



Educational needs of Rural Farmers for Improved Productivity in Rivers State: Implications for Community Development

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ABSTRACT

This study identified educational needs of rural farmers for improved productivity in Rivers State with implications of the findings for community development. Four hundred and two (402) farmers were randomly drawn from a population of 4,020 registered cooperative farmers using proportionate and stratified sampling techniques. The instrument used for data collection was the questionnaire containing structured items supported by a Focus Group Discussion (FGD) guide. Data analyses used frequency counts and the mean. Findings indicate that rural farmers in Rivers State need basic literacy of writing, reading, speaking and numeracy. Crop farmers in Rivers State need knowledge of field crop production, protection and breeding for disease resistance, early maturing and high yielding. It was also found out that, while animal keepers need education in animal health and production challenges, fish farmers need education in animal health and production challenges, fish farmer's needs more specialized knowledge in homestead fish pond sitting and maintenance for high yield, among others. It was therefore recommended that these educational needs identified as learning objectives for farmers should form baseline content materials for any community empowerment programme aimed at improving the productivity of rural farmers in Rivers State. .

Keywords: Educational needs, rural farmers, increased productivity, basic literacy, Community development, Rivers State.

INTRODUCTION

Extension which is one way to achieving community development is popular among development scholars as the transfer of formal, non-formal and continuing education to where people live and work. By this, extension needs of the people can also be referred to as educational needs. Farmers as adults and workers are not left out in this as commitment to and participation in extension activities are driven by needs. Since extension programmes are educational programmes which carry non-formal adult education as one of its components, for success, educational need assessment becomes imperative.

Assessment of need is therefore an essential component in the success of any educational programme. Need assessment provide important platform for the discovery of knowledge gap in any given practice as no effective training can be conducted for purposes of development intervention or in the sphere of community development without proper need assessment (Deekor, 2017). According to Grabowski cited in Deekor (2018), need assessment serves several useful purposes as starting points for planning, to give a sense of direction, to justify a programme, to modify on-going programme, and to evaluate institution's goals and mission.

Ruggieri (2006) pointed out that training need assessment is usually conducted when organizations need better employee performance and do not know the content for the training. According to Ruggieri,

training need assessment is a tool utilized to identify what educational courses or activities should be provided to employees or people to improve their work productivity.

On the classification of training needs of rural dwellers, Combs and Ahmed (1974) presented four broad classifications of Basic education, family improvement education, community improvement education, and occupational education. According to Combs and Ahmed, Basic education includes literacy, numeracy, and elementary understanding of science and one's environment whereas family improvement education is designed primarily to impart knowledge, skills and attitude useful in improving the quality of family life – health and nutrition, home making, child care and home repairs. That, while community improvement education is to strengthen local and national institutions and processes through instruction in such matters as cooperatives, community projects and lives, occupational education is to develop particular knowledge and skills associated with various economic activities useful in making a living.

Training is therefore a necessary component of non-formal education used in upgrading skills and for the development and adoption of new technologies that will raise quality of lives without endangering the environment. Omotesho, Ogunlade and Adenuga (2014) conducted a study on farmers' ability to determine their agricultural extension needs in Kwara State. Results show that farmers possess a fair ability to determine their extension needs. Adesoji, Farinde and Ajayi (2006) studied factors influencing the training needs of Fadama farmers in Osun State and recommended that extension agents be motivated to train the farmers on a regular basis alongside handling of factors influencing the training needs. Though these studies presented a common ground on training, none of the studies addressed educational needs identification of farmers in Rivers State. This study was therefore planned to identify the educational needs of rural farmers for improved productivity in Rivers State with implications for community development.

METHODOLOGY

This study was carried out in Rivers State across Okrika, Ogu-Bolo, Eleme, Tai, Khana, Gokana, Oyigbo, Opobo-Nkoro, Andoni, Bonny, Degema, Asari-Toru, Abua-Odual, Ahoada West, Ahoada East, Ogba-Egbema-Ndoni, Emohua, Ikwerre, Etche, and Omuma Local Government Areas. The study did not cover Obio-Akpor and Port Harcourt Local Government Areas because their urban characteristics do not agree with the purpose of the study. Four hundred and two (402) farmers were randomly drawn from a population of 4020 registered cooperative farmers using a proportionate 10% and stratified sampling techniques. Stratified random sampling was considered appropriate because the population contained sub-groups (strata) of crop farmers, animal farmers, and fish farmers which agrees with Gay, Mill and Airasian (2006) that stratified sampling is used in selecting a sample in such a way that identified strata in the population are represented in the sample in the same proportion in which they exist in the population. The instrument used for data collection was the questionnaire containing structured items supported with a Focus Group Discussion (FGD) guide. The questionnaire adopted a 4-point summated rating scale of importance and extent of possession of agricultural education knowledge. The instrument was administered by the researcher and 5 field assistants. Data analyses used the mean. Decision was reached on the mean by comparing mean of importance with mean of extent of possession.

RESULTS

Table 1: Basic literacy needs of farmers for improved productivity

		N = 402		
S/no	Needs	\bar{X}_1	\bar{X}_2	Decision
1	Identification of letters	2.70	1.40	Needed
2	Formation of words	2.60	1.70	Needed
3	Writing in own language	1.20	1.60	Not needed
4	Writing in English	2.80	1.79	Needed
5	Reading in own language with understanding	1.30	1.40	Not needed
6	Reading in English with understanding	2.70	1.40	Needed
7	Speaking in English	2.50	1.70	Needed
8	Ability to compute	2.80	1.40	Needed
	Grand mean	2.33	1.55	

\bar{X}_1 = Mean of importance \bar{X}_2 = Mean of extent of possession

Table 1 indicates the basic literacy needs of farmers for improved productivity in Rivers State. Six (6) basic literacy needs representing 75% of all the needs were needed by farmers. Only 2 areas of the needs representing 25% were not needed as shown in table 1 above. Specifically, identification of letters, formation of words, writing, speaking and reading in English and ability to compute were needed by farmers while writing and reading in own language with understanding were not needed by the farmers.

Table 2: Educational needs of crop farmers for improved productivity in Rivers State

		N = 135		
S/N	Needs	\bar{X}_1	\bar{X}_2	Decision
1	Knowledge of crop classification	1.03	1.31	Not needed
2	Knowledge of soil forming processes	1.00	1.05	Not needed
3	Knowledge of different soil types that support growth of different crops	3.22	1.71	Needed
4	Understanding the different soil materials that constitute plant food	3.52	1.58	Needed
5	Knowledge of different fertilizer types needed by different crops	2.70	1.48	Needed
6	Knowledge of the different disease and insect pests of crops plants	3.42	1.59	Needed
7	The understanding of the various preventive and control measures of pests and diseases of crops	3.57	1.74	Needed
8	Knowledge of the different environmental factors that affect plants growth	3.41	2.02	Needed
9	Knowledge of the effects of different farming practices on the soil	3.58	3.37	Not needed
10	Understanding the importance of crop selection and breeding	3.24	3.34	Not needed
11	The understanding of the importance of plant breeding for high yielding, disease resistance, and early maturing varieties	2.80	1.71	Needed
12	Knowledge of the different uses of forest products	3.17	2.99	Not needed
	Grand mean	2.88	1.99	

\bar{X}_1 = Mean of importance \bar{X}_2 = Mean of extent of possession

Table 2 shows that, out of the 12 educational needs studied, 7 were needed by crop farmers. Specifically, Knowledge of different soil types that support growth of different crops, understanding the different soil materials that constitute plant food, knowledge of different fertilizer types needed by different crops, knowledge of the different disease and insect pests of crops plants, understanding of the various preventive and control measures of pests and diseases of crop plants, knowledge of the different environmental factors that affect plants growth, understanding of the importance of plant breeding for high yield, disease resistance, and early maturing varieties were all needed by crop farmers in Rivers State.

Table 3: Educational needs of animal keepers for improved productivity in Rivers State

		N = 132		
S/N	Needs	\bar{X}_1	\bar{X}_2	Decision
1	Knowledge of the farm animal anatomy	1.51	1.32	Not needed
2	Knowledge of the farm animal reproductive system	1.71	1.46	Not needed
3	Knowledge of the different feedstuffs and feeding materials	3.46	1.75	Needed
4	Knowledge of different diseases and animal health challenges	3.49	1.41	Needed
5	Knowledge of the different hygiene and health management practices	3.20	1.43	Needed
6	Understanding the process of egg formation in poultry	3.00	1.30	Needed
7	Knowledge of the factors that predispose farm animals to diseases	2.68	1.39	Needed
8	Knowledge of the transmission modes of animal diseases pathogens and parasites	3.23	1.62	Needed
9	Understanding the science of animal improvement	3.18	3.19	Not needed
10	Knowledge of other usefulness of animal products other than meat, milk and eggs	3.18	1.83	Needed
Grand mean		2.86	1.67	

\bar{X}_1 = Mean of importance \bar{X}_2 = Mean of extent of possession

Table 3 shows that out of the 10 items studied, 7 representing 70% were needed by animal farmers. Specifically, knowledge of the different feedstuffs and feeding materials, knowledge of different diseases and animal health challenges, knowledge of the different hygiene and health management practices, knowledge of the factors that predispose farm animals to diseases, understanding of the process of egg formation in poultry, knowledge of the transmission modes of animal disease pathogens and parasites and knowledge of other usefulness of animal products other than meat, milk and eggs were all needed by animal keepers in Rivers State.

Table 4 Educational needs of fish farmers for improved productivity in Rivers State.

S/N	Needs	N = 135		Decision
		\bar{X}_1	\bar{X}_2	
1	Knowledge of the government laws and regulations on fishing	3.01	1.76	Needed
2	Knowledge of the conditions necessary for sitting a fish pond.	3.14	1.59	Needed
3	The understanding of all activities and processes of fish pond farming	3.02	1.73	Needed
4	Knowledge of homestead fish pond or fisheries culture	3.08	1.86	Needed
5	Knowledge of the likely harmful effects of some fisheries capture methods on human health and the aquatic environment.	2.95	2.00	Needed
6	Knowledge of fish preservation other than smoking.	2.65	1.50	Needed
7	Knowledge of other usefulness of the mangrove other than firewood	3.03	1.45	Needed
8	Knowledge of the right attitude to fishing and fish culture.	2.78	1.49	Needed
Grand mean		2.95	1.67	

\bar{X}_1 = Mean of importance \bar{X}_2 = Mean of extent of possession

Table 4 shows that all the 8 fisheries knowledge studied were needed by fish farmers in Rivers State representing a consensus. These fisheries knowledge for improved productivity are: knowledge of law and regulations on fishing; knowledge of conditions necessary for sitting a fish pond; understanding of activities and processes of fish pond farming; knowledge of fisheries culture or homestead fish pond; knowledge of the harmful effects of some capture methods on human health and the aquatic environment; knowledge of fish preservation other than smoking, knowledge of other usefulness of the mangrove other than firewood, and knowledge of the right attitude to fishing and fish culture.

Summary of Findings

The following are the major findings of the study.

1. Identification of letters, formation of words, writing, speaking and reading in English and ability to compute were needed by the farmers as basic literacy needs for improved productivity.
2. Crop farmers need knowledge of different soil types that support growth of different crops, understanding of the different soil materials that constitute plant food, knowledge of different fertilizer types needed by different crops, knowledge of the different diseases and insect pests of crop plants, understanding of the various preventive and control measures of pests and diseases of crop plants, knowledge of the different environmental factors that affect plants growth, and understanding of the importance of plant breeding for high yield, disease resistance and early maturing varieties.
3. Knowledge of the different feedstuffs and feeding materials, knowledge of the different diseases and animal health challenges, knowledge of the different hygiene and health management practices, knowledge of the factors that predispose farm animals to diseases, understanding of the process of egg formation in poultry, knowledge of the transmission modes of animal disease

- pathogens and parasites, and knowledge of other usefulness of animal products other than meat, milk and eggs were all needed by animal keepers.
4. Fish farmers and fishers need knowledge of law and regulations on fishing, knowledge of conditions necessary for sitting a fish pond, understanding of activities and processes of fish pond farming, knowledge of homestead fish pond, knowledge of the harmful effects of some fisheries capture methods on human health and the aquatic environment, knowledge of fish preservation other than smoking, knowledge of other usefulness of the mangrove other than firewood, and knowledge of the right attitude to fishing and fish culture.

DISCUSSION

Table 1 presented responses on literacy needs of farmers in Rivers State. It was found out that identification of letters, formation of words writing, speaking and reading in English and ability to compute were needed by farmers in Rivers State. This agrees with the UNESCO (2000) six Education For All (EFA) goal adopted in Dakar during the World Forum on Education that the quality of all aspect of education be improved especially in literacy, numeracy and essential life skills so that measurable learning outcomes are achievable by all.

The literacy needs of writing, reading, speaking in English and to do some numerical calculations identified here have implications on productivity of farmers in Rivers State. In an earlier study, Arko and Addison (2009), reported that beneficiaries of literacy classes in Agona District of Ghana were able to read, write and calculate, and these were used to improve their social and economic lives which is also in conformity with the findings of Amenyah (2012), that adult learners engage in literacy classes in order to acquire basic skills of writing, reading and calculating relative to their economic activities. A positive relationship according to Arko and Addison could therefore be said to be existing between functional literacy and development.

Findings in table 2 show that crop farmers in Rivers State need knowledge of different soil types that support growth of different crops, understanding of the different soil materials that constitute plants food, knowledge of different fertilizer types needed by different crops, and knowledge of the different environmental factors that affect plants growth. These findings corroborates Isirimah and Douglas (2008) that farmers must know their present soil chemical properties to be able to make good fertilizer need decisions for increased productivity which also depends on factors in the soil, factors of the climate, and the crop variety itself. Maximum crop yield therefore depend on the management of the soil and environmental conditions relative to specific crop demands.

Table 3 shows the educational needs of animal keepers in Rivers State. Specifically, knowledge of the different feedstuffs and feeding materials, knowledge of different diseases and animal health challenges, knowledge of the different hygiene and health management practices, knowledge of the factors that predispose farm animals to diseases, and knowledge of other usefulness of animal products other than meat, milk and eggs were all needed by animal keepers in Rivers State. These findings agree with Monsi (2008), in his strategy for increasing livestock production. According to Monsi, the knowledge and skills of farm animal, diseases management, feeding and feedstuffs must be recognized and considered for improvement and productivity of all classes of farm animals.

Table 4 presented responses on educational needs of fish farmers and fishers in Rivers State. It was found out that knowledge of the law and regulations on fishing, knowledge of conditions necessary for sitting a fish pond, understanding of activities and processes of fish pond farming, knowledge of homestead fish pond operations, knowledge of the harmful effect of some fish capture methods on human health and the aquatic environment, knowledge of fish preservation other than smoking, and knowledge of other usefulness of the mangrove other than for firewood were all needed by fish farmers and fishers in Rivers State. Fish pond farming here is what Ekong and Udoh (2014) refer to as homestead fish farming and the finding on fish preservation here needed by fish farmers in Rivers State further corroborates Rafail (2008) who recommended cold stores, effective refrigeration and electrically powered large size kilns as fish preservation techniques for increased fish production in Rivers State.

Implications for Community Development

The findings of this study have implications in community development. Sustainable livelihoods of community members are the mainstay of any community no matter how primitive, rustic, indigenous, rural or urban a community might be. In the rural communities of Rivers State, the predominant occupation of sustainable livelihood is farming and fishing which is highly on the subsistence level. The findings of writing, reading and numeracy identified here, apart from increasing the capacity of farmers subjected to it, will serve as training objectives in any capacity building programme planned for farmers in Rivers State. When the capacity of farmers is increased, productivity also increases, and when productivity increases, economic status of the farmers also increases. When the economic status of the farmers increases, their social status also increases, and as their social status increase, their participation in community development activities also increases (Tomina, 2011).

The obvious implications here is that, as training programmes for improved productivity of crop farmers, animal keepers and fish farmers in Rivers State are to be based on these educational needs to be successful, enhance productivity of farmers will lead to increased participation in community development activities. This is more so as a positive relationship exists between improved productivity of farmers and participation in community development activities (Deekor, 2018).

CONCLUSION AND RECOMMENDATIONS

This study identified educational needs of rural farmers for improved productivity in Rivers State with implications of the findings for community development. It was therefore concluded that basic literacy, crop, animal and fisheries knowledge were needed by rural farmers in Rivers State which will in turn improve productivity, economic status, social status and participation in community development activities.

The study therefore recommends that the educational needs established as training objectives for farmers should form baseline content materials for any community empowerment programme aimed at improving the productivity of rural farmers in Rivers State.

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