

UTILIZING INDIGENOUS KNOWLEDGE IN CLIMATE CHANGE ADAPTATION AMONG OBUNTA MIGRANT FARMERS IN IKWUANO, ABIA STATE, NIGERIA.

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Abstract

The study investigated the utilization of indigenous knowledge of Agricultural practices that mitigate the adverse effect of climate change among Obunta farmers in Ikwuano local government area of Abia State. Data was collected from sixty (60) farmers made up of male and female gender. Data analysis was achieved with the use descriptive statistics of frequency counts and percentages. Findings revealed that most respondents were male and within the age bracket of 41 – 50 years. Six (6) indigenous strategies were identified while alternate crop cultivation, slashing and burning and weeding/boundary clearing were the most often used strategies in coping with climate change. The study concludes that extension should expand and mainstream indigenous knowledge adaptation measures into global adaptation strategies.

Keywords: Indigenous knowledge, Migration, Climate change

Introduction

Climate change is a major challenge to agricultural development in Africa and the world at large. It is not only a challenge to agricultural development but to food security and the general livelihood conditions of any population. Agriculture, being one of the most weather-dependent of all human activities is highly vulnerable to climate change.

The impact of climate change is global and mainly felt by the developing countries in the sub-Saharan Africa, Nigeria inclusive, which is due to their low level of coping capabilities (Nwafor, 2007). Seasonal changes in rainfall and temperature, are features of climate change and these impact on agro-climatic conditions, alter growing seasons, planting and harvesting calendars, water availability' pest and weed, which ultimately affects the volume, quality, quantity and stability of food production among rural farmers (Market *et al.*, 2008).

Migration of human beings is a complex phenomenon. Migrants are agricultural farm workers who often move with their families for purposes of agricultural practices and do not have social ties to the land (Codjoe and Bilshorrow, 2011). Rural-rural migration is considerably varied which includes the movement of rural agricultural farmers to more fertile areas in search of opportunities (Iwuchukwuet *al.*, 2008). Migration to farming areas usually begins with scarcity of land at source area caused by various factors including climate change factor.

These rural-rural migrants often move with agricultural skills firmly grounded in practical experience and working knowledge of agricultural practices that enable them cope with variability in climate change (Gonzalez, 2008). This expertise is complemented by a strong work ethic, deeply rooted in their indigenous knowledge of agricultural practices that enable them make sacrifices and adapt to customs, language, foods and ways of life of their place of settlement. These body of indigenous knowledge enables them arrive at decisions which make them adaptable to adverse change in their environment.

Indigenous knowledge refers to the longstanding traditions and practices of certain local communities and encompasses the wisdom, knowledge and teachings of these communities, which is also passed orally from generation to generation. In addition, it is an institutionalized local knowledge that has been built upon and passed on from one generation to another by word of mouth and it is the basis for local-level decision-making in many rural communities (Deepak and Anshu, 2008, Sadiku and Sadiku, 2011).

Adaptation to climate change is a process through which rural people reduce the adverse effects of climate change on their agricultural productivity and their health as well as take advantage of opportunities that the environment provides (Chakeredza *et al.*, 2009).

Migrant farmers often observe the activities of their settlement and identify and adapt to any changes. These changes may include appearance of certain birds, mating of certain animals and flowering of certain plants, which are all important signals of changes in time and seasons that are well understood in traditional knowledge systems (Salickand Byg, 2007).

In coping with risk due to excessive or low rainfall and crop failure, migrant farmers grow crops and varieties with different susceptibility to droughts and floods as well as supplement these by hunting, fishing and gathering wild food plants (Gyampoh *et al.*, 2009).

This paper seeks to assess the use of indigenous knowledge in agricultural practices and climate change adaptation among Obunta migrant farmers of Ikwuano, Abia State, Nigeria.

The objectives are to:

- i. describe the socio-economic characteristics of migrant farmers in study area
- ii. identify indigenous knowledge used in (adaptation) to variability in climate
- iii. examine the extent of utilization of indigenous knowledge in coping with climate change.

Methodology

The study was carried out in Ikwuano local government area of Abia state. Only farmers of Obuntafarmers settlement constituted the study population. Sixty (60) respondents were selected through simple random sampling technique. Structured interview schedule was used to collect information from respondents with the assistance of two (2) extension officers from Abia State Agricultural Development Programme (ADP) who assisted them to complete the questionnaire. Statistical tools used include frequency count and percentages.

Results and discussion

The result in table 1 describes the socio-economic characteristics of Obunta migrant farmers. The gender classification indicates that respondents were made up of 29 females and 31 males. It further shows that most respondents (37%) fell into the age bracket of 41 – 50 years, which goes to show that the active age of farmers were found within this age bracket. Majority of respondents (70%) were married and (43%) had no formal education. The implication being that, married farmers were

more responsive in the use of indigenous knowledge due to experience over a period of time and were mostly illiterates.

Table 2 indicates that, six (6) indigenous knowledge adaptation strategies to climate change were identified. These strategies were used in land clearing and preparation for cultivation, farm pest and weed control, seed selection and food preservation as well as encouraging the planting of different crops that have resistance to climate variability. It further goes to show that indigenous knowledge of the migrant farmers enabled them to adapt to various changes in the climate which mitigate in their farm practices.

The result in table 3 shows that indigenous knowledge on slashing and burning (57%), weed and boundary clearing (52%), soaking seeds in water (45%) and alternate crop cultivation (65%) were indigenous knowledge often utilized in climate change adaptations. Findings further revealed that, migrant farmers were able to conveniently utilize indigenous knowledge of these farm activities as strategies in coping and adapting with changes in climate. Although their strategies may not succeed completely, they are effective to some extent. These agricultural practices are less expensive thereby enhancing farmers' productivity and consequently increased supply of food.

Conclusion

This study assumes that, the peculiarity of their condition, determines their ability to utilize their indigenous knowledge since they are not exposed to any other form of farm practices that cope with climate changes. The partial success of the use of indigenous knowledge in coping with climate change leads to the conclusion that a healthy relationship between scientific knowledge and traditional knowledge despite their limitations is most desired. In view of these, policy makers in extension should take advantage on, develop, expand and incorporate these migrant farmers into the clientele of the Agricultural Development programme (ADP) so as to support further studies aimed at integrating indigenous or traditional knowledge into scientific research and global adaptation strategies.

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Table 1: Socio-economic characteristics of respondents

Variables	Frequency	Percentages
Gender		
Male	31	52
Female	29	48
Age (in years)		
21 – 30	4	6
31 – 40	16	27
41 – 50	22	37
51 and above	18	30
Marital Status		
Single	18	30
Married	42	70
Educational qualification		
No formal education	26	43
Primary education	19	32
Secondary education	11	18
Tertiary education	4	7
Total	60	100

Table 2: Utilization of Indigenous knowledge

Indigenous Knowledge		Uses
a.	Slashing and burning	For land clearing in preparation for cultivation
b.	Weeding/boundary clearing	Farm pest and weed control
c.	Soaking seeds in water	Seed selection
d.	Putting vegetables on roofs over night Preservation	
e.	Drying and smoking	Preservation
f.	Alternate crop cultivation	Planting different crops that have resistance to climate variability

Table 3: Extent of utilization of indigenous knowledge

Variable	Not used	Seldom used	Often used
A	15(25)	11(18)	34(57)
B	9(15)	20(33)	31(52)
C	22(37)	11(18)	27(45)
D	17(28)	31(52)	12(20)
E	9(15)	30(50)	21(35)
F	5(8)	16(27)	39(65)