

Original Research Article

Farmers' propensity to use reality television shows for information on climate-smart agriculture strategies in southwestern Nigeria

Adeyinka Jesuloba **Oresanya**, Bamidele Rasak **Olajide**

Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ibadan, Nigeria

Correspondence to:

Olajide B. R., Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ibadan; E-mail: rasak.olajide@ui.edu.ng

Abstract

Reality Television Show (RTS), an emerging variant of entertainment education, is renowned for its popularity among audiences all over the world, making it a great medium for conveying targeted educational messages to specific audiences. However, it is yet to be exploited for disseminating agriculture-related concepts such as Climate-Smart Agriculture (CSA). Therefore, this study examined farmers' propensity to use RTS for information on CSA strategies in southwestern Nigeria. A multi-stage sampling procedure was used to select 121 farmers for this study. Using an interview schedule, data were collected on farmers' socio-economic characteristics, sources of information on climate change and CSA, awareness of RTS, perceived constraints, and the propensity of its use for information on climate-smart agriculture strategies. Data were analysed using descriptive (frequencies, percentages, means) and inferential (PPMC) statistics at $p = 0.05$. Farmers were mostly male (55.4%), smallholders (1.6 ± 1.3 ha), and aged 44.9 ± 12.7 years. While most of the farmers (66.0%) used television as a source of information, none of them (0.0%) were aware of any Nigerian RTS used to promote agriculture. The most severe perceived constraints to the use of RTS were poor network reception ($\bar{x} = 161.2$), unstable power supply ($\bar{x} = 160.3$), lack of sponsorship ($\bar{x} = 156.2$), sustainability of the show ($\bar{x} = 154.6$) and language barrier ($\bar{x} = 147.1$). The majority of the farmers (69.4%) had a high propensity to use RTS for information on CSA. Farmers' perceived constraints ($r = -0.196$) significantly correlated with their propensity to use RTS for information on CSA. Agricultural development communicators should focus on using this Entertainment-Education (EE) format in promoting climate-smart agriculture.

Keywords: entertainment education; development communicator; agricultural and climate information; food security

INTRODUCTION

The impact of climate change is increasing all over the world, and agriculture remains one of the most vulnerable sectors to its effects. Africa's vulnerability to climate change, the resultant low food production, and the hike in food prices demand a comprehensive, sustainable approach that will mitigate the effects of climate change while supporting agricultural productivity. Climate-smart agriculture is an approach that seeks to meet this need through its three-pillar

objective of building the resilience of agricultural and food security systems to climate change at multiple levels, reducing greenhouse gas emissions from agriculture, including crops, livestock, and fisheries, and increasing agricultural productivity to support equitable increases in farm income, food security and development (Food and Agriculture Organization, 2013). Climate-smart agriculture is not a specific technology or a set of new universally applied practices such as organic agriculture, but

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rather it entails location-specific assessment of the food security, adaptation and mitigation benefits of diverse agricultural technologies and practices in order to identify those which are most suitable for a given agro-ecological and socio-economic situation, either at the micro level (individual farmer), community or national level (FAO, 2012). Studies have reported low awareness of the principles of climate-smart agriculture among farmers in Nigeria (Terdo and Adekola, 2014; Chinedum et al., 2015) and this necessitates the development of knowledge platforms that will support information and technology sharing in relation to climate-smart agriculture.

Narrative storytelling, which is at the core of Entertainment Education (EE), has long been used to effectively disseminate social messages to target audiences. Through the infusion of educational content with a good dose of entertainment, the EE genre has been used to inspire and spur audiences to action on specific issues. Various studies (Singhal and Rogers, 2004; Adelore et al., 2006; Wang and Singhal, 2009; Adegoju, 2010; Olajide, 2011; Perlman et al., 2013; Singhal et al., 2013, Onuekwe, 2015) have documented the use of EE to address health, agricultural, political and environmental issues. Adegoju (2010) attests to the deployment of EE in *Abule Olokemerin*, a popular EE radio drama used to create awareness and fight the spread of HIV/AIDs in southwestern Nigeria.

An emerging variant of EE is the Reality Television Show (RTS), an entertainment genre that portrays unscripted, real-life situations (either current or historical events and scenarios) and features an unknown cast of individuals who are not professional actors but 'ordinary', everyday people (Roberts, 2015). It uses a host to run the show or a narrator to tell the story and/or set a stage for events about to unfold. RTS is notable for its popularity because of its perception as being 'real' than its scripted counterparts (dramas and soap operas). An example worth mentioning is the show *Big Brother* which is syndicated all over the world. As such, it possesses tremendous potential for conveying educational messages to a specific target audience. RTS is being used to disseminate messages on agricultural technologies and agribusiness in diverse parts of the world [*Farmers Apprentice* (UK), *Kwanda* (South Africa), *Don't lose the plot* (Kenya), *Shamba Shape Up* (Kenya, Tanzania, and Uganda)]. In Nigeria to date, RTS that disseminate information in agriculture include *Naija Farmers*, *Corporate Farmers*, *the Agropreneur*, *the FarmHouse*, and *the Face of Agric* and have featured at various times since 2016. The common denominator for all these RTS on Nigeria's airwaves is their promotion of youth

empowerment projects aimed principally to transform unemployed Nigerian youths to be employers of labour. Also, the RTS in Nigeria has focused on general mobilization for agriculture and broadcast on a national television network of over 200 television stations. The use of RTS for targeted messages especially in relation to climate action and climate-smart agriculture strategies is yet to be explored in Nigeria. Although previous studies (Olajide, 2011; Ladigbolu, 2017) have looked into the use of EE format and specifically soap operas for sourcing agricultural information, there is a dearth of information on farmers' inclination towards the use of RTS for sourcing climate-smart agriculture strategies. Therefore, this study investigated farmers' propensity to use reality television shows for information on climate-smart agriculture in southwestern Nigeria. Specifically, the study:

- i) identified the socio-economic characteristics of farmers;
- ii) examined farmers' sources of information on climate change and climate-smart agriculture;
- iii) ascertained farmers' awareness of the use of RTS for agricultural development;
- iv) ascertained farmers' perceived constraints to the use of RTS for information on climate-smart agriculture; and
- v) established farmers' propensity to use RTS for information on climate-smart agriculture.

Hypothesis

There is no significant relationship between stakeholders' perceived constraints and their propensity to use reality television shows for information on climate-smart agriculture.

MATERIALS AND METHODS

The study was carried out in the southwestern agroecological zone of Nigeria, which lies between longitudes 2°31' and 6°00' E and latitudes 6°21' and 8°37' N. The region has a total land area of 79, 665 km², consisting of six states – Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo – with an estimated population of 32,483,140 (National Bureau of Statistics, 2012). A multistage sampling procedure was used to select farmers through the Agricultural Development Programme (ADP) structure. In the first stage, three states (Lagos, Ogun, and Oyo); representing 50% of the six states in the region, were purposively selected based on the predominance of media houses in these states. At the next stage, 50% of the ADP zones (11 zones in all) from each of the selected states were randomly selected, resulting in six zones. These were Epe and Imota, Ikene

and Abeokuta as well as Oyo and Ibarapa from Lagos, Ogun and Oyo States, respectively. From the selected zones in each state, 20% of the 37 blocks were randomly selected, giving a total of seven blocks. These blocks were Ibeju and Ikorodu (Lagos), Ilewo and Someke (Ogun), and Afijio, Egbeda and Ido (Oyo). Furthermore, 20% of the 52 cells in the selected blocks were randomly selected, making a total of 10 extension cells. The cells were Ibeju Ibeshe and Odogunyan from Lagos, Ishaga-orile and Kobape from Ogun and Akinmorin Jobele, Erunmu, Awaye and Omi-adio from Oyo State. Afterward, a purposive sampling technique was used to select registered arable crop farmers who own or have access to television to give 201 farmers. At the final stage,

60% of the farmers were randomly selected resulting in 121 farmers.

Farmers' propensity to use reality television shows was measured with 20-item statements generated from the key principles of effective edutainment posited by Kiptot et al. (2016) as well as the entry points for initiating CSA practices analysed in terms of the three fundamental objectives of climate-smart agriculture (productivity, adaptation and mitigation) [FAO, 2013]. To obtain a quantitative measure of farmers' propensity, respondents were provided with response options of 'Very willing,' 'Partially willing,' and 'Not willing' assigned scores of 2, 1, and 0, respectively. The maximum score obtainable was 40, while the minimum

Table 1. Distribution of farmers by their socioeconomic characteristics

Characteristics	Category	Frequency	Percentage	Mean
Age	Less than 25 years	5	4.1	44.9±12.7
	25–35 years	26	21.5	
	36–45 years	32	26.4	
	46–55 years	36	29.8	
	Greater than 55 years	22	18.2	
	Total		121	
Sex	Male	67	55.4	
	Female	54	44.6	
	Total	121	100.0	
Marital status	Single	13	10.7	
	Married	101	83.5	
	Divorced	1	0.8	
	Separated	2	1.7	
	Widowed	4	3.3	
	Total	121	100.0	
Level of education	No Formal Education	22	18.2	
	Primary Education	40	33.1	
	Secondary Education	40	33.1	
	Tertiary Education	19	15.7	
	Total	121	100.0	
Cosmopolitaness	Never	8	6.6	
	Weekly	33	27.3	
	Monthly	33	27.3	
	Twice a Year	17	14.0	
	Once a Year	30	24.8	
	Total	121	100.0	
Farm size	Less than 2 hectares	75	62.0	1.6±1.3 ha
	2–4 hectares	40	33.1	
	More than 4 hectares	6	5.0	
	Total	121	100.0	
Years of farming experience	Less than 15 years	40	33.1	21.1±14.5 years
	15–25 years	44	36.4	
	Greater than 25 years	37	30.6	
	Total	121	100.0	

Source: Field Survey; 2018

score was 0. Afterward, an index of scores was generated and a mean score (29.5 ± 10.9) was used to categorise the respondents as having either a high or low propensity to use reality television show for information on climate-smart agriculture strategies. Data were analysed using both descriptive (mean, percentages) and inferential statistics (Pearson's Product Moment Correlation analysis).

RESULTS AND DISCUSSION

Farmers' socio-economic characteristics

Results presented in Table 1 show that a greater percentage of the farmers were male (55.4%) and married (83.5%) with a mean age of 44.9 ± 12.7 years, suggesting that the field of agriculture is still quite male-dominated. This corroborates the report of Olofinsao et al. (2017) that most smallholder farmers in southwestern Nigeria are male and married. There is an

even distribution of farmers having primary education (33.1%) and secondary education (33.1%), with just a few having tertiary education (15.7%). In addition, 93.4% of the farmers travelled outside their homes and community. Having a form of education and interest to travel place farmers in a vantage position for better access to information and a tendency to use Reality Television Shows for their enterprise information sourcing. This is because cosmopolitanism has been strongly associated with the adoption of new media. According to Jeffres et al. (2006), cosmopolites who are more inclined to travel more extensively, particularly outside their locality, use more diverse media sources. Most of the farmers (62.0%) cultivated crops on less than 2 hectares of land with an average farming experience of 21.1 ± 14.5 years. This is an indication that the farmers are smallholder farmers, as specified by FAO (2010) but have an appreciable farming experience.

Table 2. Distribution of farmers by awareness of the use of reality television show for agricultural development

Variables	Category	Frequency	Percentage
Have you heard of a reality television show?	No	84	69.4
	Yes	37	30.6
	Total	121	100.0
From where did you hear about the reality television show?*	Radio	6	5.0
	Television	30	24.8
	Newspaper	4	3.3
	Family and friends	3	2.5
	Internet	2	1.7
Since when have you known about reality television show?	Never	84	69.4
	6–10 years	21	17.4
	11–15 years	16	13.2
Have you ever watched a Nigerian reality television show?	Total	121	100.0
	No	89	73.6
	Yes	32	26.4
How often do you watch the reality television show?	Never	89	73.6
	Rarely	12	9.9
	Sometimes	16	13.2
	Always	4	3.3
	Total	121	100.0
What kind of activities or development issue(s) did the Nigerian reality show you watched promote?*	Entertainment	18	14.9
	Health	3	2.5
	Talent hunt	25	20.7
	Social values	6	5.0
	Agriculture	0	0.0
Do you know any kind of Nigerian reality television show used to promote agriculture?	No	121	100.0
	Yes	0	0.0

*Multiple responses (n=121)
Source: Field Survey; 2018

Table 3. Distribution of farmers by perceived constraints to the use of reality television show for climate-smart agriculture

Constraint	Not a constraint	Mild constraint	Severe Constraint	Weighted score
Poor network reception	10.7	17.4	71.9	161.2
Unstable power supply	15.7	8.3	76.0	160.3
Lack of sponsorship	15.7	12.4	71.9	156.2
Lack of sustainability of the show	13.2	19.0	67.8	154.6
Language barrier	15.7	21.5	62.8	147.1
Unrelatable climate-smart agricultural information	11.6	41.3	47.1	135.5
Unfavourable time of broadcast	9.9	47.1	43.0	133.1
Uninteresting RTV series	11.6	47.1	41.3	129.7
Unpopular actors in the show	49.6	19.8	30.6	81.0
Constraint category	Frequency	Percentage	Mean ± SD	Index
Low	48	39.7	12.6±4.5	0-12.5
High	73	60.3		12.6-18
Total	121	100.0		

Weighted mean score =139.9
 Source: Field Survey; 2018

Farmers’ sources of information on climate change and climate-smart agriculture

Figure 1 shows that over three-quarters of the farmers sourced their information from radio (84.3%), fellow farmers (81.0%), and family and friends (78.5%), while almost two-thirds used television (66.1%) and extension agents (66.1%) with very few (16.5%) using the Internet as their source of information. The implication of this is that even a considerable proportion of the farmers regularly use television as their source of information, radio, fellow farmers, friends, and family still represent the major means by which farmers obtain information on climate change and other agriculture-related issues.

This is consistent with the findings of Adebisi-Adelani and Oyesola (2014) and Olaniyi and Ogunkunle (2018) who reported radio, family members, friends, and neighbours as farmers’ major sources of information on climate change, agriculture, and nutritional issues. The considerable proportion of the farmers making use of the mobile phone as a source of information could encourage the integration of multimedia platforms (such as radio shows, mobile phone messages, and Internet videos, e.g. Youtube) for the reinforcement of educational messages disseminated via reality television shows in order to enhance its effectiveness.

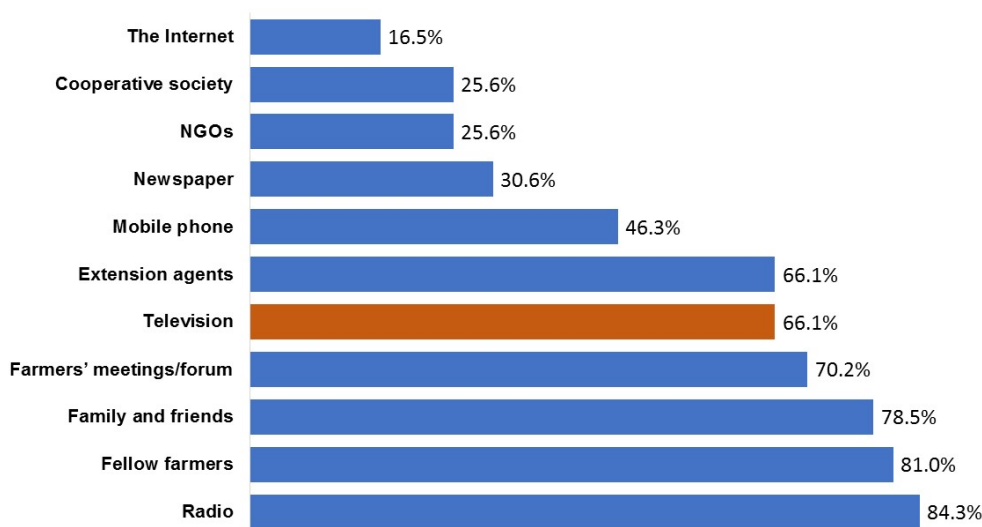


Figure 1. Distribution of farmers by sources of information on climate change and climate-smart agriculture
 Source: Field Survey; 2018

Table 4.

a / Farmers' level of propensity to use reality television show for information on climate-smart agriculture strategies

Propensity category	Frequency	Percentage	Mean ± SD	Index
Low	37	30.6	29.5±10.9	0-29.4
High	84	69.4		29.5-58
Total	121	100.0		

Source: Field Survey; 2018

b / Distribution of farmers by their propensity to use reality television show for information on climate-smart agriculture strategies

Statements	Not willing	Partially willing	Very willing
How willing are you:			
To watch reality TV shows on climate-smart agriculture with other farmers if you don't have a personal television?	21(17.4)	20(16.5)	80(66.1)
To watch a live series of a fellow farmer's farm being improved on?	15(12.4)	21(17.4)	84(69.4)
To watch reality TV shows on climate-smart agriculture if fellow farmers don't use it?	12(9.9)	41(33.9)	68(56.2)
To watch reality TV shows on climate-smart agriculture if it is compatible with your cultural values?	17(14)	10(8.3)	94(77.7)
To watch reality TV shows on climate-smart agriculture if the time of broadcast is not primetime?	112(92.6)	5(4.1)	4(3.3)
To watch reality TV shows on climate-smart agriculture if there is a way to ask further questions pertaining the topic of each episode?	16(13.2)	13(10.7)	92(76)
To watch reality TV shows on climate-smart agriculture if it stimulates group discussion with your fellow farmers?	16(13.2)	7(5.8)	98(81)
To watch reality TV series focused on addressing both climate-smart agriculture and non-farm issues affecting you?	15(12.4)	23(19)	83(68.6)
To watch reality TV shows on climate-smart agriculture if it is humorous?	19(15.7)	46(38)	56(46.3)
To watch reality TV shows for information on climate-smart agriculture if the episodes are short (within 20-30 minutes)?	15(12.4)	30(24.8)	76(62.8)
To continue using reality TV shows to source information if the climate-smart agriculture promoted are easy to use?	14(11.6)	15(12.4)	91(75.2)
To continue to watch if the climate-smart agriculture promoted are credible?	15(12.4)	11(9.1)	95(78.5)
To watch reality TV shows for information on the use of higher-yielding, drought/salinity-tolerant, short duration crop for terminal drought escape?	13(10.7)	15(12.4)	93(76.9)
To watch reality TV shows for information on rainwater harvesting and supplemental irrigation of dry land crops?	14(11.6)	27(22.3)	80(66.1)
To watch reality TV shows for information on improved scheduling and application of small-scale irrigation water?	15(12.4)	43(35.5)	63(52.1)
To watch reality TV shows for information on how to effectively manage soil fertility?	16(13.2)	39(32.2)	66(54.5)
To watch reality TV shows on the use of on-farm trees as shelterbelts and windbreaks in preventing floods?	14(11.6)	35(28.9)	72(59.5)
To watch reality TV shows for information on strategies that increase tree cover and reduce deforestation that causes climate change?	15(12.4)	13(10.7)	93(76.9)
To use reality TV shows for information aimed at educating farmers on crop insurance?	14(11.6)	47(38.8)	60(49.6)
To watch reality TV shows for information on the use of renewable energy such as bioenergy and solar energy as energy sources for your crop production?	14(11.6)	23(19)	84(69.4)

Source: Field Survey; 2018

Table 5. Relationship between stakeholders' perceived constraints and their propensity to use reality television show for information on climate-smart agriculture

Variables	r-value	p-value	Decision
Propensity*Farmers' perceived constraints	-0.196	0.031	Significant

Source: Field Survey; 2018

NS = Not significant ($p > 0.05$)

Farmers' awareness of the use of reality television shows for agricultural development

From the information in Table 2, it is clear that most farmers are not aware of the reality television show and its use for promoting agriculture, as 69.4% of them had never heard of the reality television show, a greater percentage (73.6%) had never watched any Nigerian reality television show and none (100.0%) knew of any Nigerian reality show used to promote agriculture. While reality television as an entertainment genre is not a recent phenomenon, its use as an EE medium for community and agricultural development is an evolving trend, particularly in developing countries. Reality television shows, such as *Shamba Shape Up* and *Don't Lose the Plot* are already being used in East Africa to promote agriculture. These shows are aired both locally through indigenous television stations and globally via the Internet. Perhaps, the low usage of the Internet among the farmers could be a contributor to their low awareness.

Farmers' perceived constraints to the use of reality television shows for information on climate-smart agriculture

As shown in Table 3, poor network reception (\bar{x} = 161.2), unstable power supply (\bar{x} = 160.3), lack of sponsorship (\bar{x} = 156.2), and sustainability of the show (\bar{x} = 154.6), and language barrier (\bar{x} = 147.1) were regarded as severe constraints to the use of reality television show for sourcing information on climate-smart agriculture whereas uninteresting reality television series (\bar{x} = 129.7) and using unpopular actors in the show (\bar{x} = 81.0) were not seen as serious constraints. This is consistent with several studies (Yahaya and Olajide, 2003; Umeh, 2008; Abubakar et al., 2009; Familusi and Owoeye, 2014; Ani et al., 2015; Olajide and Oresanya, 2016) that have identified erratic power supply, poor television signals, language barrier among other severe constraints hindering the use of television for sourcing agricultural information. Moreover, the majority of the farmers (60.3%) were of the opinion that the constraints to the use of reality television shows for sourcing information on climate-smart agriculture are high.

Farmers' propensity to use reality television shows for information on climate-smart agriculture

Results in Table 4a show that more than two-thirds of the farmers (69.4%) had a high propensity to use reality television shows for sourcing information on climate-smart agriculture. As shown in Table 4b, most of the farmers were very willing to watch reality television shows to source information on climate-smart

practices such as the use of higher-yielding, drought/salinity-tolerant, short-duration crops for terminal drought escape (76.9%), rainwater harvesting and supplemental irrigation of dry land crops (66.1%), improved scheduling and application of small-scale irrigation water (52.1%), effective soil fertility management (54.5%) and the use of renewable energy such as bioenergy and solar energy as energy sources for crop production (69.4%). The respondents were still willing to watch reality television show even if they do not have a personal television (66.1%) on the condition that the shows are credible (78.5%), compatible with their cultural values (77.7%), stimulate group discussion with their fellow farmers (81%) and the climate-smart strategies promoted are easy to use (75.2%). However, they were not willing to watch if the time of broadcast is not primetime (92.6%). This is consistent with the findings of Munene et al. (2016) that farmers listed proper timing of shows as one of the important factors considered when choosing a television agricultural show to watch. This suggests that any reality television show targeted towards the farmers must be aired during periods when farmers would be home from the farm.

Relationship between farmers' perceived constraints and their propensity to use reality television shows for information on climate-smart agriculture

Table 5 shows that there was a negative correlation between farmers' perceived constraints ($r = -0.196$) and their propensity to use reality television shows for information on climate-smart agriculture. This denotes that farmers are less enthusiastic to use this medium as long as the constraints remain formidable.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this study, farmers in southwestern Nigeria are eager to use reality television shows for information on climate-smart agriculture despite their low awareness of its use for agricultural development. The extent of their willingness is contingent on their perceived constraints to the use of the medium. This implies that in spite of palpable constraints, they figure that if the constraints are addressed, the reality television show could serve a veritable purpose in pushing the agricultural development agenda, including fighting challenges posed by climate change. Therefore, the various challenges ranging from poor network reception, unstable power supply, language barrier, lack of sponsorship, and sustainability of reality television shows would have to be addressed for effective

use of reality television shows for information on climate-smart agriculture.

ACKNOWLEDGMENT

The authors acknowledge the contributions of faculty members of the Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ibadan during the postgraduate pre and post-data seminars.

CONFLICT OF INTEREST

The authors declare no conflict of interest with respect to the content of this manuscript.

ETHICAL COMPLIANCE

All ethical provisions with respect to the administration of instruments, analysis of data, and report writing were duly observed.

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Received: November 1, 2022

Accepted after revisions: May 16, 2023