

ENVIRONMENTAL EDUCATION AWARENESS STRATEGIES AND SUSTAINABLE FARMING PRACTICES IN CROSS RIVER STATE, NIGERIA

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Abstract

The purpose of the study was to ascertain the relationship between environmental education awareness strategies and sustainable farming practices in Cross River State, Nigeria. To achieve the purpose of this study, two research questions and two null hypotheses were formulated and tested at 0.05 level of significance. The research design adopted for this study was the correlational design. The sampling technique that was adopted for this study is purposive and accidental sampling technique in selecting a sample size of 1, 443 for the study. A structured questionnaire titled “Environmental Education Awareness Strategies and sustainable Farming Questionnaire (EEASSFQ)” was used for data collection. The reliability of the instrument was established through Cronbach alpha method. To test the hypotheses formulated to guide the study, simple linear regression was used. The results obtained from analysis of data and testing of hypotheses in the study revealed that there was a significant relationship between the variables of environmental education awareness strategies and sustainable farming practices in Cross River State, Nigeria. Based on these findings it was recommended among others that since town crier is essential for information communication in rural areas, they should be appointed by the community based on the need for information dissemination.

Key words: Environmental education, awareness strategies and sustainable farming practices

Introduction

Farming has been one of the oldest activities which man has indulged in. By farming, it implies activities which include crop production, animal husbandry (both mobile and stationary), and collection of Non-Timber Forest Products (where there are forests). In the past, since the natural environment was not evidently challenged by man's activities, there was almost no need to be concerned about how man interacts with it. In recent times, farmers' interaction with the environment have been of concern due to the need to mitigate some of the environment's reactions, for example, climate change. This brought about the advent of “sustainable farming practices” - practices which should ensure the long-term productivity of farmlands. Within the study area, due to its importance in terms of agricultural produce, there have been concerted efforts to sensitize the people on modern farming practices.

Despite the land use regulations by government-based agencies within the study area, farmland users engage in the following practices - excessive usage of, and over reliance on herbicides and pesticides, felling of all forest trees on every newly cleared farmland on an annual basis, bush burning, non-utilization of improved crop varieties during planting, indulging in shortened fallow periods for intended farmlands, unsustainable soil management techniques and harvesting of Non-Timber Forest Products. The above stated practices result in reduced crop yield, pollution of soils with high levels of heavy metals, soil nutrient mining (leaching of soil's natural nutrients), high levels of concentration of chemicals in water bodies, soil erosion, deforestation and loss of exotic flora and fauna species. Aside the stated effects, the issue of perceived long-term effects such as loss of farmlands due to impoverished soils in this era of population explosion is worrisome. From the above stated issues, it is evident that the farming practices are unsustainable. It is against the backdrop of the above stated worrisome issues that this study sought to inquire the following poser – what is the relationship between environmental education awareness strategies and sustainable farming practices in Cross River State?

Purpose of the Study

The purpose of the study was to ascertain the relationship between environmental education awareness strategies and sustainable farming practices in Cross River State, Nigeria.

Specifically, the study sought to ascertain the relationship between the:

1. use of town crier media and sustainable farming practices in Cross River State
2. use of mass media and sustainable farming practices in Cross River State

Hypotheses

The following hypotheses was formulated for the study:

1. Use of town crier have no significant relationship with sustainable farming practices in Cross River State, Nigeria
2. Use of mass media has no significant relationship with sustainable farming practices in Cross River State, Nigeria

Literature Review

Town Criers and Sustainable Farming Practices

Information used by rural people in a study of a group of traditional farmers producing food for their consumption; incoming information was better understood and accepted in a way which they could identify. They exchanged information through “indigenous communication mechanism” and most members had little exposure to ways of communicating that are based primarily on literacy (Meyer, 2017). Town crier serve both utilitarian and aesthetic purposes. They form the vehicle for acquisition and dissemination of information to rural people. Town criers are messengers of the people and for the people. As rural reporters, they disseminate news but do not produce news. They are appointed by the community based on some pedigree; since they emanate

from the people, they understand the culture; therefore, rural people attach relevance to them. They are the information symbols of their various communities. Town crier serve both utilitarian and aesthetic purposes. They form the vehicle for acquisition and dissemination of information to rural people. Town criers are messengers of the people and for the people. As rural reporters, they disseminate news but do not produce news. They are appointed by the community based on some pedigree; since they emanate from the people, they understand the culture; therefore, rural people attach relevance to them. They are the information symbols of their various communities. Their place in most African societies remains invaluable. Especially in agricultural practices (Moyo, 2015).

The information sources for farmers depend on the type of work and services they perform. Information sources are tools or information carriers that meet the information needs of extension workers. Many studies have been conducted to determine the type of information sources of agricultural extension workers. Alfred and Odefadehan (2007) identified various information sources of extension workers to include organizations, individual associates, local, national and international seminars, workers, trainings, print and electronic media, telecommunication, and internet service.

Adio, Yusufu and Kunle (2016), carried out a study on Use of Agricultural Information Sources and Services by Farmers for Improve Productivity in Kwara State. This study was carried out to investigate the use of agricultural information sources and services by farmers for improve productivity in Kwara state, Nigeria. The objectives of the study was to determine the information sources and services available to farmers in Kwara State and assess the purpose for which farmers in kwara state utilize available information sources and services. The study adopted the survey design in a population of 55,522 farmers from whom 447 were sampled in six local government areas, which were made up of two from each of the three senatorial districts in the State. Questionnaire and interviews were used to generate data, which were descriptively analysed to answer the research questions. The results showed that the information sources and service mostly used by the farmers included relations, fellow farmers, town criers, television, mobile phones, film shows, radio, etc. The need for information made the farmers to use it for crop and animal production; pests, diseases and weed control; fishing; disaster control and mitigation, fertilizer procurement and application; post-harvest technology; sourcing for labour; agricultural credit; etc. The study therefore recommended that Kwara State Government should train extension workers on how to use information communication technology such as mobile phone on how to subscribe for agricultural information and also there is a need to extend agricultural extension services to all the local government areas through established centers where farmers can obtain required information on agricultural productivity, marketing of farm produce and post-harvest technology to increase their productivity.

Apata (2019) carried out a study on Information Dissemination and Communication Strategy Using Town Crier in a Traditional Context in Southwestern States, Nigeria. The paper examined information dissemination and communication strategy in a traditional context, using 'town crier' as a case study. Studies have identified Osun and Oyo States in Southwestern, Nigeria with highest number of traditional towns. Random technique was used to pick one local government in each of the 3 agrarian districts in each of the two States. Based on literature review and past studies 2 traditional communities were purposively picked in each local government to give a total of 12 traditional communities in the final selection. The customized criteria considered as traditional communities are: presence of a town crier', no effective communication channel/institution and majority of the population neither can read nor write among others. Focus group discussion technique and interview schedule were used for data collection and a discussion guide was used in each of the group discussions. Descriptive statistics and multiple linear regression model were used for data analysis. The study identified 41 'town criers' across the study areas through the help of a key informant. The results indicated that all the Town Criers are male, average age of 55.54 years and all have post-primary education. Town crier attracts the

community through traditional means of communication (like the use of horn). Town Crier primarily source of information is king/Oba(73.2%). Main information disseminated by the Town Crier bothers on security of the town (65%) and community developmentand projects. This channel rarely meets the information need of the people, as the study revealed that only 23.3% of suchinformation meets these needs.

The use of town crier can be more effective if the structure of receiving information for onwarddissemination is enlarged. The marginal effects predicting the direct economic influence of explanatory variables on weightedinformation disseminated index were information index, education, and access to educational training/manual and occupation. Lack of information is argued to act as a barrier to development because of importance of information provision in “capacity building” and “empowering communities” (Wakelin & Simelane, 2018).

Mass Media And Sustainable Farming Practices

Agriculture is the soul economy in countrieslike Nigeria, and mass media is an importantcomponent of strategy recognized in the revitalization of agriculture extension system. For over a half of century social scientist have explored the impact of mass media on agriculture and focused to think about it as previously mass media and communication was not seen as the major priority between national as well as international level in agricultural development and was undervalued (Adeniji, & Ega, 2019).

Khan, Siddiqui, Khan, Ahmad, Ismail, Javed, Ali, Kazim, Azam, and Kasi (2020) carried out a study on Mass Media Role in Agricultural and Rural Development, according to the authors, in order to obtain information about related difficulties, problems and their solutions, information and communication technologies between multiple communities are constantly being enhanced. Regarding agricultural development, mass media have played a very important role in emerging countries. Many emerging countries have achieved better results in the latest technologies. Newspapers, radio, television, smartphones and the internet are the most important communication devices that provide farmers with knowledge and information about agriculture. By using these modern technologies in several countries, it has been observed that the use of these new technologies has generated positive outcomes in agricultural development. In rural areas, radio is still the most popular communication tool. It can broadcast many programs about agriculture, and television has also contributed greatly to the dissemination of agricultural information in emerging countries. In addition, smartphones have reduced the distance between growers and consumers and now growers can communicate directly with customers and get product prices from the market. Mobile phone technology also offers growers a new way to get up-to-date information about weather conditions from the meteorological department before using pesticides and other related materials on their farms. But the internet is strewn with the latest information on commodity prices and marketing, and growers are getting information from around the world.

OmariOmoogun and Effiom (2019) carried out a study on Mass Media as an Environmental Awareness Strategies and Attitude of Farmers towards Deforestation in Southern Cross River State, Nigeria. The main purpose of this study was to examine mass media as environmental awareness strategies and attitude of farmers towards deforestation in the rainforest zone of southern Cross River State, Nigeria. The hypothesis, which states that the use of mass media does not significantly influence the attitude of farmers towards deforestation in the rainforest zone of southern Cross River State, Nigeria, was formulated to guide the study. Ex-post facto research design was considered most suitable for the study. The sample consists of 568 respondents randomly selected through the stratified and simple random sampling techniques. A structured questionnaire was the instrument used for data collection. The instrument was faced validated by three experts in Test and Measurement. The reliability estimates of 0.83 was established through the Cronbach alpha reliability method. Simple linear regression statistical tool was used for data analysis. The result revealed that, there is a significant influence of mass

media on attitude of farmers towards deforestation. Based on this finding it was recommended among others that environmental educators and advocates should ensure that the mass media should be maximally utilized to continually create environmental awareness among the citizens in order to empower them to develop more positive attitude towards eradication of negative environmental practices and actions.

Effective communication of new research findings and technologies in agriculture to rural farmers remain a promising strategy for increasing agricultural productivity (Banmeke&Olowu, 2015). In general, production information that are usually conveyed through the mass media may include techniques of applying fertilizers, insecticides and fungicides to crops, improved methods of crop cultivation, and soil conservation techniques, harvesting technology and storage of crops (Egbule&Njoku, 2010). There are also new technologies of animal husbandry as well as processing and marketing various agricultural products for the farmers to adopt innovations and put them to use, such innovations ought to reach the farmers and or their homes through effective extension and mass media channels (Egbule&Njoku, 2010).

Methodology

The correlational research design was used in this study. This design involves the collection of data to accurately and objectively describe existing phenomena. The population of the study consisted of all the 73,002 registered farmers in Cross River State, who are enlisted in the respective senatorial district. The multistage sampling technique involving purposive and accidental sampling technique was adopted for the study to select a manageable and sizeable sample size of 1, 443 registered farmers in the study area.

The instrument used for data collection was a structured questionnaire titled “Environmental Education Awareness Strategies and sustainable Farming Questionnaire (EEASSFQ)” designed by the researcher and validated by experts in measurement and evaluation. The Cronbach Alpha reliability coefficient was used to test the degree of consistency of the instrument. They were found to range from .82 to .97. This implies that the instrument was reliable enough to be used for this investigation. The procedure for data analysis was based on the already structured research hypothesis. Simple regression statistical technique was used to analyzed data for the study.

Results

The two research hypotheses were stated and tested in order to provide solution to the problem of this study. Each hypothesis was tested at .05 significant level.

Hypothesis one

Use of town crier have no significant relationship with sustainable farming practices in Cross River State, Nigeria. The independent variable is Use of town crier while the dependent variable is sustainable farming practices in Cross River State. In analyzing the hypothesis simple regression statistical analysis were employed and the results of the analysis stated in Table 1.

TABLE 1
Simple regression analysis on the relationship between use of town crier and sustainable farming practices in Cross River State

Variable	R	R ²	Adj. R ²	Std. Error		
use of town crier	.203 ^a	.041	.040	2.094331		
Source of variation	SS		Df	MS	F	p-value.
Regression	687.812		1	102.873	24.21*	.001 ^b
Residual	3644.391		1441	9.322		
Total	4332.403		1442			

*Significant at p <.05

The analysis in Table 1 showed that the Adj R² is 0.040. This implies that 4.0% of the variance within dependent variable (sustainable farming practices) could be accounted for by use of town crier. However, though the percentage contribution is small, a cursory look at the table showed that F=24.210 (p<.05) is significant. Also since p(.001) is less than p(.05), it implies that use of town crier have a significant relationship with sustainable farming practices in Cross River State, Nigeria. Therefore, the stated null hypothesis is rejected.

Hypothesis two

Use of mass media has no significant relationship with sustainable farming practices in Cross River State, Nigeria. The independent variable is use of mass media while the dependent variable is sustainable farming practices in Cross River State. In analyzing the hypothesis simple regression statistical analysis were employed and finding outlined within Table 2.

TABLE 2
Simple regression analysis on the relationship between use of mass and sustainable farming practices in Cross River State

Variable	R	R ²	Adj. R ²	Std. Error	
print media	.471 ^a	.222	.220	2.1313661	
Source of variation	SS	Df	MS	F	p-value.
Regression	627.421	1	147.703	42.61*	.000 ^b
Residual	3704.982	1441	10.810		
Total	4332.403	1442			

*Significant at p <.05

The analysis in Table 2 showed that the Adj R² is .220. This implies that 22.0% of the defiance within dependent variable (sustainable farming practices) could be accounted for by mass media. However, though the percentage contribution is small, a close look at the Table showed that F=42.61 (p<.05) is significant. Also since p(.000) is less than p(.05), it implies that there is a significant relationship between use of mass media and sustainable farming practices in Cross River State, Nigeria. Therefore, the stated null hypothesis is rejected.

Discussion of Findings

The result of hypothesis one indicated thatUse of town crier have no significant relationship with sustainable farming practices in Cross River State, Nigeria. The findings is in agreement with the views Moyo (2015) who opined that Town crier serve both utilitarian and aesthetic purposes. They form the vehicle for acquisition and dissemination of information to rural people. Town criers are messengers of the people and for the people. As rural reporters, they disseminate news but do not produce news. They are appointed by the community based on some pedigree; since they emanate from the people, they understand the culture; therefore, rural people attach relevance to them. According to the author town criers are the information symbols of their various communities. Their place in most African societies remains invaluable. Especially in agricultural practices.

The above conclusion is equally in line with Meyer (2017) who sated that Town criers are messengers of the people and for the people. As rural reporters, they disseminate news but do not produce news. They are appointed by the community based on some pedigree; since they emanate from the people, they understand the culture; therefore, rural people attach relevance to them. They are the information symbols of their various communities.

The hypothesis two finding indicated null hypothesis was dropped implying that mass media is significantly related to sustainable farming practices in Cross River State. This result is in agreement with Javaid (2017), who carried out a study on Role of mass media in promoting agricultural information among farmers of district Nankana. According to the author, the role of

media in agricultural sector in Pakistan is considerably high and in case of Punjab its role becomes manifold. In such a backdrop, this study was carried out to explore the relevance and effectiveness of media (TV and Radio) for farmers in providing agricultural information. The effectiveness of media was assessed by investigating the access to and availability of the sources used, frequency, preferred medium (language) of the source and the coverage of factors affecting agricultural productivity by the source. The study revealed that most of the participants had access to TV and radio but preferred brochures, pamphlets, newspapers, agents of pesticide companies and fellow farmers for acquiring relevant information. Most of the agricultural information delivered through TV and radio was in Urdu while the participants showed their preference for Punjabi or local language as a medium of such information. As for coverage of factors affecting agricultural productivity, weather forecast, plant protection measures, livestock and sowing methods were given extensive coverage while machinery and crop variety were slightly covered.

The result of the present hypothesis is still in line with the study of Okafor and Malizu, (2017) were involved in an empirical study on New Media and Sustainable Agricultural Development in Nigeria. Based on the findings of the authors, the Nigerian agricultural sector over the years has witnessed efforts at transforming its operations. The use of ICT stands out as the most recent strategy deployed to revolutionize agricultural activities. Consequently, the use of mobile phones by Nigeria farmers has emerged as important in enhancing agricultural productivity. This paper examines whether Nigeria farmers' mobile phone use have brought about any significant difference in agricultural information exchange and productivity. Semi-structured interview and focus group discussions were used to collect data from 50 farmers, 15 extension workers, and 40 farm produce sellers to understand their engagements with and use of mobile phones for agricultural development. Results indicate that 65% of the extension workers report increase in effectiveness and area of coverage through mobile phone use; 73% of farmers use mobile phones for agricultural information search and exchange; while farm produce merchants report increased income of about 56% through mobile phone use.

Conclusion/Recommendations

Based on the result of the study the following conclusions were reached that: Use of town crier is significantly related to sustainable farming practices in Cross River State, Nigeria and Use of mass media has a significant relationship with sustainable farming practices in Cross River State, Nigeria.

In light of the outcome of the study, the following recommendations were made:

1. The researchers recommends that since use of town crier is essential to for information communication in rural area, they should be appointed by the community based on some pedigree; since they emanate from the people, they understand the culture; therefore, rural people should attach relevance to them as they are information symbols of their various communities.
2. Finally, the use of mass media should be made an important component of strategy recognized in the revitalization of agriculture extension system towards promoting sustainable agricultural practices

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