

## Edu-Communication Strategies of Cashew Production in a Rural Ghanaian Community

Bismark Kwaku Anyarayer\*, Mohammed Faisal Amadu\* and Amin Alhassan\*

### ABSTRACT

*This study examined the edu-communication strategies that agriculture extension service agencies use in the dissemination and promotion of innovation adoption among cashew farmers in the Kpandai district agricultural zones in Northern Ghana. A total of 140 cashew farmers were sampled using simple random sampling technique. Three District Agricultural Officers (DAO) and twenty-one satellite Agriculture Extension Officers (AEO) were also drawn into the sample. The results of the study show that, face to face interaction, field demonstration, entertainment-education through community radio broadcasting and Farmer Group Discussions (FGDs) were extensively and efficiently used by the AEOs to promote adoption of improved production technologies among cashew farmers. The study discovered that EduCom strategies contribute to higher rates of adoption and partly accounts for increased cashew yields in the study area. The indigenisation of agriculture extension services approaches using local language in the design and dissemination of adoption process is, highly recommended as a core tenet of technology dissemination if higher adoption rates are expected.*

**Keywords:** Agricultural Extension, 'EduCom' Strategy; Cashew production; Communication; Ghana.

### INTRODUCTION

The literature on education and communication establishes a symbiotic relationship between the two concepts. This means that education and communication are uniquely interrelated. A common argument that runs through the literature is that, one of the concepts cannot occur without the other. One central argument we establish from the literature is that the two concepts are intertwined and remain very

essential components for extension service delivery in rural agricultural communities of developing countries. Communication is an indispensable conduit in all efforts aimed at achieving the goals of development. Effective communication is a pre-requisite to every aspect of human society. Communication, therefore, when used in this study connotes the joint transmission and exchange of ideas, opinions and information through networks and symbols commonly understood by the

---

\*Department of Communication, Innovation and Technology, Faculty of Communication and Cultural Studies, University for Development Studies, Tamale, Ghana.

individuals involved in the communication process. Communication facilitates the attainment of goals set out in an educational settings and structure.

It is claimed that education is a process which develops a person or group of persons morally, mentally, socially and technologically. For farmers, to adopt and use improved farm techniques in cashew farming efficiently they must comprehend the complex scientific knowledge of cashew farming. This requires an effective platform for dialogue, the exchange of knowledge and ideas in ways that can easily be understood and the sharing of new technologies in friendly environments between Agriculture Extension Officers (AEOs) and farmers/ farmer groups. From these perspectives, therefore, AEOs consider education and communication as the twine most significant service delivery tools for rural farmers.

Literature generally delineates entertainment-education as one of the core strategies of Edu-Communication (EduCom). For the purpose of clarity, we define EduCom as being a theoretical field interested in the dialogic relationship between media “mass” or “traditional,” “new” or “social,” or “information and communication technology”) and its impact on the farming environment or on its main actors: farmers, extension agents and even agro-input dealers. Entertainment-education on the other hand involves the use of entertainment as a communicative practice strategically designed to communicate development issues in ways that can range from the more narrowly defined social marketing on individual behaviour to the liberating and

citizen-driven articulation of social change agendas. The core purpose of entertainment education is to drive behavioural and social change in societies. An examination of the literature on entertainment-education emphasises the concept as an amalgamation of designs and techniques where education is interwoven into the narrative of entertainment to propel change among target audiences. For the purpose of this study, the definition of *entertainment education* is derived from Wang and Singhal (2009) who view it as “a theory-based communication process for purposefully embedding educational and social issues in the creation, production, processing and dissemination process of an entertainment program, in order to achieve desired individual, community, institutional, and societal changes among the intended media user population”.

Effective use of entertainment-education in the adoption process of an innovation has managed to transcend traditional dichotomies and found to be a strategic tool in the adoption and diffusion of innovations processes especially among farmers from poorer communities. Despite this acknowledgement of the effectiveness of entertainment-education, a core element of contestation of entertainment-education hinges on the nature of its impact. The epistemological aims, theoretical foundations and working methodologies in the actual practice of entertainment-education have all been questioned.

Cashew has become one of the important exported cash crops in Ghana was first introduced to Ghana and other sub Saharan African countries by the Portuguese

long before the country's independence. The production of cashew in Ghana is concentrated mainly in the Bono, Bono East, Ahafo, Savannah and Northern regions. The crop is resistant to drought and performs well even under high temperatures and favourable lightly to medium-textured soils. Ghana have over 65000 sq.km of suitable agricultural land both in the northern and some part of the middle belt closer to the north for cashew cultivation, however, Ghana experience a significant supply deficit of cashew to the international market. This calls for the expansion of cashew production to meet the global demand though in recent years, the sector has received much attention including policy, in terms of production due to the demand for export market. Cashew farms in Ghana are clustered around the well-accessible towns of Bole in the Savannah region, Kintampo in the Bono East, Wenchi in the Bono and Kpandai in the Northern regions.

The introduction of cashew farming in the Kpandai district to farmers needs special adaptive and communication strategies. The unpredictability of farmers attitude towards the adoption of new farming innovations across Ghana, raises a critical demand for creating effective, equitable and socially acceptable communication strategies that will help solve the adoption and behavior change of farmers from their traditional known crop production towards cashew farming. This study, therefore, investigates the use of EduCom strategies including entertainment education in the dissemination of educational, innovation and pro-social messages on cashew production to cashew farmers.

Specifically, the study sought to provide responses to the following research objectives:

- To identify the EduCom tools AEOs use in the adoption process in cashew farming;
- To establish the role EduCom play in the adoption of good innovation in cashew production;
- To determine the structural barriers that impedes the use of EduCom strategies in promoting innovation in cashew farming.

## METHODOLOGY

The study was carried out in the Kpandai district of Northern region of Ghana. The researchers used mixed methods research design that allowed the use of survey, interviews and focus group discussions in gathering data for the study. Structured interview schedule with four-point likert scale type of questions was used in collecting data from 140 cashew farmers sampled for this purpose. The four-point Likert scale was weighted from 4 meaning strongly agree, 3 meaning agree, 2 meaning disagree and 1 meaning strongly disagree. The interpretation is that any weighted mean average score below 2.00 read as not an important communicative strategy and above 2.00 as important communication strategy. Focus group discussions were held with 21 AEOs who were put into 3 groups consisting of 7 officers each. Key informant interviews were conducted with 3 District Agriculture Officers (DAOs) in the study district. Percentages, frequency counts and mean scores were used for the data analysis.

The target population for the study were DAOs, AEOs and cashew farmers. There are 1,057 registered cashew farmers under the District Agriculture Department in the Kpandai district. First the district was zoned based on the area councils. The district is made up of seven area councils with each area council having 151 registered cashew farmers; Kpandai, Katiejeli, Nkanchina, Jambuai, Lonto, Kabonwule and Ekumdi. Purposive sampling was then applied to each zone to select the communities where innovation in cashew production is deployed. Finally, a simple random sampling was used to sample twenty (20) cashew farmers from 151 farmers in each area council giving us a total sample respondent of one hundred and forty 140 cashew farmers. Moreover, three (3) locally trained AEOs from each area council comprising of 21 respondents were purposively sampled for FGDs because they were directly involved in deploying innovations to cashew farmers in their respective agriculture zones. Three DAOs were also purposively sampled for the study as key informants because of their special knowledge in designing training manuals, innovative materials and providing skills training for the AEOs who are involved in the deployment of innovations to cashew farmers.

## **FINDINGS AND DISCUSSION**

### **EduCom Strategies deployed by AEOs in Kpandai Agriculture Zones**

EduCom strategies deployed by AEOs in the dissemination of innovation in cashew Production in the study area are presented

in table 1. The data indicate that audio-visual aids comes top with 35.7% and face-to-face interaction between AEOs and cashew farmers follow with 21.4% as the most frequently used EduCom tools in innovation dissemination to cashew farmers. Farmer field demonstration and group discussions with farmers ranked 3rd and 4th with 17.9% and 14.2% respectively. The rest which include local radio, leaflets and formal lectures scored 5.7%, 3.8% and 1.3% respectively.

Audio-visual aid strategy, which is one of the forms of EduCom was the most preferred communication strategy by AEOs because respondents were entertained and at the same time educated without any hitches. These findings are affirmed by those of Brown (2015) and Arroyave (2018). Brown and Arroyave both emphasized on the effects of edutainment on public discourse on the adoption of new technology and indicated that enter-education messages produced measurable knowledge, attitudinal and behavioural changes in audiences. AEOs who have received regular trainings from the DAOs on the different mechanisms of engaging farmers with enter-educate messages share the knowledge acquired with the cashew farmers which help to enhance their technical skills on innovation adoption (Ali et al. 2012).

The data on local radio as an EduCom strategy used by AEO correspond with the finding of Okunade (2007) where he examined the effectiveness of extension teaching methods in acquiring knowledge, skills and attitude by women in Osun State, Nigeria. He found that though local radio is an

important tool for extension education, it is rarely deployed by AEOs often owing to cost. In the same study, Okunade (2007) found the use of leaflets to be very low in extension services because of high illiteracy rate among farmers. This is the situation found in the data presented here.

In all, four methods of EduCom strategies including audio-visuals, face to face interaction, field demonstrations and group discussions are highly deployed by the AEOs in the Kpandai agriculture zones during extension service delivery. Three strategies which include local radio, leaflets and formal lectures ranked low indicating that they are rarely used by the AEOs in the Kpandai agriculture zone for their extension service delivery. Increasingly, audio-visual aids are becoming critical tools for the delivery of extension services in developing communities in Ghana.

**Table 1: EduCom strategies deployed by AEOs in the adoption process**

(n=140).

Sl. No.	Strategy / Tool used	Frequency	Percentage
1.	Audio-visual aids	50	35.7%
2.	Face to face	30	21.4%
3.	Leaflets	5	3.8%
4.	Group discussion	20	14.2%
5.	Demonstration	25	17.9%
6.	Local radio	8	5.7%
7.	Formal lectures	2	1.3%

## Role of EduCom in the Adoption of Cashew Production Practices

The second objective of the study sought to analyze the role of EduCom in the adoption process of cashew production practices. Respondents to the study were required to indicate their level of agreement or otherwise from a likert scale calibrated from strongly agree to strongly disagree. The study in this objective put forward seven (7) variables that altogether project the role of EduCom in adoption processes. Each of the 140 cashew farmers responded to these 7 variables against a 4-point based likert scale. Below is a summary of the data obtained using weighted sums and averages, from cashew farmers in this study.

The data shown in Table-2 indicates that EduCom strategies resonates with cashew farmers in deprive communities. From the 7 variables that interrogate the role of EduCom in adoption presented to the respondents, only one was poorly scored. The variable with the low score reads "Cashew farmers are expose to sources of capital to expand their farm hectares through interactive process with AEOs". It is, however, not surprising that the issues of farm credit are not well captured in the curriculum of extension services even though it plays a significant role in smallholder agriculture development. Lack of access to farm credits and its gap in extension literature is well established in copious literature on agriculture financing (Dzadze et al, 2012).

The remaining 6 variables interrogated however scored higher. Of interest is the role of EduCom in exposing cashew farmers to

**Table 2.**  
**Role of EduCom in the Adoption of Cashew Production Practices**

(n=140)

Sl. No.	Variables	SA*4	A*3	D*2	SD*1	WS	WM	RMKS	RNK
1.	EduCom strategies use by AEOs help cashew farmers to adopt improve cashew seeds	100	30	8	2	508	3.63	Strongly Agree	3
2.	Innovative EduCom strategy has expose cashew farmers to the types of insecticides and fungicides to use in treating insects and diseases affecting cashew trees	120	20	0	0	540	3.86	Strongly Agree	1
3.	Cashew farmers are expose to sources of capital to expand their farm hectares through interactive process with AEOs	8	25	105	2	319	2.28	Disagree	7
4.	Effective EduCom influences cashew farmers to adopt improved cashew farming technologies	40	90	10	0	450	3.21	Agree	5
5.	The quantity of seed/seedlings used by cashew farmers to cultivate a hectare of farm land was made known by the EduCom interaction with AEOs	110	15	10	5	510	3.64	Strongly Agree	2
6.	EduCom strategies have led to the regular use of television, flyers, radio programming, traditional durbars as the most popular mass media tools to adopt innovative cashew farming technologies	23	67	10	40	353	2.52	Agree	6
7.	The EduCom strategies used by AEOs in this zone is participatory and satisfactory	80	40	15	5	475	3.40	Agree	4

SA=Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree; WS=Weighted Sum; WM=Weighted Mean; RMKS= Remarks; RNK= Ranks

the use of right insecticides and fungicides in cashew treatment. AEOs tend to focus more on the sharing of knowledge on the application and use of insecticides. This came to light from the data gathered when the variable on “Innovative EduCom strategy has expose cashew farmers to the types of insecticides and fungicides to use in treating insects and diseases affecting cashew trees” had a cumulative weighted mean score of 3.86 ranking number 1 out of the 7 variables. This finding is consistent with the assertions of Belden et’ al (2010) that AEOs in Ghana focus more on the sharing of information on chemical use than all other extension educational needs of farmers. The exposure of farmers to the right use of insecticides and fungicides has increased the proper use of chemicals by farmers to control weeds and pests on cashew crops among the cashew farmers in the study area. The type of chemical, the right quantity and area to apply as well as the associated cost of various chemicals used by farmers under actual practices are emphasised. This finding is also corroborated by Ministry of Food and Agriculture (2014) which disclosed that the knowledge about the appropriate application of chemicals in weed and pests of tree crops and its best practice has helped increase crop yields over the years.

The implication of these high scores across all the 6 variables is that EduCom strategy is useful in the promotion of skills development and innovation sharing. EduCom further has unintended positive effects due to uncontrolled variables. The literature on EduCom is unanimous that EduCom messages produces measurable knowledge. Tufte (2001),

Brown (2015) and Arroyave (2018) argue that effective EduCom strategies have led to attitudinal and behavioural changes in audiences.

### **Structural Barriers to EduCom Strategies in the Adoption of Cashew Farming**

The final objective of this study was to determine structural barriers that impedes the use of EduCom strategies in the adoption of good cashew farming practices in northern Ghana. In behavioral change literature, it is argued that in multicultural societies where ethnic, religious, education, gender and political tensions are high, it is difficult to determine what values, beliefs and practices are considered pro-social (Knight et al, 2016 and de Guzman et al, 2012). This dilemma is a structural problem because the social structure of each social system and those in control of information will determine what social values or beliefs should be promoted by AEOs in the case of this study. In table 3 below, we capture a summary of five variables measured with a Likert scale and explain how each serve as a barrier to the use of EduCom strategy in the promotion and adoption of innovation in cashew production.

Economic factors, ethnic considerations, religious factors, educational status and gender dimensions were the five core variables we examined to determine how each impedes the successful implementation of EduCom approaches in extension service delivery. From the analyses, education, economic and religious factors are significant considerations in the choice of an EduCom

**Table 3.**  
**Structural Barriers to EduCom Strategies**

(n=140)

Sl. No.	Variables	SA*4	A*3	D*2	SD*1	WS	WM	RMKS	RNK
1.	Economic factors impede the use of EduCom strategies	60	55	15	10	445	3.18	Agree	2
2.	Ethnic factors impede the use of EduCom strategies by AEOs	20	10	40	70	260	1.90	Disagree	4
3.	Religious factors impede the use of EduCom strategies by AEOs	15	77	18	30	357	2.55	Disagree	3
4.	Level of education is a factor that impede the use of some EduCom strategies in innovation adoption processes by AEOs.	80	40	10	10	470	3.36	Agree	1
5.	Gender issues impede the use of certain EduCom strategies in innovation dissemination and adoption	5	15	30	90	215	1.54	Strongly disagree	5

SA=Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree; WS=Weighted Sum; WM=Weighted Mean; RMKS= Remarks; RNK= Ranks

approach to extension service delivery. For educational status, most farmers indicated that their low educational backgrounds or status significantly impedes their understanding and subsequent adoption decision. The “level of education as a factor that impedes the use of some EduCom strategies in innovation adoption processes by AEOs” scored a cumulated weighted average of 3.36 indicating agreement that a farmers’ educational status impacts his/her choice of EduCom strategy in adoption promotion. This means that for AEOs and DAOs, educational levels of farmers should be considered when designing EduCom strategies for extension work if the goal is for higher rates of adoption.

Education enhances the ability to derive, decode and evaluate useful information for agricultural production. The rate at which one can access, assimilate and idealize new knowledge potentially depend on the educational level of the individual. The study found a high level of illiteracy with a significant number of respondents who have no formal education. These results do not correspond with what Ibrahim (2015) found in a study on the role of farmer groups network in the adoption and diffusion of selected technologies in the Upper Mgeta Morogoro.

Educational status is closely followed by economic factors (economic factors impede

the use of EduCom strategies) and religious considerations (religious factors impede the use of EduCom strategies by AEOs) which scored cumulated weighted averages of 3.18 and 2.55 respectively. The DAOs also disclosed that much consideration is given to affordability when deciding on a strategy to use for extension education. It is always the double edge question of whether or not, the extension unit of the district department of agriculture can afford to use a particular strategy and if farmers can equally afford to pay for such services.

Two of the core variables examined in this objective, ethnic considerations and gender dimensions were not significant as the respondents dismissed them. Ranking 4th and 5th with cumulated weighted averages of 1.90 and 1.54, the questions of whether “ethnic factors impede the use of EduCom strategies by AEOs” and if “gender issues impede the use of certain EduCom strategies in innovation dissemination and adoption”, cashew farmers considered the two as insignificant in decisions relating to their choice of EduCom strategies in innovation adoption process in cashew production. This means that while the ethnicity and gender of farmers are considered when designing EduCom strategies that promotes adoption of good cashew production practices, the two factors neither impedes nor influence farmers choice. A cashew farmer’s ethnicity or a cashew farmer’s gender do not play any significant role in the farmer’s choice of EduCom strategy.

## CONCLUSION

This study examined various EduCom

strategies which are often deployed by DAOs and AEOs in the Kpandai agriculture zone in adoption of good cashew production practices. The findings have demonstrated the influential nature of EduCom approaches to innovation adoption in northern Ghana.

The study recommends that EduCom as an approach of extension service should be strengthened since it has inherent potentials of influencing behavioural change and increasing adoption decisions among farmers. Other approaches including audiovisuals aids, face to face interaction, local radio broadcasting, farmers group discussions and farmer field demonstrations must be intensified by AEOs since these tools enhances adoption of good cashew farming practices. Finally, the study recommends the integration of indigenous language in the design of EduCom approaches owing to the high illiteracy rate among cashew farmers in the study area in the promotion of adoption. This will not only foster better understanding of innovations or technologies being promoted, but will reduce the cost of designing, producing and promoting innovations by the DAOs and the AEOs on the one hand, and in procuring extension services by the farmers in rural Ghanaian communities who are already living in poverty and cannot afford the high cost of agriculture extension services delivery.

## REFERENCES

- Ali, A, Mohammad A, & Ebraheem A. (2012). Effectiveness of agricultural extension activities. *American Journal of Agricultural and Biological Sciences*, 7 (2): 194-200.

- Arroyave, J.C. (2018). Testing the effectiveness of an entertainment-education health-focused soap opera: Exposure and post-discussion in Colombian young adults. *Investig Desarrollo*.16(2):232– 261.
- Belden, C, Birner, R, Asante, F. & Horowitz, L. (2010). *Agricultural extension in Ghana: results of a survey of agricultural extension agents in six districts*. Retrieved from: [https://gssp.files.wordpress.com/2010/05/agricultural\\_extension\\_draft.pdf](https://gssp.files.wordpress.com/2010/05/agricultural_extension_draft.pdf)
- Brown, W.J. (2015). Examining four processes of audience involvement with media personae: Transportation, Parasocial Interaction, Identification, and Worship. *Communication Theory*. 25(3) 259-283.
- Dzadze, P, Osei Mensah, J, Aidoo, R, Nurah, G.K. (2012). Factors determining access to formal credit in Ghana: a case study of smallholder farmers in the AburaAsebu Kwamankese district of central region of Ghana. *Journal of Development and Agricultural Economics*. 4 (14), 416–423.
- Knight, G. P, Carlo, G, Mahrer, N. E, & Davis, A. N. (2016). The socialization of culturally related values and prosocial tendencies among Mexican-American adolescents. *Child development*, 87(6), 1758–1771 <https://doi.org/10.1111/cdev.12634>
- Okunade, E.O. (2007). Effectiveness of extension teaching methods in acquiring knowledge, skills and attitude by women farmers in Osun State-Nigeria. *Journal of Applied Sciences Research*. 3 (4), 282-286.
- Singhal, A. (2004). Entertainment-education through participatory theatre: Freirean strategies for empowering the oppressed. In Singhal, A, Cody, M, Rogers, E. M, & Sabido, M. (Eds.), *Entertainment-education and social change: History, research, and practice*. (pp. 377-398). Mahwah, NJ: Lawrence Erlbaum.
- Tufte, T. (2001). Entertainment–education and participation: Assessing the communication strategy of Soul City. *Journal of International Communication*, 7(2), 25-50.
- Wang, H. & Singhal, A. (2009). Entertainment-Education Through Digital Games. In Ut, R., Cody, M. & Verderer, P. (Eds). *Serious games: Mechanisms and effects*. pp. ZT1-292. NY: Routledge.