



CONTENT ANALYSIS OF YOUTUBE VIDEOS ON RICE PRODUCTION IN NIGERIA

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ABSTRACT

Timely access to relevant information on improved technology is crucial in sustaining agricultural production. Therefore, YouTube provides a viable alternative access to information among farmers. Thus, this study assessed the content of videos on rice production uploaded on YouTube in Nigeria. The study specifically collected YouTube video data on; metadata, characteristic, content framing; information source, and the content of the videos. The study made use of content analysis methodology to assess 78 videos on rice cultivation in Nigeria posted on YouTube between 2015 and 2021. Descriptive analysis including frequency counts, percentages, means and standard deviation were conducted on the data collected. This study revealed that most (56.4%) of the YouTube videos were posted between 2019 and 2021, while more than half (53.8%) of the videos were posted by News media. Furthermore, 69.2% of the videos had descriptive text, while 83.3% of the videos posted had no tags. Some (38.5%) of the videos had video quality of 360p, while most of the presentation pattern of the videos were either; news (48.8%) or documentaries (26.9%). Finally, the major content of the videos was on land preparation (26.9%) and agronomic practices (60.3%) in rice production. Therefore, most of the content emanated from news media, and the most sought information was on production. Thus, it is recommended that research and agricultural institutes should embrace YouTube as an important information source to complement the efforts of extension agents and more information on post-harvest handling should be uploaded.

Keywords: Agriculture, Content-source, Extension agents, Information, Rice-farming, YouTube.

INTRODUCTION

Information and knowledge are indispensable for empowering small-scale farmers and consistent access to adequate knowledge, improved technology and other relevant information is important in improving agricultural production and processing as a whole (Anyoha *et al.*, 2018). Consequently, technological development in recent years has focused on providing farmers and agricultural practitioners with platforms and tools to improve their skills rapidly at little cost and great convenience (Ikpe-etim, 2019). Therefore, the use of internet and web technologies as a tool to reach wide audiences of farmers and other agricultural stakeholders is a strategy that has steadily gained popularity among agricultural trainers and extension over the last several years (Zoundji *et al.*, 2017).

In addition, the COVID-19 pandemic helped bring about considerable change in how extension agents and trainers reach their audience. At the height of the lockdown restrictions, many farmers had to rely on internet videos and other similar forms of digital content to improve their knowledge and get updated information about latest practices and technology relevant to their agricultural operations (Muvhuringi *et al.*, 2021). This was largely because these farmers, especially in emerging crop production markets like rice cultivation are very dependent on knowledge and training by extension agents. For instance, Esiobu (2020)



reported that approximately half of rice farmers who participated in a recent study conducted in Southeast Nigeria depended majorly on extension agent for their information. The author goes on to point out that many of the farmers were unable establish adequate contact with their extension officers due to social distancing requirements necessitated by the pandemic. Therefore, the need to communicate with farmers and pass on knowledge effectively ultimately led to many people relying on social media platforms like YouTube which allows users to share multimedia content publicly to large number of viewers at the same time (Muvhuringi *et al.*, 2021).

YouTube is a social media platform that allows individuals post online video content for different purposes including education and training (Ford and Moore, 2021). These forms of videos are steadily gaining popularity globally post-pandemic (Stein *et al.*, 2020) especially in agricultural and farming related content (Ford *et al.*, 2021). The platform's content has become a valuable informational source and can be utilized by extension agents and agricultural trainers alike to reach their audience, recruit new followers and engage online communities (Arthurs *et al.*, 2018).

In fact, several studies highlight the potential of training videos to build farmers' capacity for innovation as well as a viable tool to clarify complex agro-ecological principles (Chowdhury *et al.*, 2015, Chowdhury *et al.*, 2010; Van Mele *et al.*, 2007). Regardless of the benefits of the platform for providing useful content, there is one major weakness it poses for information seekers which this study aims to assess, and this is the lack of standardization of the quality of content and information available over the platform (Ocak, 2018). Unlike content from academic sources or formal information repositories which are often products of extensive research and procedural documentation, most YouTube videos rely solely on the knowledge and expertise of the content creator with little or no technical guidelines to ensure quality and veracity.

Very few studies have carried out research that looks specifically at how agricultural and farming related content are framed. This study seeks to carry out content analysis on agricultural-related YouTube videos. Providing knowledge to farmers is a very delicate and important job and there is constant need to ensure that information provided is useful, accurate and relevant. From the foregoing, the study aimed to: describe the metadata of the video content related to rice production on YouTube; analyze the characteristics of the YouTube videos on rice production; examine the content framing of the selected YouTube videos; and assess the major content of the YouTube videos on rice production.

MATERIALS AND METHODS

The Study Area

The study was carried out on YouTube. YouTube is the most common platform for video viewing worldwide. The general public uses YouTube primarily as a source of entertainment but it has also expanded as a medium for education (Walker, 2018). Ford *et al.* (2020) described the benefit of computational research methods and digital research usefulness for YouTube as a platform.

Sampling Procedure

Purposive sampling technique was used to select 78 relevant videos on rice production content.

Method of Data Collection/Measurement of Variables

For the video metadata, sources from where the videos were uploaded was measured with options of Yes (1) and No (0) on a list of six different sources. The actual year of upload was measured, while video description which is a descriptive text that provides a summary of



what the video is all about was measured as not available (0) and available (1). In addition, the video tags which are descriptive keywords (hashtag) added to the videos to enable viewers easily find the content was measured as not available (0) and available (1). The actual video duration was obtained to assess the length of the video.

In terms of video characteristics, video quality was examined based on four different video qualities of 720p, 480p, 360p, and 240p. Presence of mobilizing information which is meant to encourage viewers to take action or seek additional relevant educative resources was measured as present (1) and not present (0). The type of mobilizing information was assessed using a six different address (1) website, (2) phone number, (3) social media, (4) blog, (5) physical address, and (6) email address.

For the content framing and presentation pattern, this was measured using a list of presentation patterns such as documentary, training, interview, talk show, tour, news, and education/research piece. This was measured at nominal level. Also, messaging format was measured as (1) actual video of real people/places, and (2) audio-visual content like animation etc.

Finally, the video content of YouTube Videos on rice farming was measured by counting the actual number of times a content (such as production, harvesting, postharvest handling) featured in the videos.

RESULTS AND DISCUSSION

Metadata of YouTube Videos on Rice Production

In the study, results in Table 1 show that more (56.4%) of the videos were posted between 2019 and 2021. This shows that majority of the YouTube uploads are very recent and could be as a result of the need for agricultural information during the pandemic lockdown. This assertion is in tandem with the position of Muvhuringi *et al.* (2021) that reliance on internet videos and other forms of digital content by farmers to improve their knowledge and access to relevant information of agricultural practices can be traced to COVID-19 pandemic that has reduced the physical field activities of extension agents and lockdown restrictions. Also, more than half (53.8%) of the videos were posted by News media, while 21.8% of the videos were posted by private organization, and 14.1% of the videos by individuals. This indicates that in Nigeria, agricultural institutes, and agencies are yet to tap into the opportunity of sharing quality information on rice production on YouTube. This could be as a result of lack of institutional supports to make use of YouTube as a viable means of reaching out to farmers. In addition, most (69.2%) of these Videos had video description. This implies that most of the YouTube videos on rice production were made easier for online viewers to have an idea of the video content and to be able to decide on what to do with do videos. Consequently, almost all (83.3%) the YouTube videos on rice production had no tag. Thus, indicates that this would make identification difficult and equally, viewers will be unable to know the content until they see through the videos. This averment corroborates Tafesse (2020), who found that YouTube video tags contribute to viewership of the videos.



Table 1: Metadata of YouTube videos on rice production (n = 78)

Variable	Frequency	Percentage	Mean	Standard deviation
Year of upload				
2015	4	5.1		
2016	10	12.8		
2017	13	16.7		
2018	7	9.0		
2019	11	14.1		
2020	16	20.5		
2021	17	21.8		
Video source				
Individuals	11	14.1		
Private organization	17	21.8		
News media	4	5.1		
Government agency	3	3.9		
NGO	5	6.4		
Video description				
Available	54	69.2		
Not available	34	30.8		
Video tags				
Available	13	16.7		
Not available	65	83.3		
Video duration (minutes)				
1 - 8.80	36	46.1		
8.81 – 17.60	29	37.2	10.47	8.80
17.61 – 26.40	6	7.7		
More than 26.40	7	9.0		

Source: YouTube survey, 2021

Characteristics of YouTube Videos on Rice Production

As shown in Table 2, the quality of some (38.5%) of the YouTube videos on rice production in Nigeria was 360p, which is followed by 480p (28.2%). This indicates that most of the videos posted had relatively good video qualities which can enhance audience clarity. This will therefore give viewers good view of what is being projected online. This assertion is supported by Ford *et al.* (2021) that content of videos including the video quality and narration are very important for audience to learn and retain the message being passed.



Table 2: Characteristics of YouTube videos on rice production (n = 78)

Variables	Frequency	Percentage
Video quality		
240p	16	20.5
360p	30	38.5
480p	22	28.2
720p	10	12.8
Mobilizing information		
Present	36	46.2
Not present	42	53.8
Types of mobilizing information*		
Websites	28	35.9
Phone number	5	6.4
Social media address	13	16.7
Blog	-	-
Physical address	-	-
Email address	2	2.6

*Multiple responses

Source: YouTube survey, 2021

Content Framing of YouTube Videos on Rice Production

Result in Table 3 shows that, News (48.8%), as well as documentary (26.9%) were the foremost presentation patterns of YouTube videos on rice production. However, training and demonstration was slightly (3.8%) used as presentation pattern of YouTube videos on rice production. This signifies that most of the videos were presented in form of News and documentary which could afford viewers to become more enriched in information on rice production. Contrariwise, training/demonstration being less used as presentation pattern may likely hinder the viewers from acquiring adequate rice production skills.

Table 3: Content framing of YouTube videos on rice production (n = 78)

Variables	Frequency	Percentage
Presentation pattern		
Documentary	21	26.9
Training/demonstration	3	3.8
Interview	7	9.0
Talk show	2	2.6
Tour	4	5.1
News	38	48.8
Educational/research piece	3	3.8
Message format		
Actual video of real people/places	76	97.4
Animation	2	2.6

Source: YouTube survey, 2021

The result of Table 3 is in line with the report of Banmeke *et al.* (2021) which affirmed that presentation pattern used is a function of the choice of the source of the video as well as



familiarity with the different patterns. Presentation patterns can influence viewing by the target audience because they appeal in different manners to the audience.

Content of YouTube Videos on Rice Production

The results in Table 4 reveal that most of content of the videos were on production; about 60.3% of the content was on agronomic practices in rice production, while 26.9% of content was on land preparation. However, content on postharvest handling of rice was as low as 9.0%. The findings suggest that viewers had access to various content on rice farming, withal there was low information or meager content on harvesting and postharvest handling of rice other value addition. Although the available YouTube content is largely dependent on the objectives of the source. This corroborates the Banmeke *et al.* (2021) that YouTube provides opportunity to viewers to be informed on a wide variety of topics relating to production and processing, and the source of the videos would greatly influence the content as a result of the interest of the source for producing and uploading the videos.

Table 5: Content of YouTube videos on rice production (n = 78)

Content	Frequency	Percentage
Harvesting	3	3.8
Postharvest handling	7	9.0
Rice production		
Land preparation	21	26.9
Agronomic practices	47	60.3

Source: YouTube survey, 2021

CONCLUSION AND RECOMMENDATIONS

In accordance with the findings, it can be concluded that the most sought rice farming information on YouTube was on production. There was relatively good video quality, however there was no tag in most of the videos. In addition, agricultural institutes, and agencies in Nigeria are yet to tap into the opportunity of sharing quality information on rice production on YouTube, while there was low use of training and demonstration as a form of presentation pattern in the YouTube videos considered. Thus, YouTube is an important information source that can easily complement the efforts of extension agents, and can be used in the absence of other sources of information. It was hereby recommended that considering the major information source of these videos, there is need for agricultural institutes and other academic sources to use the platform more in disseminating improved agricultural practices to farmers and other stakeholders. In addition, more information or content on postharvest handling should be made available on this platform.

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