



## **A STUDY OF ILLUSTRATIVE MATERIALS IN RESEARCH PUBLICATIONS FOR DEVELOPMENT COMMUNICATION IN THE CONTEXT OF AGRICULTURAL EXTENSION AND RESEARCH LIAISON SERVICES EXTENSION BULLETINS**

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### **ABSTRACT**

*Agricultural research publications can use charts, diagrams, photographs and other illustrative materials to substitute spoken actions, elicit strong emotions, distinctive perceptions and provide agricultural stakeholders with an easy to understand visual representation of facts and figures. One such communication channel is extension publications. This study focused on the imperativeness of illustrations in National Agricultural Extension and Research Liaison Services (NAERLS) extension publications which are media of research outcomes. Secondary data were collected from the 116 available bulletins published by NAERLS since inception of the organization till 2020 and used for the study. Employing content analysis, data collected were analyzed using frequency distribution, bar chart, pie chart and chi-square analysis. Result of the study revealed that all the programmes in NAERLS have bulletins publications on their subject matters except for Agric. Media and e-Extension with Crop and Forestry recording 52.2% each, 81.7% of the bulletins were published using regular font type while 75.9% of the bulletins were not colour and 93.2% of the bulletins published and available in the NAERLS South West Zone were in English. The findings also revealed that the subject matter has no statistical significant influence on the content parameters of the bulletins ( $\chi^2 = 138.419$ ,  $p = 0.403$ ). Hence, the researchers recommend that illustrations should be engaged more in the publications of research outcomes for easy interpretation of research outputs and dissemination of agricultural information.*

**Keywords:** Development communication, Extension bulletin, Illustrative materials, Research publication.

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### **INTRODUCTION**

Illustrations are images that figuratively open the text, submit to the content and style of the literary work, and at the same time interfere with the manuscript and enrich its decorative structure. Book illustration, as a special kind of fine art, has a great influence on the formation of perception and develops aesthetic sensitivity. Illustration plays an aesthetic role in revealing

the contents of a book, evoking emotions, and, finally, enriching and developing its images (Tursunmurotovich, 2020).

Illustrations speak volumes and are as important a vehicle for communication as the printed words in a book. Visual arts are concerned with producing images, such as photographs and other illustrative materials. The art form is typically known as illustration when these images are used to convey specific information in book publishing (Ihebuzor, 2017). The importance of illustrative materials in the development of communication cannot be understated. They are particularly important for the development of communication across a variety of sectors, including education, health, agriculture, transportation and public services as they have positive influence on teaching and learning (Ihebuzor, 2013), which form key element of any research publication, enabling readers to gain a more visual understanding of facts, figures and concepts (Adetola, 2019).

Fahmy et al. (2014), and Naghy (2010), cited in Adetola and Oluyi (2020), stated that visual communicators concentrate on a wide range of distinct techniques to get their point across: photography, digital design, distinctive illustrations, presentations, and even animations, all fall under their wide training and expertise umbrella. Naghy (2010) affirmed that they may also have a projective role in the sense that they can generate connections between various issues.

Obor and Okafor (2020), posited that development is a subject of interest to any nation, be it developed or emerging. He maintained that development is critical to the sustenance and growth of any nation, as it is associated with modernization, material advancement, industrialization, scientific and technological progress, socio-cultural transformation, mass literacy, vertical and horizontal mobility, employment opportunities and the emergence of specialized and independent occupational roles.

According to Oluyi and Adetola (2019), “development is the individual situated in felt needs and human development, meaning achievement with respect to a wide range of well-seasoned values, not only those measured in money, and advancement of people’s ability to achieve such well-seasoned values” (p. 137). Furthermore, developments can be seen as the outcome of a shift from circumstances that are no longer deemed sufficient to meet a society's goals and interests to those that are most likely to do so. Development could also refer to a shift in social behaviors that allows people to gain a better understanding of human values and more control over themselves (Oluyi, 2019).

Since communication is associated with dissemination, it is therefore fundamental to extension services. Farmers' behaviour and the value of communication in extension cannot be quantified. With varying degrees of effectiveness, development planners have utilized communication to support and promote agricultural development policies and programmes in a variety of contexts and conditions (Gadzama & Akinola, 2013). Communication experts all across the world have advised development-support communication to link all organizations involved in planned agricultural development programmes (Onagwa, 2016).

According to Onagwa (2016), agricultural communication or agricultural extension "is development-support communication in the context of agricultural development planning and implementation, in which adequate action is taken of human behavioral factors in the design of development projects and their objectives" (p. 32). Communication for innovation can take numerous forms, not only in terms of the methods and tactics used but also in terms of the

overall intervention goals. For example, if a field problem is characterized as a lack of adequate technology, a conflict over common resources, or a lack of organizational capacity, the practice of communication for innovation must differ. Meanwhile, feedback is important in encouraging social engagement between farmers and extension workers because it provides the foundation on which all other communication models are built.

Mubofu and Malekani (2020), citing Lucky and Achebe (2013), posited that "the dissemination of agricultural research information findings is critical in facilitating the application of reliable agricultural information by farmers. No matter how promising the agricultural information is, it needs to reach farmers for it to be meaningful" (p. 2). The inadequate utilization of basic agricultural knowledge and information by rural farmers in Nigeria which may be as a result untimely dissemination of agricultural information has made these farmers to stick to their old traditional methods of farming system and animal husbandry practice, hence resulting in poor crop and livestock productivity (Omisope, 2020).

The dissemination of agricultural information to agricultural stakeholders in Nigeria is done through a variety of communication channels in accordance with the country's agricultural policy. Farm magazine, booklets, newsletters, newspapers, pamphlets, radio, and television are only a few examples of the communication media (Ariyo et al., 2013). To further buttress this, Oluyi and Adetola (2021) posited that, "science and technology researchers primarily use journal, conference paper, books and monographs because these channels are the standard media of communication of research findings/outcomes" (p. 15). However, the benefits of development communication programmes and policies on agricultural growth in Nigeria are considerable (Chukwu, 2015).

## Objectives

- i. To identify subject matters covered by NAERLS bulletins.
- ii. To find out proportion of content parameters in the bulletins produced by NAERLS.

## Hypothesis

H<sub>0</sub>: There is no relationship between the subject matter and content parameters of the bulletins produced by NAERLS.

## METHODOLOGY

### The study Area

The Ahmadu Bello University (ABU), Samaru Zaria, Kaduna State, is home to the NAERLS headquarters. The Institute is a part of Ahmadu Bello University's Agricultural Complex and takes up around 25 hectares of land. The Research Liaison Section (RLS), which was created out of the Specialist Services Section of the former Northern Nigerian Ministry of Agriculture, was established in 1963 to serve as a formal conduit between the Institute for Agricultural Research (IAR), Zaria, and the Ministry of Agriculture and to make sure that research findings reach farmers in an approachable format.

In April 1987, various adjustments were made to the mandates of several Research Institutes as a result of the Federal Ministry of Science and Technology's reorganization of Research Institutes. AERLS received a national mandate and changed its name to the National

Agricultural Extension and Research Liaison Services (NAERLS) in appreciation of its commitment to the country's successful extension and research support services. Planning and coordinating agricultural extension programmes; promoting the use of agricultural research findings and technologies; researching and developing agricultural extension methodologies; assessing the quality of extension services provided nationally; tracking agricultural performance; and offering feedback on research as well as policy recommendations are just a few of its main responsibilities.

NAERLS established six (6) Zonal Offices, one in each of the six agro-ecological zones of the country, in order to effectively carry out its function of coordinating the overall planning and development of extension liaison activities throughout the nation. These offices are located in Ibadan (South-West), Umudike (South-East), Port-Harcourt (South-South), Maiduguri (North-East), Badeggi (North Central), and Zaria (North-West). The research and outreach initiatives of the Institute are divided into six programmes. The first, not in any order of priority, is the Agricultural Performance and Evaluation Programme. The second is the Agricultural Extension Research Programme. The third is Agricultural Economics and Resource Management Programme. The fourth is Extension Training and Outreach Programme. The fifth is Agricultural Communication Programme and the sixth is the Agricultural Information Documentation and Media Resource Centre.

In line with this, this study therefore examined the selected National Agricultural Extension and Research Liaison Services (NAERLS) extension bulletins as their extension communication channels in the light of the institute's efforts to influence agricultural technology uptake in Nigeria. Hence, this study will be of immense significance to the populace, especially the agricultural stakeholders in Nigeria, as it enlightens on the essence as a medium of message dissemination.

### Source of Data and Sampling Technique

Secondary data were used for the study. The data were obtained from NAERLS extension publications. All the available 116 bulletins published by NAERLS since inception of the organization till 2020 that are available in the Library, Documentation and Resource Centre were purposefully selected to represent the sample size for the study (Table 1).

**Table 1: Breakdown of Study Sample for Textual Analysis of the NAERLS Bulletins (n=116)**

Subject Matter	Frequency
e-EXTENSION	0
Crop & Forestry	64
Livestock & Fishery	16
Agriculture Economics & Extension	24
Agriculture Engineering & Irrigation	7
Food Technology & Rural Economics	5
Agric. Media	0

Source: Field Study (2022)

### Analytical Technique

Descriptive statistics was used for the data analysis. This involved the use of bar chart to achieve objective i (subject matters covered by NAERLS bulletins) and combination of bar chart and pie chart to achieve objective ii (proportion of content parameters in the bulletins produced by NAERLS). Chi-Square analysis was used to determine the relationship between the subject matter of the bulletins and content parameters

## RESULTS AND DISCUSSION

### 1. Subject matters covered by NAERLS bulletins

To identify the subject matters covered by NAERLS bulletins, Figure 1 showed that almost all the programmes in NAERLS have bulletins publications on their subject matters except for Agric Media and e-Extension that did not have any publication at all with Crop and Forestry recording the highest (52.2%). This is not however surprising because of the mandate of the institute in disseminating agricultural information to stakeholders in order to enhance and improve productivity in agricultural sector and most of the Nigerian staple foods fall under the categories of Crop and Forestry.

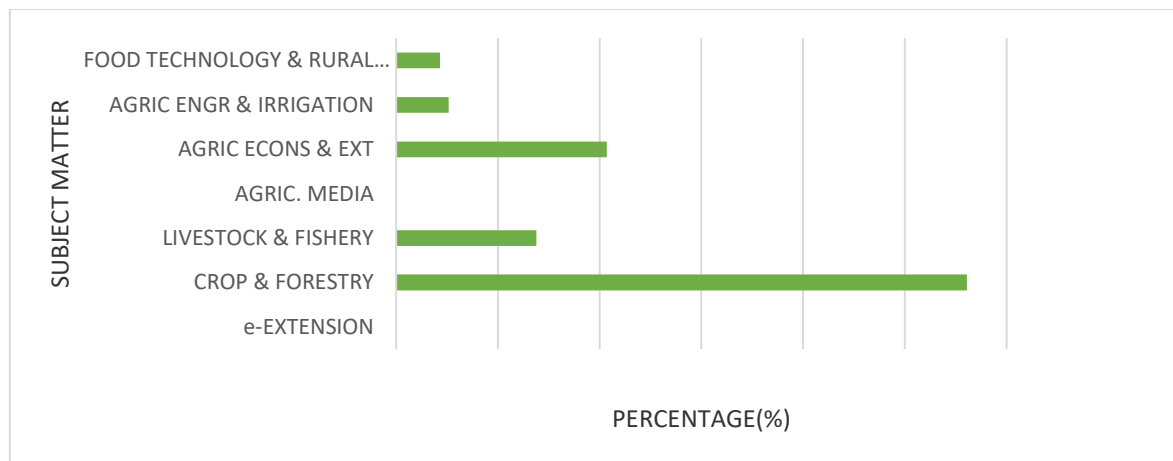


Figure 2: NAERLS Subject Matter bulletins

### 2. Proportion of content parameters in the bulletins produced by NAERLS

In ascertaining the proportion of content parameters in the bulletins produced by NAERLS, Figure 3a portrayed that 81.7% of the bulletins were published using regular font type while bold, italic and bold italic have 9%, 6% and 3.3% respectively. The implication of which is to attract readers and make the contents to look good. This outcome establishes Areo's (2009) and Okwilagwe's (2001) position that editors look over every publication to ensure that it is well written, so that the readers can read and comprehend.

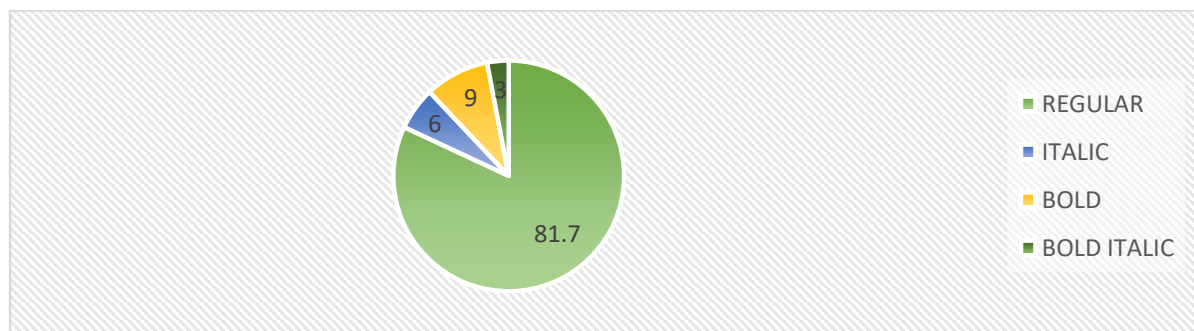


Figure 4a: Font Type of NAERLS bulletins

In ascertaining the font sizes of the bulletins produced by NAERLS, they range between 11 and 15 with the very few ranging between one and five. This establishes the fact that majority of the NAERLS bulletins' font sizes are of the average sizes and are readable. This is in tandem with Ihebuzor's (2017) position that publications are not only planned to look good and be able to attract readers, but also to present the ideas in the clearest and most intelligible way.

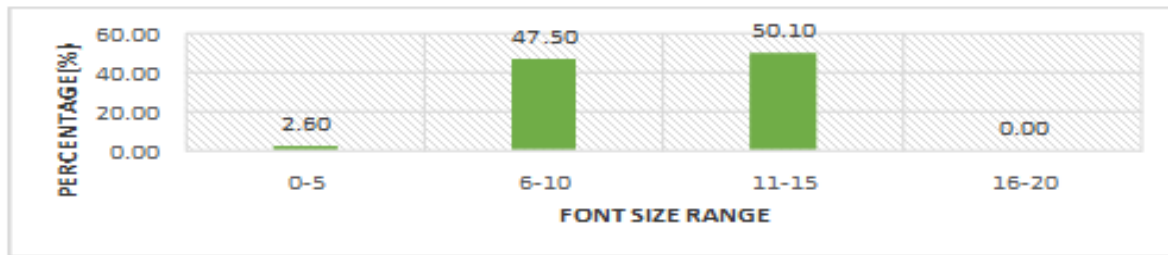


Figure 2b: Font size of NAERLS bulletins

The main message colour combination as shown in Figure 2c revealed that most of the NAERLS bulletins were not colourful (75.9%). The colourful ones (illustrations with full colour) and the less colour range between 15% and 8.6% respectively. This means that most of the pages of the bulletins were printed in black and white. This is however linked to the in-house style of the institute.

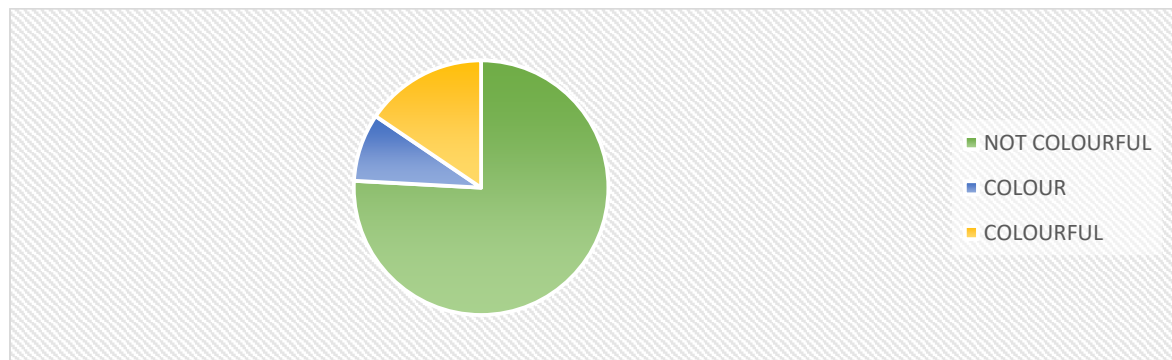


Figure 2c: Main message colour combination of NAERLS bulletin

The proportions of the illustrations featured in the available bulletins were in the range of 69% but between one and five font sizes while bigger illustrations with 11 to 15 font sizes were just 13%. The implication of this result is that irrespective of the sizes of the illustrations in the NAERLS, the fact remains that illustrations are of higher priority in all the bulletins. This justifies Ihebuzor's (2017) position that quality illustrations are included in any publication for the purpose of attraction and intensifying information by complementing the written message.

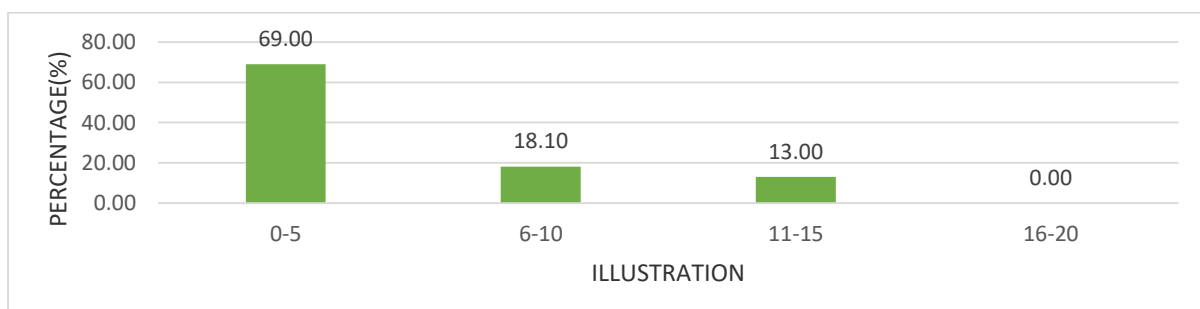


Figure 2d: Illustration featuring in the NAERLS bulletins

Picture clarity of NAERLS bulletins as shown in Figure 2e revealed that most of the publications were not clear (69%). This result negates the importance of illustrations' inclusion in any publication. According to Ihebuzor (2017), where these functions are not obvious, such illustrative materials should be removed.

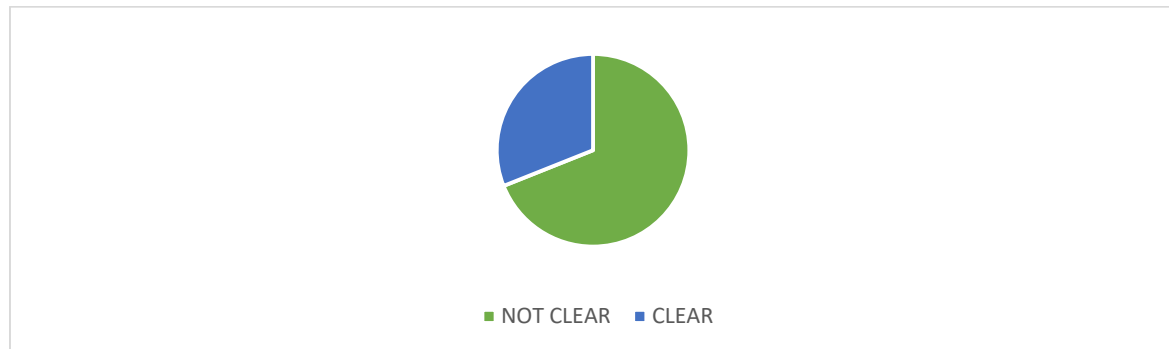


Figure 2e: Picture clarity of NAERLS bulletins

Majority of the bulletins published and available in the NAERLS were in English (93.2%) as against Yoruba (6.8%) as shown in Figure 2f. On the other hand, the reason for having the majority of the bulletins published and available in NAERLS in English (93.2%) as against Yoruba (6.8%), as shown in Figure 2f, might not be far-fetched as the official language in Nigeria is English, and these days it is generally agreed by extension scholars that most of the farmers and other agricultural stakeholders making use of these extension publications can read and write, “as the movements of the new entrant (literate farmers), who usually have higher education than the traditional farmers, into the farming enterprise have brought about an upswing in the literacy level of the farming audience” (Kumar et al., 2020).

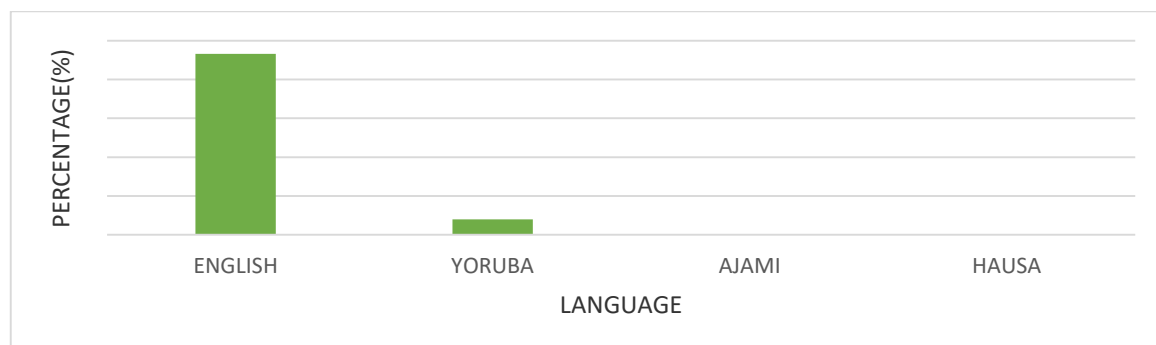


Figure 2f: Language of NAERLS bulletins

Majority of the bulletins' cover pages colour combinations were not colourful as shown in Figure 2g. Generally, looking at the outcomes as portrayed by the content analysis as regards the subject matters covered by NAERLS bulletins and the proportion of content parameters (colour combinations, pictures, font size, etc.) of extension bulletins produced by NAERLS, it could be deduced that the findings are linked to the in-house style, which is in line with the gatekeeping policy of the institute.

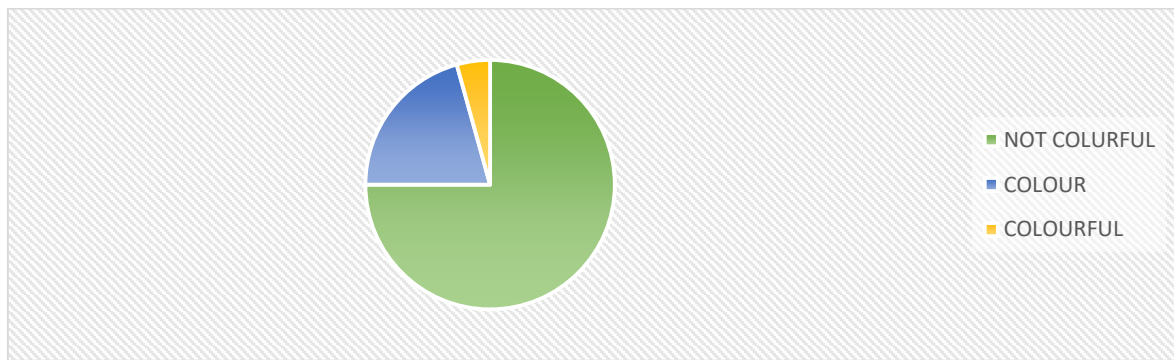


Figure 2g: Cover page colour combinations of NAERLS bulletins

### Test of Hypothesis

The result of relationship between the subject matter of the bulletins and content parameters is in Table 2. From the result, the  $p$ -value is greater than the chosen significance level ( $\alpha = 0.05$ ), we conclude that there is not enough evidence to suggest a correlation between the subject matter of the bulletins and content parameters. Based on the results, we state that there is no statistically significant relationship between the subject matter and content parameter ( $\chi^2 = 138.419$ ,  $p = 0.403$ ). The implication shows that for every change in subject matter, it has no effect on the content parameters.

**Table 2: Test of Relationship between the Subject Matter of the Bulletins and Content Parameters Using Chi-Square**

Variable	$\chi^2$	Df	Sig	Decision
Subject matter	138.419 <sup>a</sup>	135	0.403	<b>Not Significant</b>

\*\*. Correlation is significant at the 0.05 level (2-tailed)

### CONCLUSION AND RECOMMENDATIONS

Illustrations can make publication stand out from others on the shelf while making the content more accessible and easier to digest. The combination of illustrations and text can help the person reading to develop a more thorough understanding of the topic, which is why illustrations are particularly popular in educational publications. No matter the age of the reader, seeing an image alongside a topic they have been learning about can help them make connections and better relate to the content. Hence, more attention should be given to proportions of the illustrations featured in the bulletins. In addition, picture clarity is also of the essence for easy interpretation of research outputs and dissemination of agricultural information, at least for the purpose of development. Furthermore, based on the results of this study, the researchers recommend that illustrations should be engaged more in the bulletins and other extension publications.

### REFERENCES

Adetola, S. A. (2019). *Editorial uses and gratification of cartoons in Nigeria: A study of two national newspapers* (Unpublished Master's thesis). Lead City University, Ibadan, Nigeria.



- Adetola, S. A. & Oluyi, I. A. (2020). Audience perception of newspapers' editorial cartoons as communication medium. *International Journal of Media, Journalism and Mass Communications (IJMJMC)*, 6(3), 40-54.
- Apuke, O. D. & Omar, B. (2021). The ethical challenges and issues of online journalism practice in Nigeria: What do professionals and academics think? *Technology in Society*, 67, 1-8.
- Areo, A. (2009). A guide to book writing and publishing. Ibadan: Agbo Areo Publishers.
- Ariyo, O. C., Ariyo, M. O., Okelola, O. E., Aasa, O. S., Awotide, O. G., Aaron, A. J., & Oni, O. B. (2013). Assessment of the role of mass media in the dissemination of agricultural technologies among farmers in Kaduna north local government area of Kaduna state, Nigeria *Journal of Biology, Agriculture and Healthcare*, 3, (6), 19-28.
- Chukwu, C. O. (2015). The dynamics of communication in agricultural development. The case of the south-eastern states of Nigeria. *International Journal of Agricultural Extension and Rural Development Studies*, 1(2), 1-17.
- Gadzama, I. U. & Akinola, M. O. (2013). Adoption and diffusion of ICTs in extension services: Implication for the agricultural transformation programme in Nigeria. *Proceedings, 18th Annual National Conference AESON*, 113-121.
- Ihebuzor, L. (2013). Book publishing in Nigeria: Theories and issues Ibadan: College Press.
- Ihebuzor, L. (2017). Principles and practice of book publishing in Nigeria. Lagos and Owerri: Sibon Books Limited.
- Mubofu, C. & Malekani, A. W. (2020). Agricultural information sources, channels and strategies for sharing agricultural research findings among farmers in Iringa district in Tanzania. *Library Philosophy and Practice (e-journal)*, 4223, 1-15.
- Obor, D. O. & Okafor, E. E. (2020). Challenges of researching in social sciences for national development in Nigeria. In J. O. Ayodele, A. I. Akinyemi, O. A. Ajani, & A. L. Adisa (Eds.), *Social sciences and national development perspectives in contemporary Nigeria society. 2020 Festschrift in Honour of Professor Olakunle Abiona Ogunbameru* (pp. 1 – 36).
- Okwilagwe, O. (2001). Book publishing in Nigeria. Ibadan: Sterling Horden Publishers Nigeria Limited.
- Oluyi, I. A. (2019). *A comparative study of electronic banking service delivery in First Bank of Nigeria Plc. and Guaranty Trust Bank Plc.* (Unpublished master's thesis). Lead City University, Ibadan, Nigeria.
- Oluyi, I. A. & Adetola S. A. (2021): Interrogating the media of communication of science and technology research outcomes to the public in Nigeria. *Journal of Communication and Media Technology*, 4(1) (2), 1-17.
- Oluyi, I. A. & Adetola, S. A. (2019). Introduction of automated teller machine in Nigeria and its ethical challenges in development communication. *Journal of Communication and Media Technology*, 2(1), 132-142.
- Omisope, E. T. (2020). *Content analysis of National Agricultural Extension and Research Liaisons Services (NAERLS) bulletins and message utilization in selected adopted*

*villages*. (Unpublished thesis). Department of Agricultural Extension and Rural Development, College of Agricultural Management and Rural Development, Federal University of Agriculture, Abeokuta Ogun State, Nigeria.

Onagwa, G. I. (2016). *Appraisal of the Communication Strategies of the National Agricultural Extension and Research Liaison Services, Zaria, Kaduna State* (Doctoral dissertation). Department of Theatre and Performing Arts, Faculty of Arts, Ahmadu Bello University, Zaria, Nigeria. <https://projectng.com/topic/th11020/appraisal-communication-strategies-national-agricultural>

Tursunmurotovich, S. S. (2020). Importance of illustrations for perception of content of the book. *European Journal of Research and Reflection in Educational Sciences*, 8(4), 98-101.