussa urban town and fisheries research institute. Introduction of cage fish culture technology using water bodies around the area like Kainji and Jebba lakes for fishers will reduce pressure on fishing and increase their income. Driving of commercial motorcycle otherwise known as "okada" and taxi gave rise to selling of petrol as complementary business linked to rising movement of people and new rural roads. Worthy to note was the participation of some fisherfolk in politics to get additional income in this democratic dispensation. In Nigeria, politicians are rewarded with cash and get preference over non party members in distribution of goods such fertilizer, agro-chemicals. Hence, the need to unlock emerging rural non-farming economic opportunities in fishing villages with infrastructure, extension advisory services, credit facilities and co-operatives organisations for more income and wealth creation in the area.

CONCLUSION AND RECOMMENDATION

Outcome of the study attest that fisherfolk have multiple paths to earn income and improve their ways of living aside fishing. Both agricultural and non-agricultural income generating activities are crucial for fisherfolk to earn additional income. Interestingly, they make use of new emerging opportunities provided by infrastructure and development at their disposal for this purpose in the rural area. Empowerment of fisherfolk through extension advisory service through mobile phone, inputs, credits and infrastructures are recommended to improve production, marketing and benefit. State, local council authorities and international organizations should recognize the new developments and consider them in designing rural empowerment schemes in the area.

REFERENCES

Abdulai, A and A. Crolerees, 2001. Determinants of income diversification amongst rural households in southern Mali. Food Policy, 26: 437-452.

Alamu, S.O. and M. Mdaihli, 1994. Socio-economic survey of women in artisanal fisheries in Kainji Lake Area: A case study of Wawu. Annual Report of the National Institute for Freshwater Fisheries Research, New Bussa, Nigeria. pp: 190-194.

Ayeni, J.S.O. and M. Mdaihli, 1996. Identification of non-fishing income opportunities around Kainji Lake. Technical Report Series 4, Nigerian-German Kainji Lake Fisheries Promotion Project, New Bussa, Nigeria, pp: 1-84.

Ayeni, J.S.O. and M. Mdaihli, 1997. Alternative income in Kainji Lake area: Introduction of improved cocks to fisherfolk. Technical Report Series 8, Nigerian-German Kainji Lake Fisheries Promotion Project, New Bussa, Nigeria, pp: 1-35.

Babatunde, R.O. and M. Qaim, 2009. Patterns of income diversification in rural Nigeria: Determinants and impacts. Q. J. Int. Agric., 48: 305-320.

Barrett, C.B., T. Reardon and P. Webb, 2001. Nonfarm income diversification and household livelihood strategies in rural Africa: Concepts, dynamics and policy implications. Food Policy, 26: 315-331.

Bryceson, D.F., 2002. The scramble in Africa: Reorienting rural livelihoods. World Dev., 30: 725-739.

Carletto, G., K. Covarrubias, B. Davis, M. Krausova, K. Stamoulis, P. Winters and A. Zezza, 2007. Rural income generating activities in developing countries: Re-assessing the evidence. Electron. J. Agric. Dev. Econ., 4: 146-193.

Crawford, B., 2002. Seaweed farming: An alternative livelihood for small-scale fishers? A working paper for Coastal Resources Centre. University of Rhode Island, 22p. http://www.crc.uri.edu/download/Alt_Livelihood.pdf

Davis, B., P. Winters, G. Carletto, K. Covarrubias and E. Quinones *et al.*, 2008. Rural income generating activities: A cross country comparison, ESA Working Paper No. 07-16. ftp://ftp.fao.org/docrep/fao/010/ah853e/ah853e.pdf

Davis, J., 2004. The Rural Non-Farm Economy, Livelihoods and their Diversification: Issues and Options. Chatham Publisher, Sage, UK.

Ekong, E.E., 2003. An Introduction to Rural Sociology. 2nd Edn., Nigeria Dove Educational Publishers, Uyo, Nigeria, pp: 84.

FAO, 1998. The State of Food and Agriculture: Rural Non-Farm Income in Developing Countries. FAO, Rome.

FAO, 2004. Guidelines on the collection of demographic and socio-economic information on fishing. Communities for use in Coastal and Aquatic Resources Management. FAO Fisheries Technical Paper, 439. Pages: 23.

Haggblade, S., P. Hazell and T. Reardon, 2007. Transforming the Rural Non-Farm Economy. John Hopkins University Press, Baltimore.

Ifejika, P.I., 2011. Preliminary evaluation of mobile phone usage among Fisherfolk for main streaming fisheries extension in Kainji Lake, Nigeria. Master of Philosophy Thesis, Department of Agricultural Economics and Extension, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria.

Matthews-Njoku, E.C. and C.O.N. Adesope, 2007. Livelihood diversity strategies of rural women in imo state, Nigeria. J. Agric. Extens., 10: 117-123.

Mdaihli, M. and S.O. Alamu, 1994. Socio-cultural structure in a fishing village around kainji. NIFFR, Annual Report, pp: 166-170.

Minot, N., M. Epprecht, T.T.T. Anh and L.Q. Trung, 2006. Income Diversification and Poverty in the Northern Uplands of Vietnam. International Food Policy Research Institute, Washington, DC., USA.

NAERLS and PCU, 2001. Field situation assessment of 2006 Wet season agricultural production in Nigeria. National Agricultural Extension and Research Liaison Services and Project Coordinating Unit, Nigeria, pp: 79-83.

NPC, 2006. Population Census Result. In: Niger State of Nigeria Statistical Year Book: Facts and Figures on Niger State, NPC (Ed.). National Population Commission, Nigeria, pp: 1-54.

NSPCBS, 2011. Niger State of Nigeria Statistical Year Book: Facts and Figures on Niger State. Niger State Planning Commission Bureau of Statistics, Nigeria, pp: 1-54.

Ruben, R. and M. van der Berg, 2001. Nonfarm employment and poverty alleviation of rural farm households in Honduras. World Dev., 29: 549-560.