agriculture

MDPI

Article

Access to Dry Season Agricultural Content in the Broadcast Media and Dry Season Irrigation Farming among Smallholder Farmers in Nigeria

Charity A. Ben-Enukora [1,*], Agwu A. Ejem [1], Charity O. Aremu [2], Babatunde K. Adeyeye [3] and Ayomide F. Oloruntoba [1]

[1] Department of Mass Communication, Landmark University, Omu-Aran 251103, Nigeria; ejem.agwu@lmu.edu.ng (A.A.E.); oloruntoba.ayomide@lmu.edu.ng (A.F.O.)
[2] Department of Crop and Soil Science, Landmark University, Omu-Aran 251103, Nigeria; aremu.charity@lmu.edu.ng
[3] Department of Mass Communication, Covenant University, Ota 112233, Nigeria; babatunde.adeyeye@covenantuniversity.edu.ng
* Correspondence: ben-enukora.charity@lmu.edu.ng or benenukoracharity@gmail.com; Tel.: +234-80-6886-2939

Abstract: Inaccessibility to information could hinder the adoption of dry season agriculture which is very significant to ending the spate of food insecurity in Nigeria. This cross-sectional survey examined access to broadcast media agricultural content and the effect of such information on dry season agriculture practice among smallholder farmers in Nigeria's Federal Capital Territory (FCT). Participants consisted of 381 smallholder farmers selected from rural settlements in Kuje and Kwali Area councils, through a multi-stage sampling procedure. Data for the study was generated via a self-designed questionnaire. The findings of this study show that access to the broadcast media agricultural content is high (94.2%) in the FCT and the majority (83.1%) of the farmers are particularly exposed to agricultural programmes on dry season farming. However, the regularity of exposure to such programmes is considered rare/occasional by a sizable proportion (44.8%) of the selected farmers. The research further confirms the general acceptability of the broadcast programmes on dry season agriculture but the major snag is that the majority (>50%) of the farmers think that the time at which the information is broadcast is inappropriate. In terms of the practical implications of the programmes, findings also revealed that <50% of the respondents believe that exposure to broadcast media content on dry season farming has helped them to improve their knowledge of dry season farming practices. Nonetheless, most respondents (>50%) remain adamant that dry-season farming is not achievable and productive; therefore, they have not engaged in dry season irrigation agriculture. We concluded that the knowledge gained from the dry season agricultural programmes in the broadcast media is not sufficient for farmers to successfully engage in dry season irrigation farming. The study recommends a long-term and sustained media campaign on dry season farming, the use of interactive programme content, and rescheduling agricultural programmes to farmers' preferred time could yield the desired impact on dry season irrigation farming and food security in Nigeria.

Keywords: agricultural content; broadcast media; dry season agriculture; food security; irrigation farming; smallholder farmers; Nigeria

check for updates

Citation: Ben-Enukora, C.A.; Ejem, A.A.; Aremu, C.O.; Adeyeye, B.K.; Oloruntoba, A.F. Access to Dry Season Agricultural Content in the Broadcast Media and Dry Season Irrigation Farming among Smallholder Farmers in Nigeria. *Agriculture* **2023**, *13*, 1139. https://doi.org/10.3390/agriculture13061139

Academic Editor: Christos Karelakis

Received: 27 October 2022
Revised: 27 November 2022
Accepted: 1 December 2022
Published: 29 May 2023

Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

The desire for food security has remained a perennial problem in Nigeria following the collapse of the agricultural sector as a result of the oil boom [1–3]. The trend of food insecurity in Nigeria is still a huge problem (see Figure 1), irrespective of previous agricultural policies aimed at increasing food productivity and reducing hunger in the country.

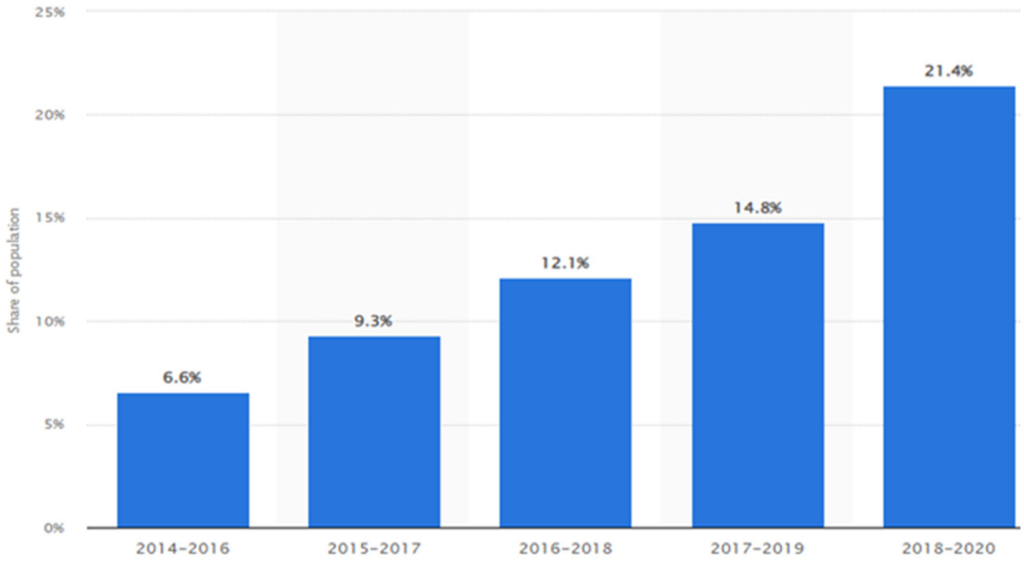


Figure 1. Prevalence of severe food insecurity in Nigeria from 2014 to 2020 [4].

Various researchers opine that the inefficient farming models adopted by the smallholder farmers who constitute the largest population of farmers in Nigeria are a major cause of perennial food insecurity [5–7]. Most smallholder farmers in Nigeria have been restrained to rainfed cultivation irrespective of abundant irrigable water resources spread across a variety of agroecological zones [8,9]. Overreliance on rainfed agriculture results in variability in food production, seasonal food shortages, and hikes in food prices during the dry season [10]. Hence, agricultural products become abundant during the rainy season, resulting in a surplus of food, crops, and vegetable and, therefore, causing prices to fall and wastage of farm products due to lack of storage facilities. Conversely, the inability to participate in large-scale production in the dry season results in food shortages and an increase in food prices [11,12]. With food priced beyond the reach of many, the threat of seasonal hunger and increased malnutrition have remained issues of national priority [13]. Thus, all year-round crop production would combat the negative consequences of rainfall variability and promote food security [1,10].

To achieve this, the federal government launched the Agricultural Transformation Agenda in 2014 to re-engage key stakeholders in crop production of food with the Central Bank of Nigeria's (CBN) assistance through the N20 billion-naira Anchor Borrowers' Programme support for dry season irrigation farming [14–16], to ensure the availability of food all year round, which is a significant factor for the actualization of the Sustainable Development Goals 1 (Zero poverty), 2 (Zero Hunger), and 3 good health and wellbeing [7,17]. Thus, food security is intertwined with other SDGs. As such, tackling Nigeria's food security challenges is key to meeting the demands of the SDGs in 2030 and the African Development Agenda, Agenda in 2063 [1,18,19].

Dry season irrigation farming in Nigeria entails that land preparation close to a water freshwater source is carried out between late September and October, followed by planting operations which often start in late October and run until late March [11]. Experts have identified that a wide range of crops such as rice, maize, tomatoes, watermelon, garden egg, pumpkin, cucumber, carrots, peppers, sweet potatoes, onions, okra, spinach, eggplant, melon, and cotton can be planted in the dry season [20].

Success in dry season agricultural production and productivity is facilitated by the use of drought-resistant crops as well as efficient and effective irrigation systems [12,21]. Various studies assert that irrigation farming is profitable as it yields high agricultural output [8,9,12].

Irrigation policy in developing nations such as Nigeria has shifted from large-scale public irrigation systems to private and small-scale irrigation due to high cost of construction and maintenance of comprehensive irrigation projects [12,22]. Small-scale irrigation

also known as smallholder irrigation or farmer-led irrigation is self-supplied irrigation technology owned and managed by peasant farmers or small groups of farmers [12]. Effective utilization of low-cost small-scale irrigation improves food production as well as household income and nutrition [18,23–29].

All forms of water can be used for irrigation purposes. Water can be collected with pulley buckets, and motor pumping or drainage channels from groundwater such as wells, boreholes, stagnant pools, dams, streams, and rivers, and surface runoff during rains, as well as water conservation practices such as rainwater, sewage, and wastewater harvesting [25,30–33]. Hence, effective dissemination of information in this regard is vital in supplying appropriate knowledge, information, and skills to users [19,34]. Thus, information is key to achieving increase in food supply, the best prices for food items all-year-round, reducing reliance on food importation, increase in National GDP through food export, and improving the quality of land use. Mass information sharing in this regard could be achieved through the broadcast media.

The broadcast media (radio and television) are useful in reaching a wider range of audiences expeditiously and parsimoniously compared to print and interpersonal communication channels. Broadcast media are especially relevant and accessible to remote communities, cultural and linguistic minorities, as well as poor and illiterate populations [35]. Radio and television act as intermediaries for farmers' access to knowledge about new farming technologies and their applications [36,37], as part of their public service responsibility [38].

The broadcast media have been useful in disseminating government policies in Nigeria including the agricultural revolution agenda as proposed by President Buhari's administration (2015–2023). Therefore, it is expected that smallholder farmers would have access to the irrigation farming models and be persuaded to engage in dry season agriculture. Access to strategic advocacy information about irrigation technologies for dry season agriculture could foster positive attitudes and behaviour towards the practice.

While studies on dry season vegetable and crop farming which share parallel methodological underpinnings as the current study abound in the literature [39–44], little is known about the role of the broadcast media in promoting dry season irrigation farming in Nigeria, especially among smallholder farmers who contribute 70–80% of the production of the world's food supply [45,46]. Furthermore, none of the studies explored dry season farming in the FCT which is characterized by a blistering dry season that is almost impossible to sustain agriculture without special skills and knowledge in irrigation construction and management. Therefore, the study generates empirical evidence on the impact of broadcast media content on dry season agriculture in Nigeria. The objectives of this study were to; determine whether broadcast media agricultural messages are accessible to smallholder farmers in FCT; assess the level of exposure to broadcast media content on dry season Irrigation farming practices; establish the level of acceptance of broadcast media content on dry season farming, and ascertain whether access to broadcast media agricultural content on dry season farming influence the adoption of dry season irrigation farming. Understanding the nexus between access to broadcast media content on dry season agriculture and the adoption of dry season irrigation farming is significant for upscaling broadcast media communication interventions for the actualization of sustainable agriculture and food security in Nigeria.

2. Theoretical Framework

A relevant communication theory that formed the theoretical basis for this study is the Diffusion of Innovation model.

2.1. Diffusion of Innovation Theory

Diffusion of Innovation Theory according to Rogers [47] analyses how innovative ideas gain momentum and diffuse (or spread) in a social system over time. The main idea of the theory is that people make use of the mass media for various reasons and to satisfy

various indulgences. Therefore, when promoting innovation to a target population, it is important to understand the characteristics of the target population that facilitate or hinder the adoption of the innovation. Hence, Rogers identified five categories of innovation adopters, five steps in the innovation adoption process (see Figure 2), and five factors that determine the speed at which people adopt new ideas (see Figure 3) [48].

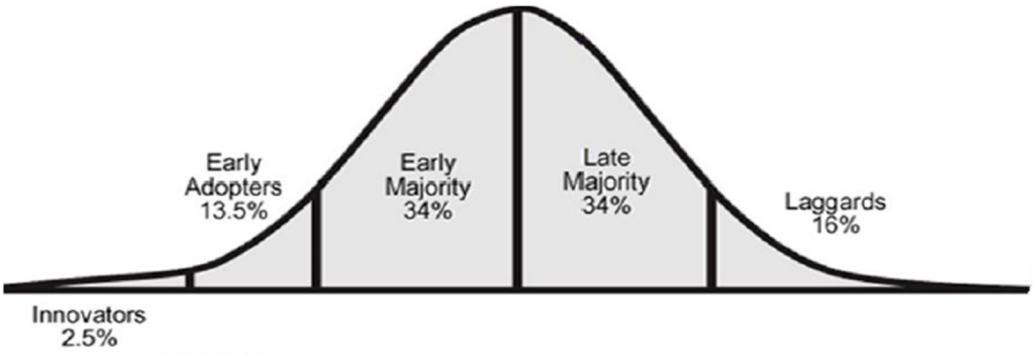


Figure 2. Categories of innovation adopters. Source: Rogers [46].

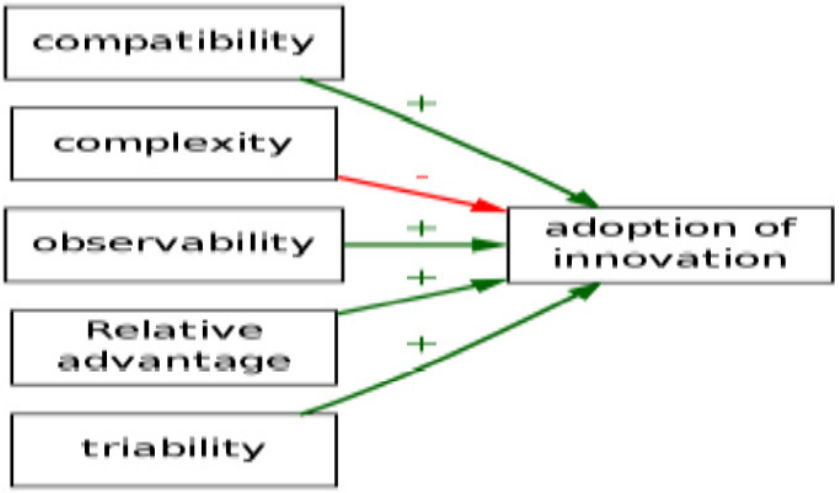


Figure 3. Factors that Influence the Speed of Innovation Adoption. Source: [49].

2.1.1. Adopter Categories

Categories of innovation adopters range from the innovators who are venturesome and interested in new ideas and willing to take risks, the early adopters who enjoy leadership roles and embrace change opportunities, and the early majority who are rarely leaders but do adopt new ideas before the average person, and the late majority of whom are skeptics of change. Thus, they will only adopt an innovation after it has been tried by the majority. The fourth group are the laggards who are bound by tradition and very conservative persons who are difficult to persuade [47,49].

2.1.2. The Process of Innovation Adoption

In addition to the five adopter categories, Rogers maintained that innovation adoption is a step-by-step process. He enlisted another five steps that people usually pass through in an attempt to adopt a new idea. These progressive steps include; the stage of acquiring awareness and knowledge, persuasion, decision-making, implementation, and confirmation [47,49].

2.1.3. Factors That Influence the Speed of Innovation Adoption

How quickly a new idea is embraced is determined by five factors including; compatibility, complexity, observability, relative advantage, and trialability, according to Rogers.

The implication is that the relative advantage of a new idea over an existing one can motivate people to adopt the new idea very fast. Additionally, ideas that are compatible with the original way of life, culture, or lifestyle of individuals who are exposed to innovative information could be easily adopted compared to incompatible novel ideas. More so, new ideas that are less complex, and easy to try out and observation of the outcomes of a new idea facilitate innovation adoption.

Notably, some scholars have observed that other factors such as communication channels, opinion leaders, population traits, existing social structure, and infrastructure, all determine the speed of innovation adoption beside Rogers's assumptions [48].

Even though informal or traditional irrigation is practiced by peasant farmers across Africa [23,50], a modern irrigation system for dry season farming is a novel idea promoted by the government to ensure adequate food supply all year round in Nigeria. Therefore, framers who are exposed to various methods of irrigation construction and operations, and engage in dry season irrigation farming could be categorised into the adopter categories as described by Rogers. More so, the farmer's position in the adoption process would help to determine the next line of communication intervention. Furthermore, identifying the factors that limit the speed of adoption of dry season farming would enable the change agents to identify the challenges that farmers encounter in the bid to adopt the dry farming method. The theory highlights the role of communication channels and population characteristics in understanding farmers' adoption of dry season irrigation farming initiatives to enhance food availability, reduction of hunger and poverty, and malnutrition in Nigeria.

3. Materials and Methods

3.1. Study Area

This study was conducted in the FCT, Abuja, located in North Central Nigeria. Similar to other states in Northern Nigeria, the FCT is an arid region with insufficient rainfall as depicted in Figure 4.

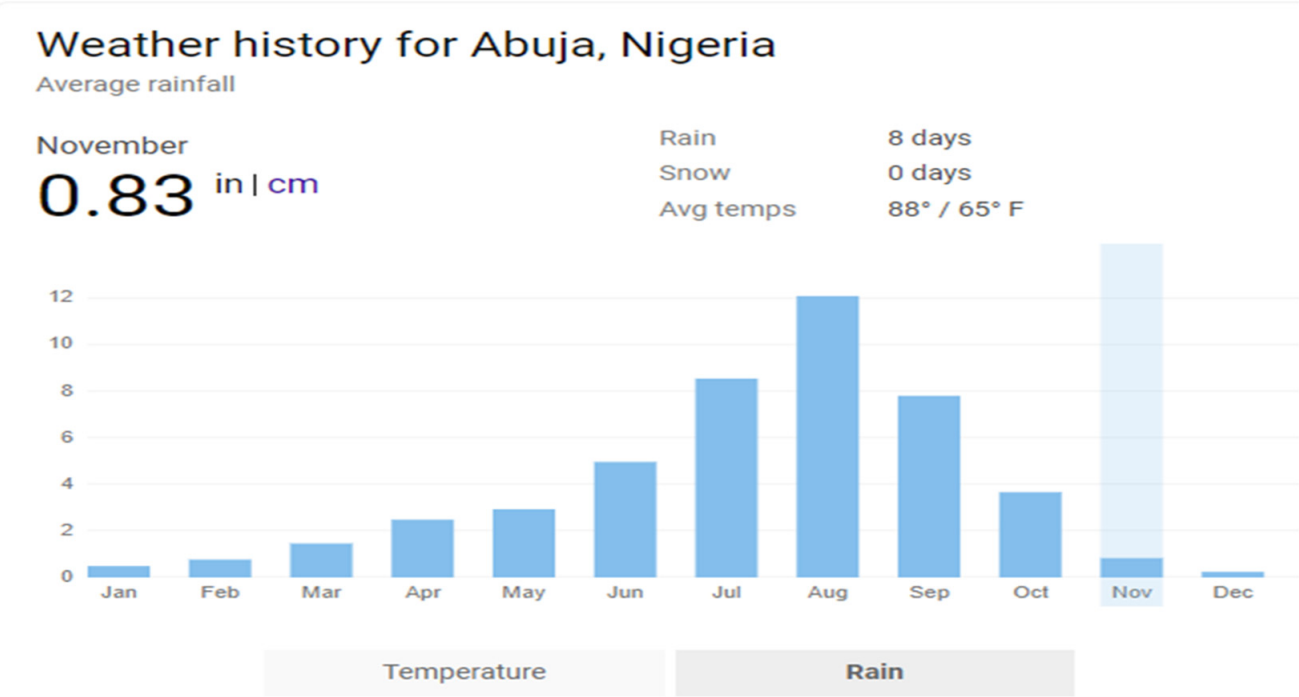


Figure 4. The pattern of annual rainfall in FCT, Abuja, Nigeria. Source: [51].

Most smallholder farmers remain inactive after harvest in December until the gradual return of rainfall in June of the subsequent year [52]. The prolonged dry weather in the study area negatively impacts crop production and productivity, resulting in seasonal

hunger, reduction of household income of farmers, and malnutrition as experienced in other subtropical regions [13,53].

Nigeria's FCT comprises of six Area councils as depicted in Figure 5, but the Kuje and Kwali Area Councils were purposively selected for this study, due to the high concentration of smallholder farmers in those areas.

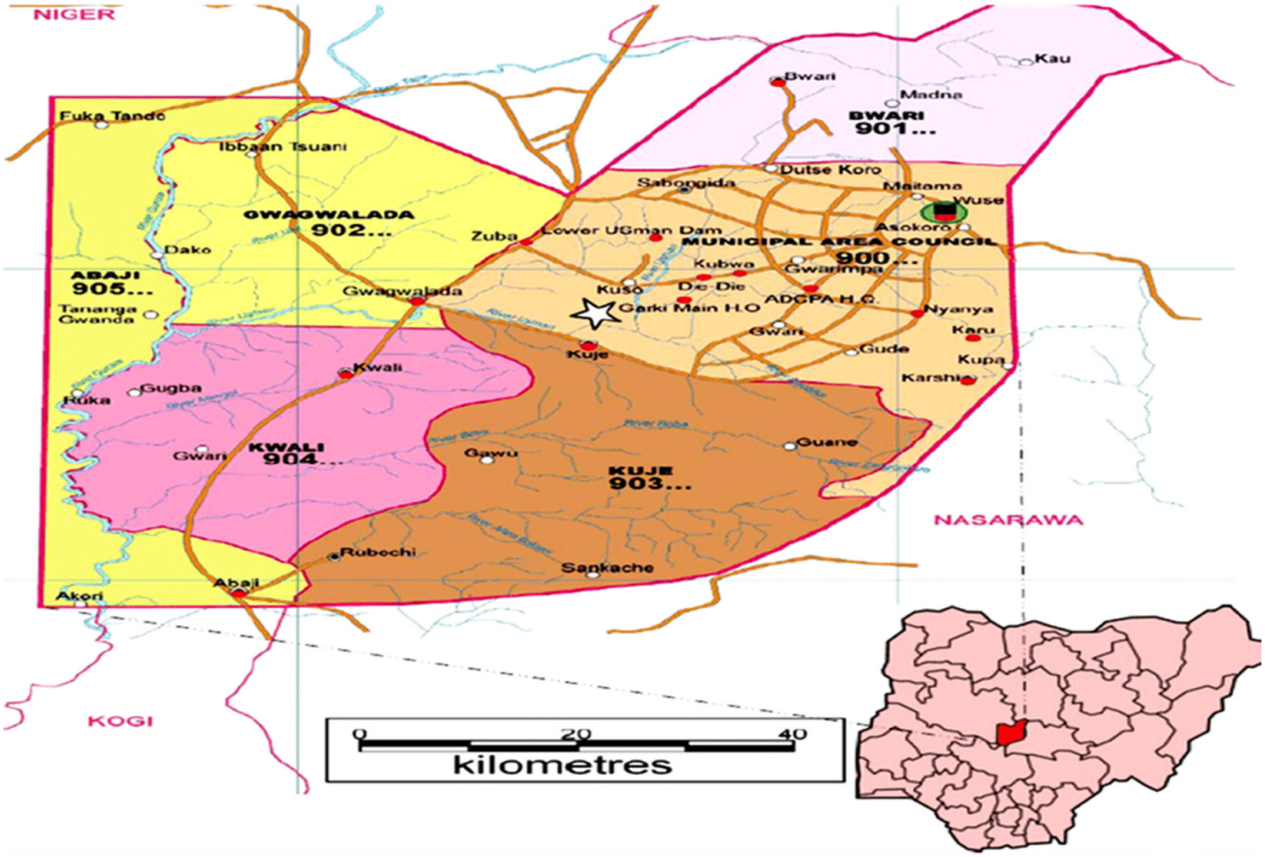


Figure 5. Map of Nigeria indicating the Study Area and the selected Area Councils.

The population of the selected areas (Kuje and Kwali) stands at 97,367 and 85,837 respectively [54], giving a total of 183,204 residents. The FCT has a substantial farming population [55,56], but the actual population of smallholder farmers among the residents is unknown, due to the unavailability of data in the study area.

3.2. Research Design

The study adopted a cross-sectional research design. The descriptive survey method was employed in generating data from randomly selected smallholder farmers' households.

3.3. Sample Size and Sampling Procedure

The sample size for this study was determined by employing the formula for determining sample size from an infinite population in cross-sectional studies/surveys. Various formulas of sample size calculation for an infinite population yielded 384 as an appropriate sample for the study [57,58]. Hence, the study participants consisted of 384 smallholder farmers selected from two area councils in the FCT.

The multi-stage sampling procedure was employed in the selection of communities, villages, households, and eligible respondents that participated in this study. At first, the Kwali and Kuje Area Councils were purposively selected as stated earlier. In the second stage, a community was randomly selected from each Area Council through a simple random method. The names of all the communities within each area council were listed on

a paper. It was then folded and tossed in separate baskets before the random selection of a community from each Area Council.

In stage three, the researcher engaged the community's heads/leaders for proper identification of the strata in the selected communities and identification of households where farmers reside in each stratum. A census of all households was taken which formed the sampling frame.

In the fourth stage, every 5th household was systematically selected for the study. A replacement was made where farmers in any selected household were not willing to respond to the questionnaire.

Lastly, a list of farmers within the selected households was drafted to guide the selection of one eligible respondent. The balloting method was employed to select one respondent from every selected household with more than one farmer, and only farmers in a household automatically qualified for the study.

3.4. Survey Instrument

Data for this study were generated through a self-designed questionnaire. The questionnaire comprised of two sections. The demography-based questions were captured in Section 1, while Section 2 focused on close-ended multi-choice and Likert scale questions relating to the research questions. The independent variable (exposure to broadcast media agricultural content) was measured with the accessibility of agricultural messages on radio and/or television and the frequency of exposure to such content. Conversely, the independent variable message acceptance was measured with the aid of five (5) point Likert's scale using 5 items including; whether the content is informative, educative and interesting, whether the timing is appropriate and the level of belief in dry season farming and dry season farming practice was measured as the level of adoption of dry farming practice using the (5) point Likert scale.

A pretest of the survey instrument was conducted using 20 participants (representing 5.2% of the sample size). Statistical reliability test of the instrument conducted showed a Cronbach Alpha coefficient of 0.813. The result shows that the instrument was reliable.

3.5. Data Collection

The study was conducted only on Sundays as the farmers go to their farmlands during the weekdays. The study implementation was carried out on 12 Sundays, from 13 March–29 May 2022.

Instrument for the study was distributed through the face-to-face method. An indigene of the study area was recruited as a research assistant to interpret the questionnaire items in native dialects to ensure maximum comprehension of the questions by the respondents. The research assistant read out all the items in the questionnaire and also entered the responses to reduce the chances of error. The assisted method of generating data was deemed appropriate because of the educational level of the respondents. A total of three hundred and eighty-one (381) copies (out of the 384 copies of the questionnaire distributed) were returned and certified valid for the analysis. This represents a 95.2% response rate.

3.6. Respondents' Demographic Analysis

Table 1 illustrates that most respondents in this study are young adult farmers. This implies that most of the respondents are in their prime time of maximum engagement in farming activities. The data depicts that male respondents dominated the study sample and the majority of the respondents are illiterates who cannot read and write. Therefore, a research assistant was engaged to interpret the questionnaire items in the local dialect while the responses were recorded by the research assistant as earlier mentioned. The data also illustrate that most (61.1%) respondents in this study are married. Hence, they are likely to engage in family-based farming which is believed to play a key role in the 2030 Sustainable Development Agenda of food security [59].

Table 1. Distribution of Respondents' Demographic Variables.

Age	Below 18	12	3.1
	18–25	78	20.5
	26–32	97	25.5
	33–39	109	28.6
	40 years and above	85	22.3
	Total	381	100.0
Gender	Male	206	54.1
	Female	175	45.9
	Total	381	100.0
Highest educational level	Primary	106	27.8
	Secondary	103	27
	Tertiary	56	14.7
	Non-Formal Education	116	30.4
	Total	381	100.0
Marital status	Married	233	61.1
	Single	114	30.0
	Divorced/Separated	34	8.9
	Total	381	100.0

Source: (2022 survey data).

4. Results

4.1. Access to Broadcast Media

The results in Table 2 demonstrate that radio and television are accessible to the study participants, even though the majority of them have more access to radio. This result was expected as radio has remained the most accessible media to the rural population and the companion of farmers in Africa [60].

Table 2. Distribution of Respondents' most accessible broadcast medium.

What is the most accessible source of information between radio and television?		
Radio	232	60.9
Television	149	39.1
Total	381	100.0

Source: (2022 survey data).

4.2. Access to Broadcast Media Agricultural Messages among Smallholder Farmers in the FCT

The data in Table 3 show that the majority (94.2%) of the respondents in this study access agricultural messages through the broadcast media (radio or television). Therefore, it was reassured that they would give objective responses to the inquiry.

The data in Table 4 demonstrate that all the respondents in this study have access to agricultural messages through other communication channels besides the broadcast media (radio or television) but interpersonal communication channels is the major alternative to broadcast media agricultural content. This implies that the broadcast media (radio and television) are not solely responsible for the respondents' knowledge of dry season farming.

Table 3. Respondents' exposure to agricultural messages on radio or television.

Have you heard or seen any information about agriculture/farming on radio or television?		
Yes	362	94.2
No	15	3.9
Not sure	4	1.0
Total	381	100.0

Source: (2022 survey data).

Table 4. Distribution of other communication channels from which the respondents access agricultural information.

Other sources of agricultural information		
Newspaper	24	6.3
Internet	36	9.5
Friends/family/Neighbours	102	26.8
Farm Extension Officers	77	20.2
Farmers' Cooperative Society	142	37.2
Total	381	100.0

Source: (2022 survey data).

4.3. Exposure to Broadcast Media Agricultural Content on Dry Season Irrigation Farming Techniques among Smallholder Farmers in FCT

Table 5 shows that most (83.1%) respondents out of the 362 sampled smallholder farmers who accessed agricultural programmes from radio or television have been exposed to information about dry season irrigation farming.

Table 5. Distribution of respondents' access to radio or television messages on dry season irrigation farming.

Access to radio or television messages on dry season irrigation farming		
Yes	301	83.1
No	21	5.8
Not sure	40	11.0
Total	362	100.0
Frequency of access to radio or television agriculture messages about dry season irrigation farming		
0	61	16.9
Daily	16	4.4
Twice weekly	20	5.5
Weekly	18	5.0
Monthly	24	6.6
Twice Monthly	47	13.0
Rarely/occasionally	135	37.3
Can't say	41	11.3
Total	362	100

Source: (2022 survey data).

At this juncture, we envisaged that the judgement of participants who have access to media content on dry season irrigation farming would be reasonable to proceed with the remaining items on the questionnaire whereas others were asked to stop. Only 301 respondents continued the exercise. Therefore, zero (0) was used to represent the discontinuation of responses.

Out of the 301 respondents, the result shows that the broadcast media content on dry season agriculture is rarely/occasionally accessible to most (37.3%) of them. This data suggest that broadcast media may have sparsely disseminated messages about dry season irrigation farming or most respondents may have missed the programmes if they are constantly available on the airwaves.

4.4. Acceptance of Broadcast Media Agricultural Content on Dry Season Farming among Smallholder Farmers in the FCT

The level of respondents' acceptance of broadcast media agricultural content on dry season farming is presented in Table 6.

Table 6. Distribution of respondents' acceptance of broadcast media agricultural content on dry season farming.

Agricultural programmes on radio and TV about dry season farming are very informative		
Responses	Frequency	Percentage
0	61	16.9
Agree	76	21.0
Strongly Agree	112	30.9
Undecided	32	8.8
Disagree	33	9.1
Strongly Disagree	48	13.3
Total	362	100.0
Exposure to radio or television agricultural programmes about dry season farming will help farmers to learn how to engage in dry season irrigation farming		
0	61	16.9
Agree	86	23.8
Strongly Agree	71	19.6
Undecided	30	8.3
Disagree	32	8.8
Strongly Disagree	82	22.7
Total	362	100.0
Enough knowledge about dry season irrigation farming can be obtained from agricultural messages on radio or television stations		
0	61	16.9
Agree	63	17.4
Strongly Agree	42	11.6
Undecided	56	15.5
Disagree	51	14.1
Strongly Disagree	89	24.6
Total	362	100.0

Table 6. *Cont.*

Radio and television agricultural programmes on dry season irrigation farming are interesting		
0	61	16.9
Agree	61	16.9
Strongly Agree	67	18.5
Undecided	56	15.5
Disagree	72	19.9
Strongly Disagree	45	12.4
Total	362	100.0
The time of the day that the agricultural programmes about dry season irrigation farming are aired on radio or TV is appropriate		
0	61	16.9
Agree	44	12.2
Strongly Agree	32	8.8
Undecided	67	18.5
Disagree	74	20.4
Strongly Disagree	84	23.2
Total	362	100.0
Radio or television agricultural programmes about dry season irrigation farming are not good to be missed by farmers for any reason		
0	61	16.9
Agree	84	23.2
Strongly Agree	93	25.7
Undecided	29	8.0
Disagree	36	9.9
Strongly Disagree	59	16.3
Total	362	100.0
Radio or television agricultural programmes have helped me to improve my knowledge about dry season irrigation farming		
0	61	16.9
Agree	43	11.9
Strongly Agree	62	17.1
Undecided	55	15.2
Disagree	73	20.2
Strongly Disagree	68	18.8
Total	362	100.0
I believe that the techniques for dry season irrigation farming as recommended on the radio or television are achievable		
0	61	16.9
Agree	51	14.1
Strongly Agree	39	10.8
Undecided	56	15.5
Disagree	67	18.5
Strongly Disagree	88	24.3
Total	362	100.0

Source: (2022 survey data).

Table 6 depicts that broadcast media content on dry season irrigation farming is acceptable to the majority of the farmers as a little above 70% of the believe that the content is informative and slightly above half of the respondents think that such information will enable farmers to practice dry season farming, but the majority of the farmers do not think they can gain enough knowledge about dry season irrigation farming from the broadcast media as most of them think content is not interesting/entertaining.

More importantly, even though the majority of the sampled respondents (a little above half) think that farmers should not miss the information about dry season farming on radio or television, most (slightly above half) of them think the time of the day that the agricultural programs are aired on radio or TV is inappropriate. This implies that the time of broadcast may be a critical factor in hampering exposure to dry season agricultural content among smallholder farmers. Consequently, the majority do not believe that exposure to broadcast media agricultural content has improved their knowledge of dry season irrigation farming.

In addition, the results suggest that the majority of the small holder farmers sampled in this study do not think that dry season irrigation farming is achievable.

4.5. Influence of the Broadcast Media Agricultural Content on the Adoption of Dry Season Farming Practice in the FCT

The extent to which the respondents perceived each of the items on the adoption of dry season farming is presented in Table 7.

Table 7. Distribution of respondents' adoption of dry season farming.

Knowledge gained from agricultural programs on dry season farming on radio or TV stations has helped me to engage in farming activities during the dry season		
Responses	Frequency	Percentage
0	61	16.9
Agree	47	13.0
Strongly Agree	43	11.9
Undecided	42	11.6
Disagree	97	26.8
Strongly Disagree	72	19.9
Total	362	100.0
Agricultural programs on radio or TV stations have helped me to improve crop production during the dry season		
0	61	16.9
Agree	24	6.6
Strongly Agree	43	11.9
Undecided	37	10.2
Disagree	101	27.9
Strongly Disagree	96	26.5
Total	362	100.0

Source: (2022 survey data).

Table 7 illustrates that a little more than one-quarter of the respondents who are exposed to broadcast media content on dry season agriculture are practicing dry season framing as a result of the broadcast media content on dry season farming, whereas slightly above half said otherwise. This indicates that the majority of the respondents in this study farmers have not engaged in dry season agriculture techniques.

However, a little above 60% of the sampled respondents said that exposure to broadcast media content on dry season farming has not helped them to improve crop production

during the dry season. This implies that there may be other factors such as access to water and the cost of irrigation facilities, (not examined in this study) hampering crop production during the dry season as knowledge alone cannot guarantee improved crop production.

Descriptive statistics for message acceptance and adoption of dry season irrigation farming are presented in Table 8.

Table 8. Descriptive Statistics.

Agricultural programmes on radio and TV about dry season farming are very informative	362	2.12	1.588
Exposure to radio or television agricultural programmes about dry season farming will help farmers to learn how to engage in dry season irrigation farming	362	2.36	1.806
Enough knowledge about dry season irrigation farming can be obtained from agricultural messages on radio or television stations	362	2.66	1.830
Radio and television agricultural programmes on dry season irrigation farming are interesting	362	2.42	1.656
The time of the day that the agricultural programmes about dry season irrigation farming are aired on radio or TV is appropriate	362	2.83	1.790
Radio or television agricultural programmes about dry season irrigation farming are not good to be missed by farmers for any reason	362	2.20	1.679
Radio or television agricultural programmes have helped me to improve my knowledge about dry season irrigation farming	362	2.66	1.735
I believe that the techniques for dry season irrigation farming as recommended on the radio or television are achievable	362	2.78	1.818
Knowledge gained from agricultural programs on dry season farming on radio or TV stations has helped me to engage in farming activities during the dry season	362	2.78	1.783
Agricultural programmes on radio or TV stations have helped me to improve crop production during the dry season	362	3.05	1.802
Valid N (listwise)	362		

The descriptive statistics show that broadcast media agricultural programmes have reasonable impact on the improvement of crop yield resulting from dry season irrigation farming (M = 3.05) but a high standard deviation (SD = 1.802) shows that the effect is not significant. The result is accentuated by a much less agreement on the appropriateness of time of broadcast of the agricultural programmes (M = 2.83, SD = 1.790), the achievability of the techniques that are suggested in those programmes (M = 2.78, SD = 1.818) and the sufficiency of the knowledge on dry season irrigation farming that is provided during the programme (M = 2.66, SD = 1.830). The descriptive statistics also show a mean value of 2.78 and SD of 1.783 which reflect poor knowledge gained from the agricultural programmes.

The statistical relationship between exposure to dry season agriculture contents in the broadcast media and adoption of dry season irrigation farming was tested with Chi-Square and the result is presented in Table 9.

Table 9. Chi-Square Tests of Relationship between Exposure to Agricultural Programs and Adoption of Dry Season Farming.

	Value	**df**	**Asymp. Sig. (2-Sided)**
Pearson Chi-Square	355.021 [a]	10	0.000
Likelihood Ratio	318.057	10	0.000
Linear-by-Linear Association	116.713	1	0.000
N of Valid Cases	362		

[a] 7 cells (38.9%) have an expected count of less than 5. The minimum expected count is 1.39. Chi-square statistics show a significant relationship between exposure to agricultural programs and adoption of dry season farming, X^2 (10, N = 362) = 355.021, $p < 0.05$.

5. Discussion

This study establishes that access to the broadcast media agricultural content among the sampled smallholder farmers is high and interpersonal communication channels contribute to providing ample agricultural information to the respondents as illustrated in Table 5. This finding corroborates the submission that farmers receive agricultural information from a variety of information sources including informal interaction with neighbours/friends (35.7%), extension agents (14.8%), radio (12.5%), and television (11.3%) [39]. The finding also confirms the account that major sources of information include radio/TV, extension agents, and fellow farmers [40]. Thus, farmers' adoption of agricultural innovations could be influenced by friends, family members and relatives considered opinion leaders as well as the media.

This study significantly found high access to broadcast media information regarding dry season irrigation farming, even though the infrequent access to such content may suggest that information on dry farming techniques available to the farmers may be inadequate. A high level of exposure to dry season agriculture content in the broadcast media found in this study implies that attention has been given to dry season agriculture but considerable prominence is required. The findings confirm the claim of a high level of farmers' access to the 'radio farmer' programme on dry season vegetable production [61].

Another remarkable finding of this study is that broadcast media content on dry season irrigation farming is highly acceptable to the sampled smallholder farmers. Ironically, most respondents perceive the content as uninteresting besides the inappropriateness of the time of the programmes as shown in Table 6. This finding corroborates earlier claims that the time of broadcast of agricultural radio and television programmes does not correspond to farmers' preferred time [10,36,62].

More so, the study establishes that a high level of access to broadcast media content on dry season irrigation farming does not guarantee improved knowledge of dry season agriculture techniques among smallholder farmers. Likewise, disbelief in the practicability of dry season agriculture is reflected in low level of adoption of dry season irrigation framing.

The finding supports the report that the adoption of disseminated innovation/technologies among cocoa farmers in Ondo state was low [63]. It also concurs with the earlier claim that women who were aware of the dry season vegetable production moderately used them [64]. The result further confirms, the submission that adoption of the climate-smart agricultural practices in Northern Nigeria was generally low (<50%) [63]. In relation to the diffusion of innovation hypothesis, the results suggest that most of the sampled respondents are still in the awareness and knowledge stage where people are exposed to information regarding the existence of innovation and how it is implemented. More so, the majority of the study participants can be regarded as the laggards who are bound by traditions of inactive farming practices during the dry season.

Although further investigation was not carried out to ascertain the reason for low adoption of dry season irrigation farming, various studies indicate that the high cost of irrigation equipment, poor financial resources, inaccessibility to reliable water sources, and poor water conservation strategies among others, hinder the adoption of dry farming practices in Nigeria [11,39–41,43,65,66].

These factors and many more are captured in the United Model of Acceptance and Use of Technology 2, otherwise known as the UTAUT2 model [67] (see Figure 6). The model is a decomposed framework of a variety of models and theories used in describing the basic elements that shape behavioural intention and behaviour in the context of acceptance of innovations, diffusion, and use of self-help technologies.

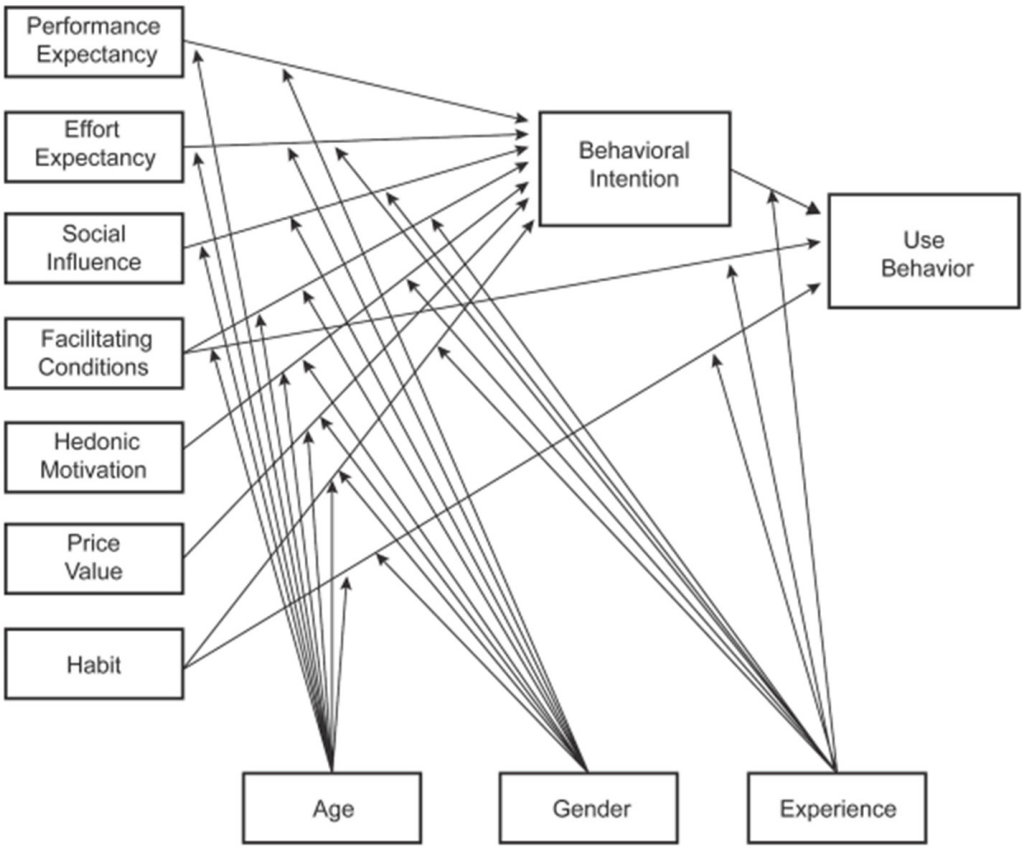


Figure 6. United Model of Acceptance and Use of Technology 2. Source: [67].

The figure depicts that the UTAUT2 model comprises seven independent constructs and three moderating factors that influence individual intention and behavior.

The theory postulate that the construct of Performance Expectancy represents the extent to which people believe that technology will enable them to achieve certain tasks. The degree of performance expectancy is moderated by individuals' Gender, Age, and Experience [66].

Effort Expectancy signifies the challenges associated with innovation or technology utilization. User's Gender, Age, and Experience determine the level of effort expectancy.

Social Influence denotes the extent to which users believe that technology is crucial for other people in their immediate social group. This variable is moderated by Gender, Age, Experience, and Voluntariness of use.

The construct Facilitating Conditions implies the level of belief that a technology or innovation resolves the issues associated with its utilization.

The Hedonic motivation refers to the pleasure or delight that comes from employing a specific technology that serves as an incentive for technology use.

Price value refers to the user's perceived benefits of technology in relation to its monetary cost. The perceived value of technology adoption justifies the expense of its acquisition. This construct is moderated by Gender and Age.

Finally, the variable Habit demotes the degree to which knowledge propels people to perform behaviors seamlessly and habit is moderated by Gender, Age, and Experience.

These factors could predict the pace and pattern of adoption of dry season irrigation farming techniques among smallholder farmers. Therefore, more communication efforts in addition to social support are required to motivate the adoption of small-scale irrigation farming techniques in Nigeria.

6. Conclusions

Accessibility to broadcast media agricultural content on dry season irrigation farming techniques and its influence on dry season agriculture among smallholder farmers in FCT was examined in this study. The study concludes that access to general agricultural content is high. Smallholder farmers have more access to agricultural content on dry season farming through the radio but the frequency of exposure to such information is low. Furthermore, information on dry season agriculture is acceptable to smallholder farmers in FCT but there is much less agreement on the appropriateness of time of broadcast, the achievability of irrigation techniques, and the sufficiency of the knowledge on dry-season farming that is provided by the programmes. More so, the knowledge gained from the broadcast media agricultural programmes is not sufficient for farmers to successfully engage in farming during dry season.

Based on these findings, we recommend;

- Sustainability of the spate of agricultural content in the broadcast media.
- A long-term broadcast media campaign on dry season farming in the FCT and Nigeria at large, with a complementary interpersonal communication interventions.
- Use of interactive programme content to reshape the arid perception of the dry season as unattractive and rescheduling agricultural programmes to farmers' preferred time.
- More intentional communication efforts to drive the smallholder farmers and the government at all levels (Federal, State, and Local) to become more committed to dry season food production in Nigeria.

Author Contributions: C.A.B.-E. conceived the idea and developed the instrument. A.F.O. performed the experiment. A.A.E., C.O.A. and B.K.A. contributed to data analysis. C.A.B.-E. wrote the manuscript. All authors have read and agreed to the published version of the manuscript.

Funding: No funding was received for this research.

Informed Consent Statement: The study participants voluntarily responded to the questionnaire after the research objectives were explained and verbal consent was granted. Participants were informed of the right to withdraw from the study at any point without penalty. Furthermore, all information retrieved from the respondents was treated with the utmost confidentiality and used only for the purpose of this research.

Data Availability Statement: The datasets described in this article have been submitted for inclusion in the Landmark University repository. In case of non-availability of data at the time of review of this article, it will be made available by the corresponding author on request.

Conflicts of Interest: The authors declare no competing interests.

References

1. Aligwe, H.N.; Nwankwo, S.U.; Nwafor, K.A. Agricultural Communication and Food Security in Nigeria: The Mass Media Role. *World Appl. Sci. J.* **2017**, *35*, 843–847.
2. Adeyeye, B.; Odiboh, O.; Adesina, E.; Yartey, D.; Ekanem, T.; Ben-Enukora, C.A. An examination of Information Communication Technology for Agriculture-Focused Teaching, Learning and Communication Research in the 21st Century. In Proceedings of the 31st International Business Information Management Association Conference (IBIMA), Milan, Italy, 25–26 April 2018.
3. Akakuru, I.A.; Egbeiyi, O.; Akakuru, O.C.O.; Onyema, C.C. Current implications of oil boom on food production in Nigeria. *Adv. Agric. Food Sci. For.* **2022**, *10*, 6–11.
4. Sasu, D.D. Prevalence of Severe Food Insecurity in Nigeria from 2014 to 2020. Statista. Available online: https://www.statista.com/statistics/1135843/prevalence-of-severe-food-insecurity-in-nigeria/ (accessed on 28 June 2022).
5. Adeyeye, B.; Amodu, L.; Odiboh, O.; Adesina, E.; Yartey, D.; Ben-Enukora, C. Content Analysis of Select Agricultural Radio Programs in Indigenous Languages in North-Central Nigeria. In *Indigenous Language for Development Communication in the Global South*; Salawu, A., Molale, T.B., Uribe-Jongbloed. E., Ullah, M.S., Eds.; Rowman & Littlefield: Lanham, MD, USA, 2023; pp. 229–249.
6. Aremu, C.; Ojuederie, O.; Olayanju, A.; Modupe, A.; Kayode, O.; Erere, A.; Faith, O.; Adebayo, S. Agricultural Productivity: A Key Component of Inclusive Growth Towards Food Security. In *Food Security and Safety*; Babalola, O.O., Ed.; Springer: Cham, Switzerland, 2021; pp. 195–216. [CrossRef]

7. Echendu, A.J. Flooding, Food Security and the Sustainable Development Goals in Nigeria: An Assemblage and Systems Thinking Approach. *Soc. Sci.* **2022**, *11*, 59. [CrossRef]
8. Oladimeji, Y.U.; Abdulsalam, Z. An economic analysis of dry season irrigated farming in Asa River, Kwara State, Nigeria: Implications for poverty reduction. *J. Sustain. Dev. Afr.* **2014**, *16*, 1–15.
9. Akinbile, C.O.; Oyebanjo, O.A.; Ajibade, F.O.; Babalola, T.E. Assessing the impacts of irrigation systems on Food Security in Southwestern Nigeria. In Proceedings of the 37th Annual Conference and Annual General Meeting of the Nigeria Institute of Agriculture Engineers, Minna, Nigeria, 4–7 October 2016; pp. 344–353.
10. Filmon, H.H. Impact of small-scale irrigation schemes on household food security in the context of persisting droughts: Comparative quasi-experimental analysis of irrigation water users and non-users in Southwest Ethiopia. *Afr. J. Agric. Res.* **2021**, *17*, 1393–1406. [CrossRef]
11. Farmers Square. Dry Season Farming in Nigeria. Available online: https://farmsquare.ng/dry-season-farming-in-nigeria/#:~:text=Nigeria\T1\textquoterights%20dry%20season%20agriculture%20starts,agriculture%20to%20increase%20their%20income (accessed on 6 June 2022).
12. Xie, H.; You, L.; Dile, Y.T.; Worqlul, A.W.; Bizimana, J.-C.; Srinivasan, R.; Richardson, J.W.; Gerik, T.; Clark, N. Mapping development potential of dry-season small-scale irrigation in Sub-Saharan African countries under joint biophysical and economic constraints—An agent-based modeling approach with an application to Ethiopia. *Agric. Syst.* **2021**, *186*, 102987. [CrossRef]
13. Khandker, S.R.; Mahmud, W. Seasonal Hunger and Public Policies: Evidence from Northwest Bangladesh. International Bank for Reconstruction and Development. The World Bank. 2012. Available online: https://documents1.worldbank.org/curated/en/140991468208456730/pdf/702680PUB0EPI0067902B09780821395530.pdf (accessed on 17 June 2022).
14. The Cable. 60 Million Nigerians Go to Bed Hungry. Available online: https://www.thecable.ng/60-millions-nigerians-go-bed-hungry (accessed on 21 June 2022).
15. Adeyeye, B.; Amodu, L.; Odiboh, O.; Oyesomi, K.; Adesina, E.; Yartey, D. Agricultural Radio Programmes in Indigenous Languages and Agricultural Productivity in North-Central Nigeria. *Sustainability* **2019**, *13*, 3929. [CrossRef]
16. Adeyeye, B.; Amodu, L.; Oscar, O.; Omojola, O.; Adesina, E.; Ben-Enukora, C.A. A SWOT Analysis of Indigenous Language Use in Agricultural Radio Programming in Nigeria. In *Emerging Trends in Indigenous Language Media, Communication, Gender, and Health*; Oyesomi, K.O., Salawu, A., Eds.; IGI Global: Hershey, PA, USA, 2020; pp. 188–209. [CrossRef]
17. Harvey, C.A.; Rakotobe, Z.L.; Rao, N.S.; Dave, R.; Razafimahatratra, H.; Rabarijohn, R.; Hasinandrianina, R.H.; MacKinnon, J.L. Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar. *Phil. Trans. R. Soc.* **2014**, *369*, 20130089. [CrossRef] [PubMed]
18. Adeniyi, D.A.; Dinbabo, M.F. Efficiency, food security and differentiation in small-scale irrigation agriculture: Evidence from North West Nigeria. *Cogent Soc. Sci.* **2020**, *6*, 1749508. [CrossRef]
19. African Union, Framework for Irrigation Development and Agricultural Water Management in Africa. 2020. Available online: https://au.int/en/documents/20200601/framework-irrigation-development-and-agricultural-water-management-africa (accessed on 23 June 2022).
20. Ates, S.; Cicek, H.; Bell, L.W.; Norman, H.C.; Mayberry, D.E.; Kassam, S.; Hannaway, D.B.; Louhaichi, M. Sustainable development of smallholder crop-livestock farming in developing countries. In *IOP Conference Series: Earth and Environmental Science*; IOP Publishing: Bristol, UK, 2018; Volume 142, p. 012076. [CrossRef]
21. Aminu, Y.U.; Sadi, M. Analysis of profitability of dry season tomato produc-tion in Ikara Local Government Area of Kaduna State, Nigeria. *Niger. J. Energy Environ. Econ.* **2020**, *11*, 103–113.
22. Malabo Montpellier Panel, Water-Wise: Smart Irrigation Strategies for Africa: Nigeria. Dakar. December 2018. Available online: https://www.mamopanel.org/resources/reports-and-briefings/water-wise-smart-irrigation-strategies-africa/ (accessed on 22 June 2022).
23. Eshetu, T.; Young-Bohk, C. Contribution of Small Scale Irrigation to Households Income and Food Security: Evidence from Ketar Irrigation Scheme, Arsi Zone, Oromiya Region, Ethiopia. *Afr. J. Bus. Manag.* **2017**, *11*, 57–68. [CrossRef]
24. Dakpalah, S.S.; Anornu, G.K.; Ofosu, E.A. Small Scale Irrigation Development in Upper West Region, Ghana; Challenges, Potentials and Solutions. *Civil. Environ. Res.* **2018**, *10*, 85–97.
25. Ojo, O.D.; Connaughton, M.; Kintomo, A.A.; Olajide-Taiwo, L.O.; Afolayan, S.O. Assessment of irrigation systems for dry season vegetable production in urban and peri-urban zones of Ibadan and Lagos, Southwestern Nigeria. *Adv. Food Sci. Technol.* **2019**, *7*, 1–8.
26. Mhembwe, S.; Chiunya, N.; Dube, E. The contribution of small-scale rural irrigation schemes towards food security of smallholder farmers in Zimbabwe. *JAMBA* **2019**, *11*, 674. [CrossRef] [PubMed]
27. Balana, B.B.; Bizimana, J.-C.; Richardson, J.W.; Lefore, N.; Adimassu, Z.; Herbst, B.K. Economic and food security effects of small-scale irrigation technologies in northern Ghana. *Water Resour. Econ.* **2020**, *29*, 100141. [CrossRef]
28. Wondimagegnhu, B.A.; Bogale, B.A. Small-scale irrigation and its effect on food security of rural households in North-West Ethiopia: A comparative analysis Ethiop. *J. Sci. Technol.* **2020**, *13*, 31–51. [CrossRef]
29. Jambo, Y.; Alemu, A.; Tasew, W. Impact of small-scale irrigation on household food security: Evidence from Ethiopia. *Agric. Food Secur.* **2021**, *10*, 21. [CrossRef]

30. Xie, H.; You, L.; Takeshima, H. Invest in small-scale irrigated agriculture: A national assessment on potential to expand small-scale irrigation in Nigeria. *Agric. Water Manag.* **2017**, *193*, 251–264. [CrossRef]
31. Amwele, H.R.; Kgabi, N.A.; Kandjibi, L.I. Sustainability of Groundwater for Irrigation Purposes in Semi-arid Parts of Namibia. *Front. Water* **2021**, *3*, 767496. [CrossRef]
32. Betasolo, M.; Smith, C. Rainwater Harvesting Infrastructure Management. In *Environmental Health—Management and Prevention Practices*; Makan, A., Ed.; InTech Open: London, UK, 2020. Available online: https://www.intechopen.com/chapters/70169 (accessed on 23 May 2022).
33. Razzaq, A.; Liu, H.; Zhou, Y.; Xiao, M.; Qing, P. The Competitiveness, Bargaining Power, and Contract Choice in Agricultural Water Markets in Pakistan: Implications for Price Discrimination and Environmental Sustainability. *Front. Environ. Sci.* **2022**, *10*, 917984. [CrossRef]
34. African Union Commission Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. Malabo, Equatorial Guin1ea. Available online: https://www.resakss.org/sites/default/files/Malabo%20Declaration%20on%20Agriculture_2014_11%2026-.pdf#:~:text=The%20Malabo%20Declaration%20on%20Accelerated%20Agricultural%20Growth%20and,continent%20which%20is%20shared%20prosperity%20and%20improved%20livelihoods (accessed on 21 June 2022).
35. Ibrahim, A.M.; Yar'Adua, S.M.; Maikaba, B. More media, less democratisation of public access and participation: A conceptual review on influence of deregulation and commercialisation on public broadcasting in Nigeria. *J. Telecomm. Inf. Technol.* **2019**, *3*, 32–46.
36. Iman, Y. The Role of Radio and Television in Rural Agricultural Development. *IDOSR J. Common. Engl.* **2020**, *5*, 91–97.
37. Das, S.; Ahmed, K.; Awal, M. The role of radio and television in the dissemination of agricultural technologies among farmers of Bangladesh. *Bangladesh J. Agric.* **2022**, *44–46*, 55–64. [CrossRef]
38. Ejem, A.A.; Acholonu, J.; Igbozuruike, C.A. Selling for survival: Effect of news commercialization on public service broadcasting in Nigeria. *J. Med. Secur. Dev.* **2017**, *2*, 28–35.
39. Nnadi, F.N.; Aja, O.O.; Nnadi, C.D.; Ani, A.O.; Anaeto, F.C.; Akwiwu, U.N.; Agomuo, C.I.; Elei, C.P. Urban farmers' adoption of improved dry season vegetable production technologies in Owerri Municipal Council of Imo State, Nigeria. *J. Agric. Ext.* **2014**, *18*, 145–154. [CrossRef]
40. Ugwoke, F.O.; Nnadi, F.N.; Ani, A.O.; Aja, O.O.; Onoh, P.A.; Anaeto, F.C. Rural women's use of dry season vegetable production technologies in Owerri Agricultural Zone of Imo State, Nigeria. *FUTO J. Ser.* **2015**, *1*, 83–89.
41. Daramola, C.F.; Adebo, T.; Adebo, G.M. Challenges and information needs assessment of dry season vegetable farmers in Akure Metropolis, Ondo State. *IOSR J. Agric. Vet. Sci.* **2016**, *9*, 52–58.
42. Nyasimi, M.; Kimeli, P.; Sayula, G.; Radeny, M.; Kinyangi, J.; Mungai, C. Adoption and Dissemination Pathways for Climate-Smart Agriculture Technologies and Practices for Climate-Resilient Livelihoods in Lushoto, Northeast Tanzania. *Climate* **2017**, *5*, 63. [CrossRef]
43. Mango, N.; Makate, C.; Tamene, L.; Mponela, P.; Ndengu, G. Adoption of Small-Scale Irrigation Farming as a Climate-Smart Agriculture Practice and Its Influence on Household Income in the Chinyanja Triangle, Southern Africa. *Land* **2018**, *7*, 49. [CrossRef]
44. Nwibo, S.U.; Mbam, B.N.; Odoh, N.E.; Egwu, P.N.; Uloh, F.U.; Oken, D.E. Influence of Mass Media Promoted Agricultural Programmes on Arable Crop Production in Ezza North Local Government Area of Ebonyi State, Nigeria. *Niger. Agric. J.* **2022**, *53*, 388–395.
45. FAO. The State of Food and Agriculture 2014: Innovation in Family Farming. Food and Agriculture Organization of the United Nations. 2014. Available online: https://www.fao.org/publications/sofa/2014/en (accessed on 22 June 2022).
46. IFAD. Five Reasons IFAD is Putting Small-Scale Farmers at the Forefront of Food Systems Transformation. December 2020. Available online: https://www.ifad.org/en/web/latest/-/story/five-reasons-ifad-is-putting-small-scale-farmers-at-the-forefront-of-food-systems-transformation (accessed on 27 June 2022).
47. Rogers, E.M. *Diffusion of Innovations*, 4th ed.; The Free Press: New York, NY, USA, 1995.
48. Ben-Enukora, C.A. Health Communication Models, Theories and their applications in Africa. In *Handbook on Media and Communication Theories*; Okorie, N., Ojebuyi, B.R., Opara, N., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 257–294.
49. Rogers, E.M. *Diffusion of Innovations*, 5th ed.; Free Press: New York, NY, USA, 2003.
50. Gebul, M. Trend, Status, and Challenges of Irrigation Development in Ethiopia—A Review. *Sustainability* **2021**, *13*, 5646. [CrossRef]
51. Weather Spark. Climate and Average Weather Year round in Abuja Nigeria. 2022. Available online: https://weatherspark.com/y/55097/Average-Weather-in-Abuja-Nigeria-Year-Round (accessed on 28 June 2022).
52. Fatunmole, M. Abuja Women Farmers at the Mercy of Changing Climate. Available online: https://www.icirnigeria.org/abuja-women-farmers-at-the-mercy-of-changing-climate/ (accessed on 21 June 2022).
53. Small, F.A.A.; Raizada, M.N. Mitigating dry season food insecurity in the subtropics by prospecting drought-tolerant, nitrogen-fixing weeds. *Agric. Food Secur.* **2017**, *6*, 23. [CrossRef]
54. National Population Census, Nigeria Census Data. 2006. Available online: https://nigeria.opendataforafrica.org/ifpbxbd/state-population-2006 (accessed on 21 June 2022).

55. Ajayi, O. FCT Trains 2000 on Pest Control, Begins Dry Season Farming Campaign. Available online: https://www.vanguardngr.com/2021/01/fct-trains-2000-on-pest-control-begins-dry-season-farming-campaign/ (accessed on 7 July 2022).
56. Ahme, R. FCTA Initiates Aggressive Dry Season Farming Campaign. Businesspost. Available online: https://businesspost.ng/economy/fcta-initiates-aggressive-dry-season-farming-campaign/ (accessed on 17 June 2022).
57. Smith, S.M. Determining Sample Size: How to Ensure You Get the Correct Sample Size. Qualtrics. 2013. Available online: https://uncw.edu/irp/ie/resources/documents/qualtrics/determining-sample-size-2.pdf (accessed on 20 June 2022).
58. Abdulah, D.M. Prevalence and correlates of COVID-19 vaccine hesitancy in the general public in Iraqi Kurdistan: A cross-sectional study. *J. Med. Virol.* **2021**, *93*, 6722–6731. [CrossRef]
59. World Rural Forum. Family Farming and the Sustainable Development Agenda. Available online: https://www.ruralforum.org/en/family-farming-and-the-sustainable-development-agenda/ (accessed on 11 May 2022).
60. FMARD. The Agriculture Promotion Policy (2016–2020) Building on the Successes of the ATA, Closing Key Gaps. 2016. Available online: https://www.tralac.org/images/docs/10154/nigeria-agriculture-promotion-policy-2016-2020.pdf (accessed on 17 June 2022).
61. Okoroma, E.O.; Nnadi, F.N.; Anaeto, F.C.; Echetama, J.A.; Uche-Nwachi, M.N.; Anaeto, C.A. Utilization of "radio farmer" programme of Imo agricultural development programme by rural farmers in Imo state, Nigeria. *J. Biol. Agric. Healthc.* **2015**, *5*, 259–265.
62. Mubofu, C.; Elia, E. Disseminating Agricultural Research Information: A case study of farmers in Mlolo, Lupalama and Wenda villages in Iringa district, Tanzania. *Univ. Dar Salaam Libr. J.* **2017**, *12*, 75–96.
63. Nmadu, J.N.; Sallawu, H.; Omojeso, B.V. Socio-economic factors affecting adoption of innovations by cocoa farmers in Ondo state, Nigeria. *Eur. J. Bus. Econ. Acct.* **2015**, *3*, 58–66.
64. Tiamiyu, S.A.; Ugalahi, U.B.; Eze, J.N.; Shittu, M.A. Adoption of climate smart agricultural practices and farmers' willingness to accept incentives in Nigeria. *Int. J. Agric. Environ. Res.* **2018**, *4*, 198–205.
65. Ivande, P.D.; Obademi, A.O.; Ugboji, A.U. Comparative study of economic benefits of rainfed and dry season farming: Implications for agricultural extension in Benue state. *JHER* **2019**, *26*, 1–9.
66. Nwite, S. The Challenge Ahead of Dry Season Farming in Nigeria. Available online: https://www.tekedia.com/the-challenge-ahead-of-dry-season-farming-in-nigeria/ (accessed on 17 June 2022).
67. Venkatesh, V.; Thong, J.Y.L.; Xu, X. Consumer Acceptance and Use of In-formation Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Q.* **2012**, *36*, 157–178. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.