



ANALYSIS OF RISK MANAGEMENT OF RICE FARMERS IN KWARA STATE

Bello Kamoru Atanda, Ayinde, Opeyemi Eyitayo and Omofaiye Amos Moses

Department of Agricultural Economics & Farm Management,
University of Ilorin, Kwara State, Nigeria

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Abstract

Agricultural activities are prone to several levels of risks; riskier is the cultivation of rice in the face of recent climate change scenarios. Analysis of risk management strategies is important if increase in rice productivity is to be witnessed in the country. The study specifically investigates the socioeconomic characteristics of rice farmers; examine various level of risk and investigate the management practices used by farmers to mitigate against risk. 3 – stage random sampling technique was used; descriptive statistics and 5 –Points Likert scale was the total of analysis. The result showed that flood, erratic rainfall and insufficient rainfall were the major sources of risk while the management strategies used in combating risk include; spreading of sales; training and education for farmers as well as belong to a cooperative society. It is therefore recommending that Government transformation agenda on agriculture should also focus on agricultural insurance against flood/storm, insufficient and erratic rainfall; human, social, physical and financial capital of the farmers should be improved in order to boost their performance.

Keywords: *Rice Farmers, Risk Management, Kwara State, Nigeria.*

1. INTRODUCTION

Rice (*Oryza sativa*) is an important staple food for majority of Nigerians. It is one of the fastest growing crops in Nigeria's food question and rapid urbanization which had led its prominence in fast food joints. Also, many products like spaghetti, noodles and other industrials products are constantly being derived from rice. However, rice is produced under several forms of risk especially in the face of climate change. Farmers embarking on any productive activity are uncertain about what actual outcome will be "Uncertainty and risk go hand in hand with farming: they are pervasive feature of the farm environment. How to handle the risk and uncertainty is the most difficult aspect of farm-system planning and management (IMF, 2000; ADB, 2005). Small scale farmers are confronted with risk of pest and diseases, severe price and yield variations, difficulties gaining access to credit, fragmented holdings resulting from land tenure system, low technology and seldom use of modern inputs (such as fertilizers and agro-chemicals) and poor access to agricultural extension services (Alagbe, 2019). These problems have led to the characteristic poverty; low income and vulnerability to risk (World Bank 2000. 2001; and Okumadewa et al., 2005; IFAD, 2001). It also make returns vary with the farming system, climatic conditions, institutional policy setting, innovation attitude of farmers and many other factors.

The rural poor are risk averse as they are always skeptical of losing the little resources that they have at their disposal and thus specialize on low risk–low return activities Oke and Adeyemo (2007); Aigbokhan (2000); Alagbe (2019). These farmers are therefore more of risk minimization contrary to the neo-classical principle of profit minimization. In essence, the household tends to obey a safety – first principle that assumes the individual's objective is to minimize the probabilities of experiencing a shortfall in income below a certain initial level (Sekar and Ramassomy, 2001). The practical implication is that fewer resources are devoted to risky or perceived risky activities given the fact that a single crop failure especially rice farmers can be threatened. It is against this background that this study seeks to; examine the socio-economic characteristic of rice farmers; identify various sources of risk among rice farmers in the study area; and profile rice farmers' risk management strategies in the study area. Knowledge of rice producer's risk management strategies is important in determining strategies and to formulate policies for agricultural development.

2. METHODOLOGY

Kwara State comprises of 16 Local Government Areas with a population estimate of about 2.3 million people (2006 census). The state shares boundaries with Oyo. Ondo and Osun to the South, Kebbi and Niger to the North, Kogi to the East and Republic of Benin on the West side. The daily temperature ranges between 210C to 330C, annual rainfall ranges between 1000mm and 1500mm, average annual temperature ranges between 300C and 350C. It has two distinct climate seasons, the Wet (Rainy) and the Dry (Harmattan) seasons (Kwara Ministry of Agriculture, 2004). These climatic conditions as well as fertile soil make the state favourable for arable crop production such as rice, millet, yam, cowpea, etc. Kwara State is divided into four (4) zones by Kwara State Agricultural Development Project (KWADP) in consonance with ecological characteristics, cultural practices and projects administrative convenience.

Zone A: Baruteen and Kaiama Local Government Areas, Zone B: Edu and Patigi Local Government, Zone D: Ekiti, Ifelodun, Offa, Oyun, Isin and Oke-Ero Local Government Areas.

SAMPLING TECHNIQUES

3-stage sampling procedure was done for the study. The first stage was a purposive selection of Zone (B) which consists of Edu and Patigi Local Government because rice producers in the stage are concentrated in these regions. The second stage involves the random selection of six (6) villages from Edu Local Government and six (6) villages from Patigi Local Government. The third stage involves the random selection of 10 rice farmers from each village making the total sample of 120 respondents.

ANALYTICAL TECHNIQUES

The study employed the use of descriptive statistics; frequency. Percentage; and Likert scale for the analysis.

3. RESULT AND DISCUSSION

Majority of the households in the study are males representing 99.2% only 0.8 of the respondents are female, the age of the respondent showed that majority of rice farmers in the study area are youth representing age group 21 to 30 and 31- 40 respectively (29.2%, 29.2%), this implies that farmers have enough energy to supervise and manage the farm effectively against risk. Larger percentage of the respondents are married (88.3%), this implies majority of them have family responsibilities which probably will influence their risk behaviours. Educationally, only 22.5% of the respondents have no formal education, majority of the respondents have a form of education; 68.3% of the respondents have other occupations other than farming which probably means that they have another source of income which can serve as cushion in case of exposure to risk; majority of the farmers had experienced in rice farming (46.7%) which probably means that they are familiar with rice farming methods that possibly reduce their exposure to risk.

RESULTS OF SOURCES OF RISK IN RICE FARMING

The result in table II indicates that majority of the respondents consider flood and storm to be an important source of rice farming; (90.8%) consider this source of risk to be very important. Erratic rainfall also poses high level of risk in rice farming. 77.50% of the respondent attests to this fact; insufficient rainfall (76.70%), illness of household head (74.20%) are other important source of risk identified in the study area.

Table I: SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS

<i>Characteristics</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Female	1	0.8
Male	119	99.2
Total	120	100
Characteristics	Frequency	Percentage (%)
<20	1	0.8
21 – 30	35	29.2
31 – 40	35	29.2
41 – 50	21	17.5
51 – 60	19	15.8
>60	120	100
Characteristics	Frequency	Percentage (%)
Married	106	88.3
Single	12	10.0
Widowed	0	0.0
Divorced	2	1.7
Separated	0	0.0
Total	120	100
Characteristics	Frequency	Percentage (%)
No formal Education	27	22.5
Quranic Education	16	13.3
Primary Education	28	23.3
Secondary Education	31	25.8
Tertiary Education	18	15.0
Total	120	100
Characteristics	Frequency	Percentage (%)
Yes	82	68.3
No	28	31.7
Total	120	100
Farming Experience	Frequency	Percentage (%)
<10	11	9.2
10 – 20	58	46.7
21 – 30	35	29.2
31 – 40	16	13.3
41 – 50	1	0.8
Undecided	1	0.8
Total	120	100.0

Source: Field Survey, 2014

Table II: Distribution of the respondents according to importance of the sources of risks in rice production

Source of Risk	VI	I	NI	NIA	U	Mean Score	Rank
Flood/Storm	109 (90.8)	11 (9.2)	-	-	-	1.902	1 st
Erratic Rainfall	93 (77.5)	26 (21.7)	1 (0.8)	-	-	1.233	2 nd
Insufficient Rainfall	92 (76.7)	24 (20.0)	2 (1.7)	1 (0.8)	1 (0.8)	1.292	3 rd
Illness of household head	89 (74.2)	31 (25.8)	-	-	-	1.258	4 th
Insufficient Family Labour	80 (66.7)	36 (30.0)	4 (3.3)	-	-	1.367	5 th
Loss of Land/ Ethnic Clashes	69 (57.5)	49 (40.8)	2 (1.7)	-	-	1.442	6 th
Drought	69 (57.5)	49 (40.8)	1 (0.8)	1 (0.8)	-	1.450	6 th
Price Fluctuation (Input/Output)	79 (65.8)	33 (27.5)	3 (2.5)	2 (1.7)	3 (2.5)	1.475	8 th
Insufficient Work Animal	77 (64.2)	26 (21.7)	9 (7.5)	4 (3.3)	4 (3.3)	1.600	9 th
Labour Finding Difficult	76 (63.3)	35 (29.2)	8 (6.7)	0 (0.0)	1 (0.8)	1.458	10 th
Theft	75 (62.5)	34 (28.3)	9 (7.5)	2 (1.7)	-	1.483	11 th
Change in Climatic Conditions	73 (60.8)	28 (23.3)	11 (9.2)	2 (1.7)	6 (5.0)	1.667	12 th
Fire Outbreak	68 (56.7)	28 (22.5)	23 (19.2)	1 (0.8)	-	1.617	13 th

Family Relationship	68 (56.7)	27 (22.5)	3 (2.5)	14 (11.7)	4 (3.3)	1.725	13 th
Market Failure	67 (55.8)	30 (25.0)	19 (15.8)	1 (0.8)	3 (2.5)	1.692	15 th
Inadequate Fertilizer	61 (55.8)	47 (39.2)	1 (0.8)	3 (2.5)	2 (1.7)	1.550	16 th
Pest and Diseases	58 (48.3)	62 (50.0)	-	-	-	1.517	17 th
Excessive Rainfall	58 (48.3)	60 (50.0)	1 (0.8)	1 (0.8)	-	1.542	17 th
Government Policy Change	57 (47.5)	48 (40.0)	15 (12.5)	-	-	1.650	19 th
Uncertified Seed for Planting	57 (47.5)	58 (31.7)	14 (11.7)	3 (2.5)	7 (5.8)	1.850	19 th
Lack of Animal	47 (39.2)	44 (36.7)	16 (13.3)	6 (5.0)	7 (5.8)	2.017	21 st

Risk Management Analysis of Rice Farmers

The results in the table II indicate that majority of the respondents (90%) consider spreading sales to be an important risk management strategy in rice farming. While (77.5%) indicated that training and education of the rice farmers, and belong to a cooperative society is an important risk management strategy to mitigating risks in rice production, (72.5%) considers gathering of market information to be an important management strategy. Others include; investing off –farm, intercropping, and rice support while the least management strategy is selling off of assets.

Table III: Distribution of Respondents according to Importance of the Risk Management Strategies

Risk Management Strategy	VI	I	NI	NIA	U	Mean Score	Rank
Spreading – Sales	108 (90.0)	10 (8.3)	-	-	2 (1.7)	1.15	1 st
Training and Education	93 (77.5)	24 (20.0)	3 (2.5)	-	-	1.25	2 nd

Cooperative Societies	93 (77.5)	21 (17.5)	2 (1.7)	-	4 (3.3)	1.33	2 nd
Gathering Market Information	87 (72.5)	28 (23.3)	4 (3.3)	-	1 (0.8)	1.34	4 th
Household Head Working Off-Farm	86 (71.7)	28 (23.3)	2 (1.7)	-	4 (3.3)	1.43	5 th
FADAMA Cultivation Intercropping	83 (69.2)	25 (20.8)	9 (7.5)	1 (0.8)	2 (1.7)	1.45	6 th
Family Member Working Off-Farm	70 (58.3)	45 (37.5)	1 (0.8)	-	4 (3.3)	1.51	7 th
Price Support	67 (55.8)	35 (29.2)	5 (4.2)	-	13 (10.8)	1.84	8 th
Storage Programme	60 (50.0)	57 (47.5)	2 (1.7)	-	1 (0.8)	1.54	9 th

4. CONCLUSION AND RECOMMENDATION

The study examined risk management of rice farmers in Kwara State, Nigeria. The main objective of the study was to investigate rice farmer's socioeconomic characteristics; identify various source of risk among rice farmers in the study area; and also profile farmers' strategies of combating the risks associated with rice farming in the study area. The result of the study showed that ; flood and storm, erratic rainfall, insufficient rainfall and illness of household head are the major source of risk in rice production while the important management strategies majorly used to mitigating risk include; spreading-sales; training and education for farmers; belong to cooperative societies; and gathering market information.

It is therefore recommended that Government transformation agenda on agriculture should also focus on providing agricultural insurance against flood/storm excessive, insufficient and erratic rainfall. Also, there is need to enhance the human, social, physical and financial capital of the farmers in order to improve their performances.

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