



## **Role of Agricultural Journalism on the Adoption of Agricultural Innovation among Farmers in Etche Local Government Area Rivers State**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Authors NSA and WIR designed the study, performed the statistical analysis, wrote the protocol, wrote the first draft of the manuscript and managed the analyses of the study. Author NSA managed the literature searches. Both authors read and approved the final manuscript.*

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### **ABSTRACT**

The study examined the role of Agricultural Journalism on the adoption of agricultural innovation among farmers in Etche local Government Area Rivers State. The population of the study comprised all registered small scale farmers and extension workers in Etche Local Government area. The sample size of the study was 105 small scale farmers and 32 extension workers selected using simple random sampling techniques. The instrument used was a self-structured questionnaire titled "Role of Agricultural Journalism on the Adoption of Agricultural Innovation among small scale farmers". The validation of the instrument was done by two experts and the reliability of the instrument was established using Cronbach Alpha reliability coefficient. However, the reliability index obtained was 0.86, which is acceptable for instrument consistency. Mean and the standard deviation were used to analyze the responses on each item. Items  $\geq 2.50$  were accepted, otherwise were rejected. Z-test statistical tool was employed to test the hypotheses at 0.05 level of significance. The findings of the study established that creating awareness on modern farming methods, providing information on the effectiveness of crop varieties, establishing the procedure of

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input combination, communicating the impacts and accomplishment of the innovation, disseminating agricultural research findings to farmers are roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche. The study recommends that agricultural research institutes should also utilize agricultural journalism to educate farmers on their new development. Agricultural journals should contain detailed information about the use of innovation.

*Keywords: Role; agriculture; journalism; farmers; adoption and innovation.*

## 1. INTRODUCTION

Agriculture has been a medium of sustenance far past ancient times. It has gone through ranges of different development which has led to the improved medium of optimization. Agriculture is known to be a predominant occupation in rural areas where there exist little or no opportunity for development. Over the years, there have been different innovations in agriculture, which is geared towards achieving a robust agricultural sector. Agricultural innovation could be described as new discoveries and inventions that may or not known to the farmers especially the rural ones [1]. Hence, the first use of an agricultural innovation may not occur for some considerable period of time, possibly many years, after the primary producer first becomes aware of the innovation. Agricultural innovation in a simple term is a new model, input, activity, implements, technologies that could be used in carrying out specific agricultural activity in a pattern different from the known ones.

Realizing the potentials of agricultural innovation is far beyond thoughts of changing the traditional farm practices. It is all about changing the approach and attitude of the farmers and how to harness their environmental resources [2]. Kant, Singh and Singh [3] noted that agricultural innovation is basically purposed to drive socio-economic growth and ensure food and nutrition security, alleviate poverty and improve resilience to climate change, thereby helping to achieve sustainable development goals. Agricultural Innovation is attractive because it comprises knowledge, diffusion and emphasizes the processes that have become scientifically proven for higher yields (FAO, 2012). More significantly, when agricultural innovations are introduced to the rural areas, it is a way of avoiding potential food insecurity knowing full well that most agricultural productions that sustain the nations are from the remote areas [4]. Therefore, the potentialities of agricultural innovation require that there is a need for peasant farmers in rural poor areas to afford and adopt innovation for increased productivity, food security and higher income.

The potentialities of innovations in agricultural cannot be overemphasized. For instance, the economic benefits of International Institute of Tropical Agriculture (IITA) an agricultural research institute in West Africa, is expected to have reached over two billion dollar (\$ 2 billion) in the next ten years. IITA has to be an essential tool for various agricultural innovations in West Africa and beyond. They are responsible for agricultural innovations ranging from improved seeds that could more than double farmers' productivity, to technologies that control weeds and double the yield of cassava, to simple processing machines that add value to crops such as cowpea, cassava, and yam. Farm technologies are not left behind, such as inoculum production, which raises the productivity of soybean by about 20 percent, and aflasafe—a biological control product for managing aflatoxins, semi-autotrophic hydroponics which is being used to produce thousands of clean seeds of clonal crops such as cassava and yam, and the yam aeroponics—a system of growing clean seed yam in the air too numerous to mention (IITA, 2018). It is also worthy to note that the adoption of improved soybeans varieties made Nigeria the largest producer of soybeans in Africa [4]. However, in the midst of this abundant innovation, farmers in rural areas are yet to fully harness the benefits of these agricultural inventions. Though, due to the impediments of the environment (rural area) farmers are less likely to be aware of or have access to new agricultural innovations for adoption.

According to Rogers [5], the adoption process is a mental process through which an individual passes from becoming aware of innovation to the time of full usage of that innovation. Adoption of agricultural innovation is a gradual process which gradually occurs within an individual and it determines whether a farmer will accept the usage of innovation. Adoption process starts with hearing, receiving or becoming aware of innovation. Adopters of agricultural innovation increases as information is generated in the process of innovation implementation and spreads gradually among the potential adopters.

However, in rural areas, agricultural innovations are oftentimes difficult to be welcomed because of a hindrance to first-hand information on the new agricultural innovation. Kant, Singh and Singh [3] noted that the rate of adoption of agricultural innovation especially in the rural areas is majorly influenced by the availability of detailed information on the innovation and the type of communication channels used. Therefore, agricultural journalism becomes imperative to enabling rural farmers to have timely access to agricultural information on new inventions in agriculture.

Agricultural journalism is a branch of journalism which is concerned with receiving, writing, editing and reporting agricultural information through the media like newspapers, radio, television, advertising among others. It is a form of gathering information on modern farming and disseminating the information to the farmers through mass media.

Subin, Prasad, Talata and Ram [6] noted that farm journalism is a collection and processing of facts, converting into local specific or need to be based and dissemination of timely information to farmers by a different method of communication. Findings in different developing countries have affirmed that communication of agricultural innovations has emerged as the major desirable prerequisite in the adoption of innovations [7]. Agricultural journalism is one of the major components of agricultural communications where innovations are considered a priority. It covers in-depth of agricultural issue, ensuring the education of the population and receiving feedback and reflecting on it the field development [8]. The modern agricultural journalism was started in the mid nineteenth century with the publication of translations of three English books on Weather, European agriculture and Agricultural implement. The objectives of this publication were enraptured in the following according to

- i. Education – providing the information is a tool to (by giving the information to the potential audience) implement the goal;
- ii. Motivating and Organizing - motivating individuals and groups of people, who are, potentially or actually, involved in the agricultural sector, to improve performance/efficiency, which makes the media not a simple observer, but a participant of the process;
- iii. Communication and Advocacy – when the media is a link between professional groups, governmental programs and its beneficiaries, including the farmers.
- iv. Development - when the media is helping and supporting society to improve its living conditions through in-depth coverage of the problems and showing ways to solve them and encouraging the country's economic progress.

Analyzing these objectives, journalism in its self is considered a subset of public relation, because it tends to relate timely information to the audience. In light of this, the roles of agricultural journalism in the adoption of farm innovation is indispensable. Agricultural journalism has in its most significant objectives to disseminate news and innovation to the farmers. Public relation tools and activities such as advertorials, social media, newsletter, magazines, television, speaking engagement, radio among others are valuable promotional opportunities to enhance the dissemination. However, in rural areas where there could be limited access to modern information tools, public relation activities would be encouraged so as to have facial contacts with farmers. Rural Farmers could be motivated when experts introduce and guide their usage of agricultural innovation. Ochiengo [9] found in his study that frequency of interaction between farms, extension workers, availability of information on agricultural innovation is a significant determinant of the adoption.

Farm journalism is a vital instrument used for inducing knowledge of agricultural innovations to farmer. Although its public relation role focuses on creating awareness of the new invention, it equally plays a significant role in educating farmers for improved efficiency. It exposes farmers to new information on the modern technologies that could improve their performance in farming. Subin, et al. [6] assert that agricultural journalism provides farmers with the necessary knowledge to about innovation which could help them make the decision for adoption of farm technologies. One of the major purposes of agricultural authors is to educate the farmers through their simplified write-up on-farm innovation. It is a known fact that knowledge creates changes in character if so agricultural journalism could, therefore, aid extension activities by the publication of news on various agricultural innovations and their resultant effects on the early adopters. Most agricultural

journalism is top-down and often based on the description of techniques untested on farmers' fields [10]. This knowledge sometimes could help the farmer utilize agricultural resources that are available at their disposal for improved productivity. For appropriate transfer of knowledge, the media of agricultural journalism should note that information is to be communicated to a laymann language, unambiguous, and brief as possible putting into consideration the academic level of the audience and their most interesting medium of learning.

Subin, et al. [6] asserted that weak linkages among farmers, extension workers and marketers contribute to reduced efficiency of agricultural research and extension. In modern society, the transference of new farm technologies could take any form, as long as it conveys the message with accuracy, brevity, and clarity. Farmers react very positively to news about new technologies seen through the eyes of their counterparts. Such reports may simply involve experience with new technology; include significant modification and adaptation; or even recommend rejection [10]. All the articles contain contact information (village, postal address, and, if available, telephone). There are many instances of readers directly contacting farmer-authors for more information, in some cases visiting their farms. Other ways in which the magazine promotes farmer-to-farmer dialogue include seed exchange activities, a question and answer column, and a forum for debate.

Limited access to information is one of the pronounced constraints that have been severally found by various researchers against rapid adoption of innovation among farmers (Feder, Just & Zilberman, 1985; Moyo & Salawu [7]). However, farm journalism which entails carrying the news of agricultural skills, discoveries, crop varieties, animal breeds, and other farm management innovation that increase farmers' productivity is initiated to combat limited access to information, especially in the rural areas. The number of agricultural publications is increasing. But the increase is not in publications that cover general farming issues, but rather special-interest publications, such as those put out by commodity organizations, land-grant universities, and governmental agencies [11].

### 1.1 Purpose of the Study

The Purpose of the study was to investigate the role of agricultural journalism on the adoption of

agricultural innovation among farmers in Etche Local Government of Rivers State. In specific terms, the study sought to determine

1. Educational roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State
2. Public relation roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State
3. Motivational roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State

### 1.2 Research Question

The following research questions guided the study

1. What are the educational roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State
2. What are the public relation roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State
3. What are the motivational roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State

### 1.3 Hypotheses

- There is no significant difference on the mean responses of extension workers and rural farmers on the roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State.

## 2. METHODOLOGY

The study used descriptive survey research. The population of the study comprised all extension workers and small scale farmers in Etche Local Government Area, Rivers State. The sample size of the study was collected using simple random techniques to select 32 extension workers and 105 small scale farmers from each of the 15 villages in the local government area. The instrument used for the study was a self-structured questionnaire which elicited information on each of the research questions.

The instrument used was titled "Role of Agricultural Journalism on the Adoption of Innovation among Small Scale Farmers (RAJAISSE)". The instrument was structured in a four point rating scale, and the acceptance of each items was based on the criterion mean of 2.50. The validity of the instrument was done by two experts in agricultural extension and the reliability of the instrument was established using Cronbach Alpha. However, the reliability coefficient obtained was 0.94. Method of data analysis adopted was frequency, Mean and standard deviation. Z-test was used to test the hypothesis at 0.05 level of significance.

### 3. RESULTS AND DISCUSSION OF FINDINGS

**Research Question 1:** What are the educational roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government Area of Rivers State?

Table 1 revealed the mean responses of the respondents on each of the slated items of the educational roles of agricultural on farmers' adoption of agricultural innovation. Based on the mean responses of each items it was found that farmers agreed that agricultural journalism create awareness on modern farming methods (3.51 & 3.60), provide information on the effectiveness of crop varieties (3.42 & 3.42), establishes the procedure of input combination (3.62 & 3.32), present procedural information on the use of innovation (3.20 & 3.73), educate the farmer on the cons of the new technique (3.19 & 3.63), educate the farmers on how to acquire required inputs for innovation (3.56 & 3.50), describes the development of the innovation (3.64 & 3.82), and reports first hand farmers' experiences under varying conditions (3.46 & 3.61). The finding is in consonance with Subin, et al. [6] who asserted that agricultural journalism provides farmers with necessary knowledge about innovation which could help them make decision for adoption of farm technologies. Also Sciedev.net [12] noted that one important role for journalists is to relay information on new technologies and the service providers that can help farmers access such innovations. It further stressed that the media can also spread the word on training classes, which offer opportunities for learning by doing. All of this improves the connection between farmers and research, and improves the likelihood of success.

**Research Question 2:** What are the public relation roles of agricultural journalism on the

adoption of agricultural innovation among farmers in Etche Local Government of Rivers State?

Table 2 shows the public relation roles of agricultural journalism on the adoption of innovation among farmers. The means responses of each item indicates the agreement of the respondents of the item. The following items were agreed to be the public relation roles of agricultural journalism on adoption of innovation among farmers; coordination of contact farmers (3.09 & 3.64), communicating the impacts and accomplishment of the innovation (3.43 & 3.60), disseminating agricultural research findings to farmers (3.70 & 3.19), disseminating information on new farming techniques (3.82 & 3.54), make legislators aware of the innovation (3.62 & 3.49), promote communication between farmers and extension workers (3.58 & 2.73), creating a favourable images of the impacts of the innovation (3.61 & 3.21). The findings are in consonance with Kuprashvili & Chalaganidze [8], who observed that agricultural journalism covers in-depth of agricultural issue, ensuring the education of the population and receiving feedback and reflecting on it the field development. In this assertion, public relation roles of agricultural journalism ensure the relation of authors' ideas and techniques to the farmers. Also, Ogunlana [13] proposed in his findings that access to timely information by women farmers enhance their participation in the adoption of agricultural innovation.

**Research Question 3:** What are the motivational roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State?

The Table 3 shows the responses of extension workers and farmers on motivational roles of agricultural journalism on the adoption of agricultural innovation among farmers. The mean of each items shows that respondents agreed that agricultural journalism has the motivational role of publishing the success of other early adopters (3.84 & 3.70), promoting agricultural funds media (3.60 & 3.84), reporting the impact of innovation (3.54 & 3.89), creating assurance of high productivity (3.60 & 3.51), promoting farmers training (3.56 & 3.74), promoting market opportunities for farm products (3.76 & 3.23), linking farmers-authors (innovators) (3.60 & 3.81) and introducing farmers to agricultural

cooperative societies (3.89 & 2.80). The result is in line with Subin, et al. [6] who succinctly asserted that weak linkages among farmers, extension workers and marketers contribute to reduced efficiency of agricultural research and extension.

**Hypotheses:**

- There is no significant difference on the mean responses of extension workers and

rural farmers on the roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State

Table 4 is a table of the hypothesis tested on the mean responses of extension workers and farmers on the roles of agricultural journalism on the adoption of agricultural innovation among farmer using z-test statistical tool. The means of both groups were tested against each other, the

**Table 1. Educational roles of agricultural journalism on the adoption of agricultural innovation among farmers**

S/N	Educational roles	Extension workers= 32			Farmers=105		
		Mean	S.D	Remark	Mean	S.D	Remark
1	Create awareness on modern farming methods	3.51	0.76	Agree	3.60	0.95	Agree
2	Provide information on the effectiveness of crop varieties	3.42	1.03	Agree	3.42	0.58	Agree
3	Establishes the procedure of input combination	3.62	0.75	Agree	3.32	0.64	Agree
4	Present procedural information on the use of innovation	3.20	1.03	Agree	3.73	0.58	Agree
5	Educate the farmer on the cons of the new technique	3.19	0.86	Agree	3.63	0.72	Agree
6	Educate the farmers on how to acquire required inputs for innovation	3.56	1.00	Agree	3.50	0.64	Agree
7	Describes the development of the innovation	3.64	0.92	Agree	3.82	1.01	Agree
8	It reports first hand farmers' experiences under varying conditions	3.46	0.87	Agree	3.61	0.80	Agree
<b>Grand Mean &amp; S.D</b>		<b>3.45</b>	<b>0.90</b>		<b>3.58</b>	<b>0.74</b>	

Source; Field Survey 2019

**Table 2. Public relation roles of agricultural journalism on the adoption of agricultural innovation among farmers**

S/N	Public relation roles	Extension workers= 32			Farmers=105		
		Mean	S.D	Remark	Mean	S.D	Remark
1	Coordination of contact farmers	3.09	0.84	Agree	3.64	0.60	Agree
2	Communicating the impacts and accomplishment of the innovation	3.43	0.72	Agree	3.60	0.82	Agree
3	Disseminating agricultural research findings to farmers	3.70	0.89	Agree	3.19	0.63	Agree
4	Disseminating information on new farming techniques	3.82	0.56	Agree	3.54	0.50	Agree
5	Make legislators aware of the innovation	3.62	0.62	Agree	3.49	0.77	Agree
6	Promote communication between farmers and extension workers	3.58	0.81	Agree	2.73	0.62	Agree
7	Creating a favourable images of the impacts of the innovation	3.61	0.72	Agree	3.21	0.80	Agree
<b>Grand Mean &amp; S.D</b>		<b>3.55</b>	<b>0.74</b>		<b>3.34</b>	<b>0.68</b>	

Source: Field Survey 2019

**Table 3. Motivational roles of agricultural journalism on the adoption of agricultural innovation among farmers**

S/N	Motivational roles	Extension workers= 32			Farmers=105		
		Mean	S.D	Remark	Mean	S.D	Remark
1	Publishes the success of other early adopters	3.84	0.79	Agree	3.70	0.64	Agree
2	Promoting agricultural funds media	3.60	0.80	Agree	3.84	0.53	Agree
3	Reporting the impact of innovation	3.54	0.67	Agree	3.89	0.80	Agree
4	Creating assurance of high productivity	3.60	0.56	Agree	3.51	0.73	Agree
5	Promoting farmers training	3.56	0.75	Agree	3.74	0.81	Agree
6	Promoting market opportunities for farm products	3.76	0.99	Agree	3.23	0.86	Agree
7	Linking farmers-authors (innovators)	3.60	0.87	Agree	3.81	0.83	Agree
8	Introducing farmers to agricultural cooperative societies	3.89	0.92	Agree	2.80	0.92	Agree
<b>Grand Mean &amp; S.D</b>		<b>3.67</b>	<b>0.79</b>		<b>3.57</b>	<b>0.77</b>	

Source; Field survey 2019

**Table 4. Z-test analysis on the roles of agricultural journalism on the adoption of agricultural innovation among farmers in Etche Local Government of Rivers State**

Roles		Mean	S.D	Df	z-cal	z-crit	Decision
Educational Role	Ext. w	3.45	0.90		0.83		Accepted
	Farmers	3.58	0.74				
Public relation roles	Ext. w	3.55	0.74	135	1.50	1.96	Accepted
	Farmers	3.34	0.68				
Motivational roles	Ext. w	3.67	0.79		0.64		Accepted
	Farmers	3.57	0.77				

Field survey, 2019. Accept  $\geq 1.96$  otherwise reject

z-cal value obtained was 0.83, 1.50, 0.64 for educational, public relation, and motivational roles respectively. The obtained values of z-cal (0.83, 1.50, 0.64) was less than z-crit (1.96). Thus, the null hypothesis was upheld.

#### 4. CONCLUSION

Based on the findings, it was concluded that agricultural journalism has a vital role to play in enhancing the adoption of agricultural innovations among rural farmers. The roles entails creating awareness on modern farming methods, providing information on the effectiveness of crop varieties, establishing the procedure of input combination, communicating the impacts and accomplishment of the innovation, disseminating agricultural research findings to farmers, publishing the success of other early adopters, promoting agricultural funds media, reporting the impact of innovation,

creating assurance of high productivity, promoting farmers training among others.

#### 5. RECOMMENDATIONS

The following recommendations were made based on the findings

- Agricultural extension workers should engage journalism in their medium of enhancing adoption among farmers
- Agricultural research institutes should also utilize agricultural journalism to educate farmers on their new development, it should contain detailed information about the use of innovation.
- The government should help farmers through funding, subsidies free distribution of improved varieties of crops to rural farmers, this will enhance adoption of innovation that could be financially demanding.

## CONSENT

As per international standard Farmers' written consent has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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