

## FARMERS' PERCEPTION OF DRY SEASON RICE FARMING IN EDU LOCAL GOVERNMENT AREA OF KWARA STATE, NIGERIA

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### ABSTRACT

The study assessed farmers' perception and knowledge level on dry season rice farming. Identified constraints to its practice. A two-stage random sampling procedure was used to select 131 respondents on which an interview schedule was administered. Data were analysed using descriptive statistics and the Pearson's Product Moment Correlation. Results reveal that the respondents were poorly schooled, mostly full-time rice farmers with a mean age of 49 years. Averagely annual income from rice farming was about ₦400,000 (\$1,111). Respondents had a slightly high positive perception (MS=3.08) but low knowledge of dry season rice farming. Absence of irrigation facilities was identified as the major constraint to dry season rice farming. At  $p < 0.01$ , knowledge level of farmers ( $r=0.241$ ), and their farm sizes ( $r=0.268$ ) had significant relationship with farmers' perception of dry season rice farming. The study concluded that although rice farmers in the study area had a slightly high positive perception of dry season rice farming, their knowledge of it was low. It recommends training of farmers on the agronomic practices involved in dry season rice farming.

**Key words:** Irrigation, Knowledge, Perception, Rice farming

### INTRODUCTION

Agriculture remains an important sector in the Nigeria economy despite the oil boom (Akanbi *et al.*, 2011). It basically provides employment opportunities for the teeming population, eradicates poverty and contributes to the growth of the economy (Izuchukwu, 2011). Also, agriculture is the main source of food and raw materials used in processing industries as well as foreign exchange earnings for the country (Mohammed-Lawal and Atte, 2006). The Nigeria soil and climatic conditions are very suitable for the production of wide varieties of crops. There are over a hundred food crops produced by farmers in Nigeria. They include; yam, maize, millet, sorghum, beans, potatoes, onions, garbage, carrot, pear, cocoa, cocoa yam, okra, vegetables and rice.

Rice (*Oryza sativa*) is a staple in most countries

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of Africa as well as in other parts of the world. This is the most important staple food for about half of the human race (Imolehim and Wada, 2000). Saka and Lawal (2009) classified rice as the most important food depended upon by over 50 percent of the World population for about 80 percent of their food need. The people depend on rice for food calories and protein, especially in developing countries (IRRI, 2004). One-fifth of the world's population or more than a billion household in Asia, Africa and America rely on rice for their main sources of employment and livelihoods. Due to the growing importance of rice, Food and Agricultural Organization FAO (2001) estimated that yearly rice production needs to be increased from 586 million metric tons in 2001 to the projected global demand of 756 million metric tonnes by 2030. The consumption rate has risen to 7 million Metric Tons with only 2.7

million metric tons produced by Nigerian farmers. According to the Nigeria rice production statistics, the imports have started to make up 50% of the local consumption rates (Erenstein *et al.*, 2002).

Rice is an increasingly important food crop in Nigeria. It is relatively easy to produce and grown for sale and home consumption. Rice is produced in all agro-ecological zones of Nigeria with the middle belt being the highest producer and enjoys a comparative advantage in production over other parts of Nigeria (FAO, 2013). Efforts to make the country become rice self-sufficient was renewed in 2010 which led to the formal launch of the rice transformation strategy under the agricultural transformation agenda (ATA). The strategy was to produce more paddy, and industrial grade milled rice that could compete with imported rice in the market since Nigeria has two production seasons; the raining season and the dry season. To this end, 268, 000 farmers were given leverage through subsidies in seeds, fertilizers, provision of watering pumps for irrigation farming in ten (10) states of the north namely: Niger, Kebbi, Sokoto, Kano, Zamfara, Bauchi, Jigawa, Katsina, Kogi and Gombe. Most of the increase in local production has been attributed to irrigation farming embarked on in the ten pilot states. Considering that Nigeria is endowed with water and resources for irrigation farming, utilization of these resources can close the demand-supply gap of rice in the country. A considerable increase in production is essential for Nigeria to meet up with the growing demand considering its fast-growing population. An upgrade to irrigation will increase production significantly since it offers an opportunity for intensity in production of two to three times production in a year.

Nigeria with a population of over 140 million people and a land area of 923,768 square kilometres has a total of over 79 million hectares of cultivable land. Out of this, between 4.6 million hectares are suitable for

rice production. Meanwhile, only about 1.8 million hectares or 39% is currently utilized for rice cultivation (Coalition for African Rice Development, 2009). Demand for rice has been increasing at a faster rate in Nigeria than in other West African countries since the mid-1970s. Rice domestic production in Nigeria has never been able to meet the demand; Erenstein *et al.* (2003) and FAO (2006) observed that the demand and supply gap in rice production is widening, resulting in huge import bill on rice. One of the most severe long-term challenges to achieving sustainable growth in rice production is flood. Flood is the cause of widespread rice yield losses in Nigeria, and the expected increase in incidences of flood due to climate change would further add to rice production losses in the future (Ayinde *et al.*, 2013). To reduce loss to flooding, dry season rice farming was introduced since Nigeria has two production seasons; the raining season and the dry season. Though dry season rice farming has been in practice among farmers in some other parts of the country, rice farmers in Kwara State started its practice about 2-3 years ago. Also, many of the farmers still engage in rain-fed paddy production and continue to record huge losses due to flood. It is, therefore, important to examine farmers' perception of dry season rice farming.

To do this adequately, knowledge level, as well as attitudes of farmers to dry season rice farming is important. An investigation into the relationship between socio-economic characteristics of farmers and their attitude will also provide information that will be helpful in driving dry season rice farming among the respondents. It is also possible that rice farmers face some challenges in practicing dry season rice farming. It is based on this background that the study set out to examine farmers' perception of dry season rice farming in Edu Local Government Area of Kwara State, Nigeria. The specific objectives were to:

1. Describe the socio-economic characteristics of rice farmers in Edu LGA;
2. Determine the knowledge level of the

- farmers on dry season rice farming;
3. Examine farmers perception of dry season rice farming; and
  4. Identify the constraints to dry season rice farming in the study area.

### Hypotheses of the Study

The hypotheses of this study were stated in the null form as follows:

**H<sub>01</sub>:** there is no significant relationship between some selected socio-economic characteristics of farmers(Age, educational level, rice farming experience, farm size, annual income from rice farming, household size, and frequency of extension contact)and theirperception on dry season rice farming.

**H<sub>02</sub>:** there is no significant relationship between knowledge and perception of farmers on dry season rice farming.

### MATERIALS AND METHOD

The study was carried out in Edu Local Government Area, Kwara State, Nigeria. Edu is one of the sixteen Local Governments Area of Kwara State with its headquarters in Lafiagi. It has three (3) districts namely; Lafiagi, Tsaragi and Shonga.It has an area of 2,542km<sup>2</sup> and a population of 201,469 as of the 2006 census. Rice Production is prominent in this part of the state. The geographical location of this rice producing area falls within the latitudes 8<sup>0</sup>30-9<sup>0</sup>00N and longitudes 5<sup>0</sup>00-6<sup>0</sup>20E. Rice production is much favoured in the study area because of the natural fertile land of the floodplains of the River Niger that stretches from Jebu/ Bacita through Shonga in Edu Local Government. The vegetation in the northern parts of Kwara State, of

which Edu Local Government Areas is one, is Savannah grassland. There exist in the study area an intermingling of loamy, clay and sandy soil. All these edaphic characteristics allied with good climate conditions and farmers experience have combined to place Kwara State in a very much competitive position and advantage in rice production with other rice-producing states in the country (Kwara State Ministry of Agriculture 2004).

A two-stage random sampling procedure was used to select respondents for the study. The first stage involved the random selection of 30 percent of the 16 villages that are prominent in rice production in Edu Local Government Area by dip hat method to give five villages. The five randomly selected villages were Tada, Lalagi, Bacita, Shonga and Kpandaragi. The second stage was the random selection of 30 percent of rice farmers in each of the selected villages. The list of registered rice farmers obtained from the Kwara State Agricultural Development Project for each of the villages was the sampling frame. A total sample size of 131 respondents was used for the study. The procedure is summarised in Table 1.

Data collection was done by employing a pre-tested interview schedule. The interview schedule was sectioned A - D to elicit information on the socio-economic characteristics of the respondents, their knowledge level on dry season rice farming,their perception of dry season rice farming and the constraints to dry season rice farming.Data obtained from the field survey

**Table 1: Sampling Procedure and Sample Size**

Total Number of Villages	Randomly Selected 30%	No of Registered Rice Farmers	Randomly Selected 30%	Sample Size
16	Shonga	120	36	131
	Tada	90	27	
	Lalagi	80	24	
	Bacita	77	23	
	Kpandaragi	70	21	

were analysed by using both descriptive and inferential statistical analysis. Descriptive statistics used include frequency counts, percentages, mean scores and standard deviation. A four-point Likert scale was used to measure the constraints to dry season rice farming. A list of possible constraints to dry season rice farming was drawn and respondents were required to indicate their level of severity. The scale was graduated as follows; Not a constraint (1), Not severe (2), Severe (3), Very severe (4)

The scores awarded each constraint by all the respondents were aggregated and divided by the total number of respondents to give mean scores which were taken as a measure of the level of severity of each constraint. The mean score was used to rank the constraints in order of severity.

Farmers' perception of dry season rice farming was measured using a 4-point Likert scale. A list of statements which when pooled together adequately assesses farmers' perception on dry season rice farming was drawn, Respondents were asked to indicate the extent to which they agreed or disagreed with the statements. The scale was graduated as follows; Strongly disagreed (1), Disagreed (2), Agreed (3), Strongly disagreed (4).

The scores were aggregated and converted to means for individual respondents. The mean score was adopted as a measure of the respondents' positive perception towards dry season rice farming. For the purpose of this study, the following benchmark was adopted; mean scores less than 2 indicated a low level of positive perception while mean score between 2 and 3 indicated an average positive perception level. Mean score greater than three was taken as an indication of high positive perception of farmers towards dry season rice farming. The knowledge level of farmers on dry season rice farming was measured using a "Teacher-Made Test" or knowledge

test. A total of 15 questions were posed to the farmers to assess their knowledge level. For the purpose of the study, a score of 11 out of 15 (75%) was adopted as the cut-off point for the possession of a good level of knowledge on dry season rice farming. Scores of between 7.5 and 10.75 (50-69%) were categorized as fair while any score below 7.5 (<50%) was categorized as poor. The Pearson's Product Moment Correlation was used to test the hypothesis of the study.

## RESULTS AND DISCUSSION

### Socio-economic Characteristics of the Respondents

The result also indicated that most (53.4%) of the respondents were above 40 years of age. The implication of this is that the farmers were middle-aged, energetic and still in their productive age which is good for the labour-intensive and energy-sapping nature of rice farming in Nigeria. This finding agrees with that of Mustapha *et al.*, (2012) and Matanmi *et al.*, (2011). The result also shows that there were more (97.7%) males than females that were engaged in rice farming. This suggests that male farmers dominate rice farming in the area probably due to its nature of intense and time-consuming activities or because women are more engaged in non-farm activities and domestic chores than their male counterpart (Mustapha *et al.*, 2012). Ayoola *et al.*, (2011) however opined that women could be more involved in the processing and marketing aspects of rice production. Majority (89%) of the respondents were married, while the mean household size of the respondents was about five members. Having more married people involved in rice farming may provide more hands to work on the farm and may also indicate that families may consume major part of their produce realized on the farm with little for sale to earn income. Though it could be said that majority of the respondents had formal education and could, therefore, read or write, it is worth noting that most of the

**Table 2: Socio-economic Characteristics of the Respondents** S.D. = Standard Deviation

<b>Variables</b>	<b>Frequency</b>	<b>Percentages</b>	<b>Mean</b>	<b>S.D.</b>
<b>Age (in years)</b>				
≤ 30	6	4.6		
31-40	55	42	49.05	6.5
41-50	67	51.1		
≥ 51	3	2.3		
<b>Sex</b>				
Male	128	97.7		
Female	3	2.3		
<b>Marital status</b>				
Married	116	88.5		
Otherwise	15	11.5		
<b>Level of Education</b>				
No formal education	8	6.1		
Primary education	92	70.2		
Secondary education	27	20.6		
Tertiary education	4	3.1		
<b>Primary Occupation</b>				
Rice farming	92	70.2		
Otherwise	39	29.8		
<b>Annual Farm Income (N) (\$1=N 360)</b>				
< 200,000	4	3.1		
200,000-700,000	125	95.4		
>700,000	2	1.5	401,303.44	1.88
<b>Rice Farming Experience (Years)</b>				
≤ 5	3	2.3		
6-15	29	22.1	23.7	5.9
16-25	88	67.2		
>25	11	8.4		
<b>Farm Size (Acre)</b>				
0.5-1.50	10	7.6		
1.51-2.50	111	84.7	2.09	0.35
>2.50	10	7.6		
<b>Mode of land acquisition</b>				
Owned	129	98.5		
Rented	2	1.5		
<b>Household size (No of persons)</b>				
≤ 2	35	26.7		
3-7	80	61.1	5.27	2.73
8-12	15	11.5		
≥ 13	1	0.8		
<b>Frequency of Extension contacts</b>				
1-2	4	3.1	3.01	0.26
>2	127	96.9		
<b>Cosmopolitaness</b>				
Yes	131	100		
No	0	0		

formally educated rice farmers were poorly schooled with most (70.2%) having only primary education. The literacy level of farmers could enhance their level of understanding and desirability of adopting innovation and farm technologies or interacting with extension agents. This result conforms to the findings of Mustapha *et al.*, (2011) and Olumba (2014) who jointly reported a low level of education of rice farmers. With an average rice farming experience of about 24 years, the result implies that rice farming is a long age profession of the respondents. Despite the result revealing that majority (98.5%) of the respondents owned their farmland, the result also reveals that most of the respondents were small-scale rice farmers with an average farm size of 2 acres and an average annual income of the respondents was ₦401,303 (1USD=₦360). It is commendable that in the past 6 months prior to data collection for the study, all of the respondents had contact with extension agents with majority of the respondents (96.9%) being contacted more

than two (2) times by extension agents. The average number of extension visit was three (3) times within the six month period.

### Knowledge Level of the Respondents on Dry Season Rice Farming

Result reveals that the respondents knew that there is no risk of flooding in dry season rice farming. They also knew that a good irrigation system ensures successful dry season rice farming. This corroborates with the findings of Ugalahi *et al.*, (2016) who reported the same of dry season rice farming. Most of the respondents (79%) also knew that planting of rice in dry season should be done very early in the morning or late in the evening. The result also reveals that the respondents had low knowledge level on planting spacing and distance in dry season rice farming. This is evident in Table 2 as it shows that very few (2.3%) of the respondents were knowledgeable that planting distance should be wide enough to avoid competition. Also, 17.6 percent knew

**Table 3: Knowledge of Farmers on Dry Season Rice Farming**

Knowledge Item	Frequency	Knowledge (%)
There is no risk of flooding in dry season rice farming	121	92.4
A good irrigation system ensures successful dry season rice farming	111	84.7
Planting of rice in dry season should be done very early in the morning or in the evening	104	79.4
There is high occurrence of pest and disease in dry season rice farming	101	77.1
There is high demand offertilizer in dry season rice farming than rainy season period	98	74.8
Mulching is highly required during dry season rice farming	94	71.8
Weeding is minimal during dry season rice farming	93	70.9
The method of land preparation for dry season rice farming is different from that of wet season farming	83	63.4
Transplanting is preferable to direct planting during dry season rice farming	80	61.1
There is no specific rice variety attached to dry season rice farming	70	53.4
Dry season rice farming need not to be done in swamps	55	41.9
Rice plants need to be evenly watered daily during dry season rice farming	46	35.1
Plant the seedlings closer during the dry season, when solar radiation is higher, than during the rainy or wet season	42	32.1
During the dry season, spacing should be 25x25cm in relatively poor soil and 30x30cm in fertile soil.	23	17.6
Planting distance should be wide enough to avoid competition	3	2.3

that the spacing during dry season rice farming should be 25x25cm in relatively poor soil and 30x30cm in fertile soil. Result also reveals that about 26 percent of the respondents had poor knowledge level about dry season rice farming. Very few (5.3%) of the respondents had a good level of knowledge on dry season rice farming. With a mean knowledge score of 10.6, the result indicates that rice farmers in the area of study had a fair knowledge level on dry season rice farming. This could contribute to low productivity of rice farmers, and Nigeria's inability to meet her rice consumption needs through local production hereby resulting in high cash outlays for rice importation (Fakayode, 2009).

#### **Farmers' Perception of Dry Season Rice Farming**

Table 4 shows that most of the respondents (75.6%) strongly agreed that dry season rice farming would enhance price stability of rice all year round. 73.3 percent also agreed strongly that dry season rice farming could help combat food insecurity. About 70 percent also agreed that farming rice during dry season would ensure rice availability all year round. Ugalahi *et al.*, (2016), also reported that dry season rice farming could afford the country the opportunity to attain rice self-sufficiency. About half (50%) of the respondents strongly disagreed that there is higher yield in dry season rice farming than wet season farming. The result also reported that more than half of the respondents (53.4%) strongly disagreed that seed wastage is high in dry season rice farming. 74 percent of the rice farmers also disagree that dry season rice farming is highly susceptible to diseases. The least identified perception of the farmers is that practicing dry season rice farming is capital intensive (M.S=1.39). This is in contrast with Ugalahi *et al.*, 2016 who reported that the cost of practicing dry season rice farming through irrigation is very high. In addition, analysis reveal that the perception level of rice farmers on dry season rice farming. Result reveals that while few (19.1%) of

the respondents had low positive perception, very few (4.6%) had high positive perception. Majority (76.3%) had a moderate level of positive perception of farming rice in dry season. The mean perception was slightly high (MS=3.08). This implies that rice farmers in in study had a slightly high positive perception of dry season rice farming. What farmer feels about an innovation might affect their adoption of such innovation. This is in accordance with Agbamu (2006) who stated that psychological factor such as perception of farmers influence the adoption and use of an innovation or idea.

#### **Constraints to Dry Season Rice Farming**

Table 5 shows that the most severe constraint to dry season rice farming was unavailability of irrigation facilities (M.S=3.47). The result also reveals that inadequate funding by government (M.S=3.45) and high cost of planting materials (M.S=3.12) were major constraints to dry season rice farming. The inadequacy of funds could deprive the rice farmers the privilege to capitalise their farm enterprises as also reported (Fakayode, 2009; Osanyinlusi and Adenegan, 2016). Other constraints in order of severity include poor pricing of produce (M.S=3.02), high technical skills requirement for dry season rice farming (M.S=2.95), high requirements for fertilizer (M.S=2.63), poor marketing information (M.S=2.60) and low demand for local rice (M.S=2.58). This finding agrees with Okoruwa *et al.*, (2006) who also reported that rice farmers in Nigeria are not getting maximum returns from the resources committed to their enterprises leading to a decline in per capita food production in Nigeria. High prevalence of pests and diseases (M.S=2.36), lack of awareness/knowledge on dry season rice farming (M.S=2.24) were also identified as constraints to dry season rice farming. The least identified constraint was scarcity of water for irrigation (M.S=1.84). This implies that water availability is not a challenge to dry season rice farming but the unavailability of irrigation infrastructures.

This agrees with the findings of Takeshima and Adesugba, 2014; FAO, 2015 who reported that the country has very rich and abundant water resources.

The first hypothesis of the study states that there is no significant relationship between

knowledge and perception of rice farmers towards dry season rice farming.

Correlation analysis between knowledge level and farmers perception of dry season rice farming was done to test the first hypothesis.

**Table 4: Perception of Farmers on Dry Season Rice Farming**

Likert items	S.A F (%)	A F (%)	D F (%)	S.D F (%)	Score	MS
Dry season rice farming will enhance price stability of rice all year round	99(75.6)	32(24.4)	0(0)	0(0)	492	3.76
Dry season rice farming can help combat food insecurity	96(73.3)	34(26)	0(0)	1(0.8)	487	3.72
Dry season rice farming ensures rice availability all year round	91(69.5)	39(29.8)	1(0.8)	0(0)	483	3.69
Importation of rice can be reduced if all farmers engage in dry season rice farming	89(67.9)	40(30.5)	1(0.8)	1(0.8)	479	3.66
Dry season rice farming helps to combat unemployment	87(66.4)	44(33.6)	0(0)	0(0)	480	3.66
Dry season rice farming ensures income stability for farmers all year round	83(63.4)	47(35.9)	1(0.8)	0(0)	475	3.63
Poverty status of farmers can be achieved through engagement in dry season rice farming	81(61.8)	49(37.4)	0(0)	1(0.8)	472	3.60
Harvesting of dry season rice is easy	78(59.5)	53(40.5)	0(0)	0(0)	471	3.59
Dry season rice farming will meet the huge demand of rice by the populace	69(52.7)	60(45.8)	1(0.8)	1(0.8)	459	3.50
The effect of flooding is overcome during dry season rice farming	78(59.5)	42(32.1)	10(7.6)	1(0.8)	459	3.50
Seed wastage is high in dry season rice farming	5(3.8)	7(5.3)	49 (37.4)	70 (53.4)	446	3.40
Dry season rice farming can increase farmers livelihood status	58(44.3)	63(48.1)	8(6.1)	2(1.5)	439	3.35
Dry season rice farming requires less weeding	57(43.5)	61(46.6)	8(6.1)	5(3.8)	432	3.29
Dry season rice farming is highly susceptible to pests	6(4.6)	6(4.6)	97(74)	22 (16.8)	397	3.03
Dry season rice farming is highly susceptible to diseases	5(3.8)	8(6.1)	97(74)	21(16)	396	3.02
There is high demand for fertilizer for dry season rice farming	38(29)	38(29)	35 (26.7)	20 (15.3)	299	2.28
There is higher yield in dry season rice farming than wet season farming	5(3.8)	9(6.9)	54 (41.2)	63 (48.1)	218	1.66
Dry season rice farming is technically difficult to practice	67(51.1)	64(48.9)	0(0)	0(0)	195	1.49
Dry season rice farming is stressful	79(60.3)	49(37.4)	3(2.3)	0(0)	186	1.42
Practicing dry season rice farming is capital intensive	80(61.1)	51(38.9)	0(0)	0(0)	182	1.39

**SD=Strongly Disagreed, D=Disagreed, A=Agreed, SA=Strongly Agreed**

Result reveals that farmer's perception towards dry season rice farming was significantly related to their knowledge of dry season rice farming ( $r=0.241$ ,  $p=0.01$ ). The positive relationship that exists between knowledge and perception of rice farmers towards dry season rice farming implies that positive perception of farmers increases with their knowledge of dry season rice farming. This is in accordance to a priori expectation that higher knowledge level will increase the positive perception of farmers on dry season rice farming.

The second hypothesis of the study states that there is no significant relationship between some selected socio-economic characteristics of the rice farmers and their perception of dry season rice farming. Table 7 shows the result of correlation analysis of the relationship between selected socio-economic characteristics of farmers and their perception of dry season rice farming.

Result in Table 7 shows the correlation analysis between socio-economic characteristics and perception of rice farmers of dry season rice farming. Result reveals that farm size ( $r=0.268$ ,  $p<0.01$ ) had significant relationship with farmers positive perception towards dry season rice farming. The positive relationship between farm size and farmers' perception towards dry season rice farming implies that farmers with larger farm size had higher positive attitude towards farming rice in dry season than those with smaller farm size. This suggests that the bigger a rice farm, the higher the productivity. This is in line with the results of Ajibefun *et al.*, (2002) which showed that large farm size enhanced productivity among farmers in the dry savannah and humid forest agro-ecological zones of Nigeria.

## CONCLUSION

The study concluded that though rice farmers in Edu Local Government Area of Kwara

**Table 5: Distribution of Respondents' According to Constraints to Dry Season Rice Farming**

Constraints	V.S F(%)	S F(%)	N.S F(%)	N.C F(%)	Score	MS	Rank
Unavailability of irrigation facilities	74(56.5)	46(35.1)	10(7.6)	1(0.8)	455	3.47	1st
Inadequate funding by government	71(54.2)	50(38.2)	9(6.9)	1(0.8)	453	3.45	2nd
High cost of planting materials	53(40.5)	42(32.1)	35(26.7)	1(0.8)	409	3.12	3rd
Poor pricing of produce	48(36.6)	50(38.2)	21(16)	12(9.2)	396	3.02	4th
High technical skills requirement for dry season rice farming	28(21.4)	70(53.4)	32(24.4)	1(0.8)	387	2.95	5th
High requirements for fertilizer	42(32.1)	32(24.4)	24(18.3)	33(25.2)	345	2.63	6th
Poor marketing information	25(19.1)	35(26.7)	65(49.6)	6(4.6)	341	2.60	7th
Low demand for local rice	24(18.3)	32(24.4)	71(54.2)	4(3.1)	338	2.58	8th
High prevalence of pests and diseases	9(6.9)	41(31.3)	69(52.7)	12(9.2)	309	2.36	9th
Lack of awareness/knowledge on dry season rice farming	2(1.5)	54(41.2)	48(36.6)	27(20.6)	293	2.24	10th
Scarcity of water for irrigation	32(24.4)	2(1.5)	10(7.6)	87(66.4)	241	1.84	11th

NC=Not a constraint, NS=Not severe, S=Severe, VS=Very Severe

State, Nigeria had a slightly high positive perception towards dry season rice farming, their knowledge of its practices was low. Farmers' perception was influenced by their farm sizes. Inadequacy of irrigation facilities and poor government funding were identified as the major constraints farmers encounter in dry season farming in the study area. Based on the findings of the study, it recommends that the National Cereals Re-

**Table 6: Result of the Correlation Analysis between Knowledge Level and Perception towards Dry Season Rice Farming**

	Knowledge Level	Perception towards dry season rice farming
Knowledge Level	1	0.241***
Perception towards dry season rice farming	0.241***	1

(p-value=0.006)

\*\*\*. correlation is significant at the .01level (2-tailed)

**Table 7: Result of Correlation Analysis Showing the Relationship between selected socio-economic Characteristics of farmers and their Perception of Dry Season Rice Farming**

Socio-economic characteristics	r-value	p-value
Age	-0.110	0.210
Level of Education	-0.098	0.265
Rice farming experience	-0.028	0.750
Farm Size	0.268***	0.002
Annual Income from Rice Farming	0.061	0.488
Household Size	0.052	0.554
Frequency of Extension Contact	0.116	0.188

**Source: Field survey, 2018.**

\*\*\*. Correlation is significant at the 0.01 level (2-tailed).

search Institute (NCRI), Agricultural Development Programme (ADP) and other stakeholders in agriculture should organize training for farmers on the agronomic practices involved in dry season rice farming. Also, research institutes such as National Centre for Agricultural Mechanization (NCAM), and government extension service delivery should ensure availability of affordable irrigation facilities to rice farmers.

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