DEVELOPMENT NEEDS OF RICE FARMERS IN ANAMBRA STATE, NIGERIA

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Abstract
The study identified the development needs of rice farmers in Anambra State, Nigeria. Two stage sampling technique was used to select 71 rice farmers selected for the study. Data was collected using a structured questionnaire and interview schedule for non-literate rice farmers and analyzed using descriptive statistics namely frequency counts, percentage and mean. The study revealed that majority of the respondents were male (97.5%) with an average age of 47years. Majority (85%) of them were married with an average household size of 7persons. Approximately 75% had WAEC and equivalents as their major educational qualification. The rice farmers had an average farming experience of 17years and 5Ha as average farm size which was mainly owned individually (63%) with average annual income of N259,490. Major source of farm labour was from both household (38%) and hired labour (59.4%). The most felt needs of the farmers were physical development needs and human development needs. The farmers were highly willing to develop their capacity in operating rice processing mills ($\bar{x}$= 2.8) and enhancing knowledge of production techniques ($\bar{x}$= 2.80). The major support available to farmers are provision of farm equipments such as tractors ($\bar{x}$= 2.18), improve rice seedlings ($\bar{x}$=2.06) and subsidized farm inputs ($\bar{x}$= 2.19) while the major constraints militating against rice production in the study area include inadequate farm equipments ($\bar{x}$= 3.94), high cost of acquiring farm equipments ($\bar{x}$= 3.84) and unavailability of subsidized farm inputs ($\bar{x}$= 3.71). Intervention and support programmes should identify rice farmers felt needs before implementation to ensure the programmes attend to the farmer's actual needs. Training workshops that addresses both skill and knowledge deficiencies among rice farmers will help enhance their capacity hence improve rice production.

***Keywords**: Rice Farmers, development needs, farm equipment, constraints,*

Introduction
Rice is the staple food for more than half of the present world population (Fatima and Shabbir, 2013) and in terms of production, it ranks third after wheat and maize in the world (Ajala and Gana, 2015). It is predominantly consumed in Nigeria. The importance of Rice in a country like Nigeria, is no longer a question of whether it is or not but rather, the

concern is now how to meet the growing demand, reduce importation, be self-sufficient as well as facilitate exportation.

For over almost a decade (2003–2012), production of rice has continued to increase, from 580 million tons produced in 2003 to 720 million tons produced in 2011, (FAO, 2013). Food and Agriculture Organization (FAO) (2017) world estimate of cereal supply and demand for 2015 and 2016 put wheat production at 758.0 million tonnes followed by rice which is 497.8 million tonnes. Despite the increase in rice production in the country, it still remains a paradox that the production has consistently fallen below the national demand (Zarmai *et al*.,2014). The authors in same view with Usman, Ilu and Sa'adatu, (2014) noted that the consumption of rice has increased tremendously in Nigeria. They noted that currently in Nigeria, only one third of Nigerian rice demand is being met by importation while noting that Nigeria has the potential to be self-sufficient in rice production both for food and industrial raw material needs and also for export purpose (Ajijola, Usman, Egbetokun , Akoun and Osalusi, 2012).

Production of rice in Nigeria is forecasted to reach 36 million tonnes by 2050 (Federal Ministry of Agricultural and Rural Development (FMARD), 2012), however, a number of constraints have been identified as limiting factors to this goal. According to Ajijola *et al*., (2012) some of the major challenges of rice production in the country include high cost of inputs, lack of financial credit facilities, lack of improved varieties, lack of storage and processing facilities. There is also the problem of policy instability that makes decision-making and planning highly uncertain putting investments at great risk. Others include a low technology base (mechanization), decaying infrastructure, high interest rates, weak institutions (such as poorly-funded research institutes, distribution system resulting to high rate of rice importation, (Kormawa and Akande, 2010; Ajijola *et al*., 2012). Development of rice production in the country can contribute substantially to poverty alleviation, especially, for resource constrained households and can increase household food security. Encouraging the production of rice locally will lead to high reduction in dependence on imported rice.

It is important to ascertain the felt needs of the rice-based farmers in order to plan and implement developmental programme that truly addresses the needs of the farmers. Krantz (2001) stated that some development needs of rice farmers is associated with the five assets of a person namely natural asset (land, water etc.), social asset (cooperatives, extension services, programmes, outreaches etc), physical asset (improved rice varieties, irrigation systems, fertilizers etc), financial asset (funds, loans, grants etc) and the human asset (attitude, knowledge/information needs, technical skills, entrepreneurial skills, marketing skill, etc). Development programmes that address this critical area will no doubt impact the

production capacity of the rice farmers. Therefore, it is pertinent to assess the development needs of the rice farmers as this will contribute in effectively developing the skills and capacity of these farmers hence improved productivity.

This study identified the development needs of rice farmers in Anambra State, Nigeria. Specifically, it ascertained the socio-economic characteristics of the rice farmers, identified the development needs of the rice farmers, determined the willingness of rice farmers to build their capacity, identified the various institutional support made available for the rice farmers and identified the various constraints militating against rice farmers from developing their capacity

Methodology

The study was conducted in Anambra State specifically Ayamelum Local Government Area (LGA). The choice of the Local Government was as a result of the fact that they are the major producers of rice in Anambra state (Onumadu, and Osahon, 2014). The LGA lies between longitude 6?45[1] and 7?25[1] and latitude 6?21[1] and 6?65[1] and at altitude 213 meter above sea level (Onumadu and Osahon, 2014). The author further mentioned other food crops produced in the area to include yam, cassava, maize, Okro and melon with Cashew, orange and mango as major fruit trees. Ayamelum LGA is a riverine area which is favourable for rice production.

Data for the study was collected using two staged sampling procedure. First stage was the purposive selection of three major rice producing communities (namely Omor, Umumbo and Ifite-Ogwari) from the eight communities that make up the area. The second stage comprised using snow-ball method to develop the list of key rice farmers in the three selected community. Then proportionate random sampling was used to select key 71 based farmers for the study (community A (Umumbo) 20 rice farmers were selected, community B (Ifite-Ogwari) 25 rice farmers were selected, while in community C (Omor) 26 rice farmers were selected).

Data was collected with a structured questionnaire and interview schedule where the respondents were not literate. Development needs of rice farmers were captured using a 5-Point Likert type scale which was assigned weights of 5 (highly needed), 4 (Needed), 3(Somehow Needed), 2 (Lowly needed), and 1(Not needed). A midpoint of 3.0 (5+4+3+2+1 = 15/5 = 3.0) was obtained with the decision rule that statements scoring mean of 3.0 and above are development needs of rice farmers while those with mean values of less than 3.0 are not development needs.

Willingness of rice farmers to build their capacity was captured using a 4-point Likert type scale which was assigned weights of 4 (Highly Willing), 3 (Willing), 2 (Somehow

Willing), and 1(Not Willing). A midpoint of 2.5 (4+3+2+1 = 10/4 = 2.5) was gotten with the decision rule that statements with mean value of 2.5 and above means the rice farmers are willing to build their capacity in that area while mean value of less than 2.5 means the rice farmers are not willing to build their capacity in that area. Available institutional support and constraints militating against rice farmers developing their capacity were captured using a 4-point Likert type scale which was assigned weights of 4 (Strongly Agree) 4 (Agree), 3(Disagree) and 1(Strongly Disagree). A midpoint point of 2.5(4+3+2+1 = 10/4 = 2.5) was gotten implying that statements with mean value of 2.5 and above means the support is available while mean value of less than 2.5 means the support is not available, while for constraints, mean value of 2.5 and above means it's a constraint and mean value of less than 2.5 means the statement is not a constraint.

Data collected for the study were analysed using percentages, frequency counts and mean.

Results and Discussion

Socio-economic characteristics of rice farmers in Anambra State.

Result in Table 1 showed the socio-economic characteristics of rice farmers in the study area. It was shown that most lands were owned by individuals/family (63.4%). Average age of the farmers is 46years old implying that these farmers were still in their productive age hence strong enough to undertake the rigours of rice production. The result agrees with Osanyinlusi and Adenegan, (2016) which found the mean age of rice farmers as 46 years. Majority of the farmers were males (97%) indicating that rice farming in the study area was dominated by males, this may be probably due to its nature of being labour intensive and very tasking. Women in the area are mainly engaged in non-farm activities and domestic chores.

Majority (85%) of the rice farmers were married with an average household size of 7persons. This implies that the farmers had a relatively large household which might serve as an insurance against short fall in supply of farm labour since household size has a great role to play in family labour provision in agricultural sector, (Osanyinlusi and Adenegan, 2016). Average farm size and farming experience were found to be 5Ha and 17years respectively. This shows that most farmers cultivated on commercial level and had also acquired some experience in rice farming. The rice farmers made an average of N259,491 per plot for each farming season. Farm labour was majorly through hired labour (59%) and household labour (38%). Majority of the farmers (74%) had a secondary school certificate implying that many of them could read and write.

Table 1. Socio-economic characteristics of rice in Anambra State

S/N	Variable	Frequency	Percentages	Mean
1	Type of ownership of Farmland			-
	Individual/family	45	63.4	
	Federal government	26	36.6	
2	Age	-	-	45.6years
3	Sex	69	97.2	-
	Male	2	2.8	
	Female			
4	Marital status	11	15.5	-
	Single	60	84.5	
	Married			
5	Highest Educational Qualification			-
	No formal Education	2	3	
	FSLC	11	16	
	WAEC/equivalent	52	74	
	First degree	5	7	
6	Farm size			5 ha
	<1 hectare	9	12.9	
	1-3 hectares	21	30.0	
	4-6 hectares	21	30.0	
	7-9 hectares	12	17.1	
	> 9hectares	7	10.0	
7	Farming Experience	-	-	17.2 years
8	Average income per plot For one production season	-	-	₦ 259,491
9	Source of farm labour	2	2.9	
	Household	26	37.7	
	Hired labour	41	59.4	
	Both			
10	Household size	-	-	7 members

Source: Field Survey 2018

Development needs of rice farmers according to Department of International Development (DFID) Sustainable Livelihood Framework (SLF)

Table 2 showed the various development needs of rice farmers in Anambra State. The needs were classified into five latent categories based on the DFID sustainable livelihood Framework, which are human, physical, social, natural and financial needs. The result indicated that physical development needs ($\bar{x}$ = 3.65) were most needed by the rice farmers. The variable that recorded very high under this category include, provision of adequate storage facilities ($\bar{x}$ = 3.85), good transportation system ($\bar{x}$ = 3.81), improved road network ($\bar{x}$ = 3.80). Human development needs ($\bar{x}$ = 3.25) rated second with entrepreneurial skill development ($\bar{x}$ = 3.42), skill acquisition on improved rice production techniques ($\bar{x}$ = 3.39) and training on climate change mitigation ($\bar{x}$ = 3.37) and adaptation ($\bar{x}$ = 3.27) as variables that rated high. Pyysiäinen, Anderson, Mc Elwee, and Versala, (2014) noted that different kinds of entrepreneurial tasks as well as consequent skills are relevant in conventional farming. Similarly, Osanyinlusi and Adenegan, (2016) reported that extension services enhanced farmers' productivity in the humid forest and dry savannah agro-ecological zones of Nigeria. This may not be surprising as extension services which helps to enhance farmers knowledge as well as access to improved resources and information will no doubt impact farmers productivity. Financial development need ($\bar{x}$ = 3.20) and social development needs ($\bar{x}$ = 3.03) also rated high. Only natural development need was found to rate low implying that rice farmers do not have high need for variables captured under this category.

Table 2. Development needs of rice farmers in Anambra State using DFID Sustainable Livelihood Framework.

S/N	VARIABLES	HN	N	SN	LN	NN	Mean
A	**Human Development Needs**						**3.25****
1	Training on climate change mitigation strategies	37(52.1)	30(42.3)	-	1(1.4)	3(4.4)	3.37**
2	Training on climate change adaptation strategies	31(43.7)	32(45.1)	5(7.0)	2(2.8)	1(1.4)	3.27**
3	Skill acquisition on improved rice production practices	31 (43.7)	38(53.5)	1(1.4)	1(1.4)	-	3.39**
4	Outreach programmes	23(32.4)	43(60.6)	2(2.8)	1(4.2)	-	3.21**
5	Home/farm visits by extension agents	20 (28.2)	39(54.9)	10(14.1)	2(2.8)	-	3.08**
6	Capable farm labour force	19(27.1)	45(64.3)	3(4.3)	2(2.9)	-	3.11**
7	Improved health care access	25(35.2)	38(53.5)	4(5.6)	3(4.2)	1(1.4)	3.18**
8	Entrepreneurial (managerial/leadership) skills	33(46.5)	33(46.5)	-	-	1(1.4)	3.42**

B	**Social Development Needs**						**3.03****
1	Formation of cooperative/groups	41(57.7)	10(14.1)	-	1(26.8)	-	2.74*
2	Networking to access other wider institutions	15(21.1)	37(52.1)	3(4.2)	15(21.1)	1(1.4)	2.70*
3	Information sharing	17(23.9)	34(47.9)	4(5.6)	14(19.7)	2(2.8)	2.70*
4	Improved on-farm security	32(45.1)	35(54.9)	1(5.6)	-	3(4.2)	3.30**
5	Improved participation in groups for interpersonal capacity development	20(28.2)	42(71.8)	4(5.6)	5(7)	-	3.08**
6	Building capacity to improve collaboration/partnership with other stakeholders	28(39.4)	33(46.5)	7(9.9)	1(1.4)	2(2.8)	3.18**
7	Organization of farmers day for exhibition	48(67.6)	17(23.9)	4(5.6)	1(1.4)	1(1.4)	3.54**
C	**Physical Development Needs**						**3.65****
1	Access to improved rice seedlings varieties	58(81.7)	9(12.7)	2(2.8)	2(2.8)	-	3.73**
2	Improved irrigation	57(80.3)	10(14.1)	1(1.4)	3(4.2)	-	3.70**
3	Improved condition of road network						3.80**
4	Machines: rice processing mills	58(81.7)	10(14.1)	1(1.4)	2(2.8)	-	3.75**
5	Good transportation system	57(81.4)	13(18.6)	-	-		3.81**
6	Poor information and communication system/framework to support business	52(74.3)	9(12.9)	4(5.7)	2(2.9)	3(4.3)	3.50**
7	Improved energy/electricity to operate production equipment	46(64.8)	9(12.7)	3(4.2)	2(2.8)	11(15.5)	3.08**
8	Adequate storage facilities	58(81.7)	10(14.1)	1(1.4)	1(1.4)	9(12.7)	3.85**
D	**Financial Development Needs**						**3.20****
1	Regular credit supply	36(50.70)	30(42.30)	1(1.40)	2(2.80)	2(2.8)	3.35**
2	Improved loan scheme	32(45.10)	37(52.10)	-	-	2(2.80)	3.36**
3	Low interest rate of single digit	27(38.00)	41(57.70)	1(1.4)	1(1.4)	1(1.4)	3.29**
4	Improved financial/ monetary policies	16(22.50)	50(70.40)	1(1.40)	1(1.40)	3(4.2)	3.05**
5	improved collateral system for loans for agribusiness	21(30.00)	44(62.90)	2(2.9)	1(1.4)	2(2.9)	3.15**
6	Facilitation of international remittances	15(21.10)	47(66.20)	5(7.00)	1(1.40)	3(4.20)	2.98*
7	Marketing system	21(30.00)	44(62.99)	5(7.10)	-	-	3.22**

E	**Natural Development Needs**						**2.26***
1	Reformed Land Use Act	22(32.40)	15(21.10)	5(7.00)	24(33.80)	4(5.60)	2.36*
2	Improved systems of land ownership	23(32.40)	15(21.10)	5(7.00)	24(33.80)	4(5.60)	2.40*
3	Pests control systems	21(30.90)	10(14.70)	33(48.50)	1(1.50)	3(4.40)	2.66*
4	Soil structure management practices	10(14.10)	6(8.50)	2(2.80)	6(8.50)	47(66.2)	0.96*
5	Management practices for natural disaster such as flooding, erosion	15(21.10)	9(12.70)	4(5.60)	41(57.70)	2(2.80)	1.92*
6	Disease management practices	21(30.00)	10(14.30)	7(10.00)	27(36.60)	5(7.10)	2.21*
7	Climate change adaptation/mitigation practices	20(28.20)	16(22.50)	6(8.50)	27(38.00)	2(2.80)	2.35*
8	Improved water supply system	38(54.30)	14(20.00)	16(22.90)	1(1.40)	1(1.40)	3.24**

Source: Field Survey 2018

**** development need; *Not development needs***

Willingness of rice farmers to build their capacity

The result in Table 3 showed that majority of the variables used to capture willingness of rice farmers to build their capacity recorded mean value of 2.5 and above indicating there is high willingness of the farmers to improve their capacity. Willingness to acquire more land under conducive land ownership rights/policies ($\bar{x}$ = 2.83), developing capacity to meet international market standard ($\bar{x}$ = 2.82), skill on operating rice processing mills ($\bar{x}$ = 2.80) and training on improved rice production techniques ($\bar{x}$ = 2.80) recorded high among other variables. This is an indication that the rice farmers are interested in expanding their rice farms as well as improving their capacity on rice production techniques. This result is in line with the findings of Onumadu and Osahon, (2014) who found that rice farmers in Ayamelum LGA are active and ready to improve their production.

Table 3. Willingness of rice farmers to build their capacity

S/N	VARIABLES	HW	W	SW	NW	Mean
					1(1.4)	
1	Acquire skills on how to operate rice processing mills	62(87.3)	6(8.5)		2(2.8)	2.80**
2	Embark on training on improved rice production techniques	59(83.10)	10(14.)	2(2.80)	-	2.80**
3	Engage in training organized by extension agents	55(77.50)	13(18.30)	3(4.20)	-	2.73**
4	Attend outreach programmes	50(70.40)	14(19.70)	3(4.20)	4(5.6)	2.54**
5	Be hospitable to extension agents during visits	40(56.30)	27(38.00)	3(4.20)	1(1.40)	2.49*
6	Provide employment for farm labour force	41(57.70)	27(38.00)	3(4.20)	-	2.53**
7	Access improved health care	56(78.90)	13(18.30)	1(1.40)	1(1.40)	2.74**
8	Acquire entrepreneurial skills needed to run my business	45(64.30)	24(34.30)	-	1(1.40)	2.61**
9	Participate in group/cooperative activities	44(62.90)	23(32.90)	3(4.30)	-	2.59**
10	Facilitate formation of groups/cooperatives	48(67.60)	8(11.30)	15(21.10)	-	2.46*

11	Network/partner with other relevant stakeholders	41(57.70)	10(14.10)	19(28.20)	1(1.40)	2.28*
12	Share beneficial information with other rice farmers	42(59.20)	13(18.30)	11(15.50)	5(7.00)	2.29*
13	Participate in farm exhibitions/shows	41(57.70)	19(26.80)	7(9.90)	4(5.6)	2.37*
14	Access beneficial information useful for rice farming: production, processing and marketing information	46(64.80)	20(28.20)	5(7.00)	-	2.58**
15	Make efforts towards improving on-farm safety/security	47(66.20)	16(22.50)	3(4.20)	5(7.00)	2.48*
16	Cultivate improved rice varieties that I access	56(78.90)	9(12.70)	2(2.80)	4(5.60)	2.64**
17	Make use of available transportation system	55(77.50)	16(22.50)	-	-	2.77**
18	Make use of available irrigation facilities	51(71.80)	17(23.90)	3(4.20)		2.68**
19	utilise information and communication technology facilities in running my farm	59(80.30)	10(14.10)	1(1.40)	1(1.40)	2.79**
20	Secure loan schemes with no interest rate	47(66.20)	19(26.80)	1(1.40)	4(5.6)	2.54**
21	Secure credit facilities without collateral	50(71.40)	18(25.70)	1(1.40)	1(1.40)	2.67**
22	Pay for use of storage facilities	46(64.80)	18(25.40)	5(7.00)	2(2.80)	2.52**
23	Abide by policies of financial institutions when carrying out transactions for my businesses	56(78.90)	11(15.50)	4(5.60)	-	2.73**
24	Make claim of international remittances made to me	53(74.60)	11(15.50)	7(9.90)	-	2.64**
25	Meet international market standards	60(84.5)	9(12.70)22	2 (2.8)	-	2.82**
26	Participate in local market	46(64.80)	22(31.00)	2(2.80)	1(1.40)	2.59**
27	Acquire more lands under conducive land ownership rights/policies	62(87.30)	6(8.50)	3(4.20)	-	2.83**
28	Practice integrated pests management system	40(57.10)	26(37.10)	4(5.70)	-	2.51**
29	Adopt production practices capable of mitigating natural disasters such as flooding, erosion	45(63.40)	23(32.40)	3(4.20)	-	2.58**
30	Adopt disease control measures for improved production	45(63.40)	23(32.40)	3(4.20)	-	2.59**
31	Drill water supply system in my farm	43(60.60)	25(35.20)	1(1.40)	2(2.80)	2.54**

Source: Field Work 2018
**** Willing; * Not willing**

Institutional supports made available for rice farmers

Results showed that of the 17 variables used to capture available institutional support for the rice farmers, only two were indicated by the farmers to be available. This includes conducive tax system ($\bar{x}$ = 3.39) and improved security ($\bar{x}$ = 3.31). The result showed a low level of available support for the farmers as most of the mentioned area of support by the study recorded mean level of below 2.5. This could be one of the major reasons why rice production is not growing at the expected rate in the area. Without the needed support system and enabling environment for farmers, it will be very difficult for them to improve their farming system as most of them leverage on this support to enhance their farming activities. Similarly, Dimelu, Enwelu, Attah and Emodi (2014) identified fund, linkage, training and leadership- related factors as pertinent for enhancing performance of rice farmers' cooperative in rice innovation system in Enugu State.

Table 4. Institutional supports available for rice farmers

S/N	VARIABLES	SA	A	D	SD	Mean
1	Provision of mechanized equipment such as tractor, planters etc	13(18.30)	8(11.30)	29(40.80)	21(29.60)	2.18*
2	Improved rice seedlings	8(11.30)	24(33.80)	3(4.20)	36(50.70)	2.06*
3	Provision of subsidized farm inputs/planting materials	14(20.00)	6(8.60)	29(41.40)	21(30.00)	2.19*
4	Ease of acquiring land for rice farming	13(18.30)	8(11.30)	6(8.50)	44(62.00)	1.86*
5	Organisation of farmers exhibition/award day	8(11.30)	22(31.00)	9(12.70)	32(45.10)	2.08*
6	Storage facilities	12(16.90)	9(12.70)	31(43.70)	19(26.80)	2.20*
7	Established rice processing facilities	11(15.70)	7(10.00)	7(10.00)	45(64.30)	1.77*
8	Assistance in formation of cooperatives/groups	12(16.9)	11(15.50)	4(5.60)	44(62.00)	1.87*
9	Conducive tax system	46(64.80)	12(16.90)	8(11.3)	5(7.00)	3.39**
10	Improved security	35(49.3)	24(33.80)	4(5.60)	8(11.30)	3.31**
11	Credit facility from Bank of Industry (BOI)	5(7.00)	9(12.70)	3(4.20)	54(76.10)	1.51*
12	Credit facility from Bank of Agriculture (BOA)	1(1.4)	7(10.00)	6(8.60)	56(80.00)	1.33*
13	Active sensitization workshops/assistance from SMEDAN (Small and Medium Scale Enterprise Development Agency of Nigeria)	5(7.10)	29(41.40)	6(8.60)	30(42.90)	2.13*
14	Trainings by agricultural extension agents	20(28.20)	8(11.30)	5(7.00)	38(53.50)	2.14*
15	Responsive road maintenance by FERMA (Federal Roads Maintenance Agency)/other agencies like FADAMA	11(15.50)	28(39.40)0	26(36.60)	6(8.50)	2.32*
16	Sponsorship to attend trainings to acquire education (knowledge and skills)	6(8.50)	27(38.00)	8(11.30)	30(42.30)	2.13*
17	Support from traditional institutions	4(8.50)	31(43.70)	6(8.50)	30(42.30)	2.13*

Source: Field Work 2018

**** Available support; * Not available support**

Constraints militating against rice farmers from building their capacity

Table 5 showed the constraints faced by rice farmers in building their capacity. Inadequate storage facilities (x = 4.00), inadequate mechanized equipment such as tractor, planters etc by government (x = 3.94), high cost of mechanized equipment for rice production (x = 3.84), lack of subsidized farm inputs(improved seedlings) (x = 3.71), poor irrigation system (x = 3.70), small scaled processing facilities/mills (x = 3.58), unavailability of banking facilities (x = 3.42), difficulty in accessing credit facilities from Bank of Agriculture (BOA) (x = 3.37) , epileptic electricity power supply for farm operations in processing mills & water supply (x = 3.27), inadequate training opportunities

by agricultural extension agents on rice farming (x = 3.17), poor sensitization workshops/assistance by SMEDAN (Small and Medium Scale Enterprises Development Agency of Nigeria) (x = 3.07), inadequate sponsorship for acquisition of trainings/education (knowledge and skills) (x = 3.06) and unresponsive road maintenance by FERMA/FADAMA (x = 3.03) were the major constraints faced by these rice farmers in building their capacity. This shows that there are numerous factors militating against rice farming in the study area ranging from environmental to institutional. Enhancing rice farming in the zone will demand a critical analysis of these factors and proffering effective measures to curtail the effects of these factors. The results obtained corroborates Nwalieji (2016) who identified constraints to rice production among farmers in Anambra and Enugu state to include inadequate fund for start-off, difficulty in obtaining credit, inadequate improved processing and milling machinery, high cost of privately sold agro-input such as fertilizers, poor road network, difficulty in forming co-operative society, poor extension service visit to farmers, high cost of rice production among others. Similarly, Iwuchukwu, Ayogu, and Udegbunam, (2017) lack of finance, difficulty in obtaining credit facilities and lack of collateral as the economic related constraints militating against rice farming in Anambra State.

Table 5. Constraints militating against rice farmers from building their capacity

S/N	VARIABLES	SA	A	D	SD	Mean
1	Inadequate mechanized equipment such as tractor, planters etc by government	67(94.40)	4(5.60)	-	-	3.94**
2	High cost of mechanized equipment for rice production	64(90.10)	5(7.00)	2(2.80)	-	3.84**
3	subsidized farm inputs (improved seedlings) are not readily available	53(75.70)	14(20.00)	3(4.30)	-	3.71**
4	Unfavourable land acquisition system	8(11.30)	30(42.30)	26(26.60)	7(9.90)	2.55**
5	Lack of farmers day	2(2.80)	29(40.80)	31(43.70)	9(4.70)	2.34*
6	Lack of transparency in farmers award during farmers day	8(11.40)	22(31.40)	37(52.90)	3(4.30)	2.50**
7	Inconsistent farmers exhibition programmes	15(21.10)	24(33.80)	31(43.70)	1(1.40)	2.75**
8	Inadequate storage facilities	-	-	-	71(100.0)	4.00**
9	Small scaled processing facilities/mills	47(66.20)	19(26.80)	4(5.60)	1(1.40)	3.58**
10	Difficulty in incorporating farm groups/cooperatives	30(42.30)	12(16.90)	21(29.60)	8(11.30)	2.90**
11	Tedious procedure for registration of farm in Corporate Affairs Commission (CAC)	11(15.50)	8(11.30)	50(70.40)	2(2.80)	2.39*
12	Unfavourable taxation system for farmers	10(14.10)	10(14.10)	21(29.60)	30(42.30)	2.00*
13	Inadequate on-farm security	10(14.10)	29(40.80)	31(43.70)	1(1.40)	2.68**
14	Difficulty in accessing credit facilities from Bank of Agriculture (BOA)	28(39.40)	41(57.70)2	2(2.80)	-	3.37**
15	Unavailability of Banking facilities	33(46.50)	36(50.70)	1(1.40)	1(1.40)	3.42**

16	Poor sensitization workshops/assistance by SMEDAN (Small and Medium Scale Enterprises Development Agency of Nigeria)	14(19.70)	50(70.40)	5(7.00)	2(2.80)	3.07**
17	Inadequate training opportunities by agricultural extension agents on rice farming	18(25.40)	50(70.40)	3(4.20)	-	3.17**
18	unresponsive road maintenance by FERMA/FADAMA	29(40.80)	16(22.50)	25(35.20)	1(1.40)	3.03**
19	inadequate sponsorship for acquisition of trainings/education (knowledge and skills)	18(25.40)	44(62.00)	4(5.60)	5(7.00)	3.06**
20	Issue of support from traditional institutions	8(11.30)	53(74.60)	6(8.50)	4(5.60)	2.92**
21	Stringent collateral system for loan acquisition	13(18.30)	27(38.00)	28(29.44)	3(4.20)	2.70**
22	Communal crises	-	10(14.10)	31(43.70)	30(42.30)	1.72*
23	Natural disaster such as erosion, flooding	24(33.80)	13(18.30)	33(46.50)	1(1.40)	2.85**
24	High cost of accessing health care facilities	14(19.70)	19(26.80)	35(49.30)	3(4.20)	2.62**
25	Poor irrigation system	52(73.20)	17(23.90)	2(2.80)	-	3.70**
27	Epileptic electricity power supply for farm operations in processing mills & water supply	25(35.20)	41(57.70)	4(5.60)	1(1.40)	3.27**

Source: Field survey, 2018
****Constraint; *Not constraint**

Conclusion and Recommendations

Development in rice productioncan be achieved if the needs which are requisite to the farmer's development are provided. The study concludes that rice farmers are very willing to improve their farming activities but lack the necessary support to facilitate the development. They also face varying constraints in trying to build their capacity in rice production. Rice farmers capacity could be enhanced if these constraints are minimized. Based on the findings, the study recommends that

1. Government need to intensify effort in the provision of basic amenities like good roads, constant power supply to the rice farmers to help make their rice farming activities effective and more rewarding.

2. Government intervention projects in the area should be based on the recognized needs of the rice farmers, this will impact rice farmers better and stimulate more commitment to the projects on the side of the rice farmers.

3. Government through the agriculture extension agents as well as other private extension delivery system in the area should intensify effort on capacity building programme for the rice farmers.

4. There is great potential in rice production in the study area, private investors could harness this investment opportunity and invest in rice value chain system in the area like building processing unit, this will stimulate more demand for production.

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