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AUDIO-VISUAL TECHNOLOGIES AIDS (AVA) AS A MEANS FOR SUSTAINING AND DELIVERING EXTENSION INFORMATION SERVICES (EIS) TO SMALLHOLDER FARMERS IN GOMBE STATE

BY

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Abstract
Provision of desired, effective and efficient information services to farmer's group especially small holders is of paramount importance all over the world. Farmers need information for their farming development. Until and unless information about new farming technologies are carefully generated, selected, acquired, processed, repackaged and disseminated through correct, timely and appropriate media to the farmers community it will not have meaning or value to farmers at all. This paper emerged to explore on the strategies for meeting smallholder farmers' information needs in Nigeria through harnessing the potentials of audio-Visual technology services to deliver information more efficiently to smallholder farmers' by extension agents in Nigeria. For the paper to deliver its mission therefore, conceptual issues were clarified and discussed, the significance of audio-visual aids (AVA) were explored, articulated and explained, the paper has equally dwell much on the strategies to employ, by extension agents to harnessing the potential of AVA in the extension information service delivery to farmers taking into cognizance the low status of smallholder farmers' in the country.

Keywords: Sustainable Extension Information, Audio-Visual Technology, Smallholder Farmer.

Introduction

Information plays a key role in agricultural development and their effective communication will help to facilitate mutual understanding among farmers, Agricultural scientist and extension workers (Agboola cited in Alam & Haque 2014). Information as a major ingredient for development, Kaye (1995) further shed light that enhances efficiency and provides a competitive edge, knowledge and information are basic ingredients for increased agricultural production and productivity. Information is the critical resource in the operation and management of the agricultural enterprise (Opera, 2008). Information and communication are essential tools needed for the effective providing awareness and educating people, mass media has been defined as any material, objects, instruments or system which serves to communicate information including letters, pamphlets and other written and printed materials, all types of cinema, film radio, television, video system (Adams, 982). Media can be classified into four types: Print media (news papers, magazines), broadcast media (TV Radio), Outdoor or out of home (OOH media) and Internet social media, (face book, twitter, link dim, You Tube, Pinterest, Instagram, Tumblr, Flickr, Wechart, Reddit, Snapchart, Watsapp, Quora, Tiktok, Vimeo, MIix Medium, Digg, etc.

Abbas et al (2008) argued that lack of information adapted to the local needs and lack of technical knowledge at farm level are the important factors responsible for this low yield in many developing nation and Nigeria is not an exception. Information therefore, is considered as one of the most important resources in Agricultural and rural development that assist the farmers to take decisions and appropriate action for further development related to farming (Morrow et al, 2002 and Stefano et al, 2005). Extension information services agents play a vital role in sourcing and making such information relevant, accurate and timely if well communicated to the farmers who desired them. For extension Agencies and their Agents to do so they resort to the use of Audio-visual aids to assist in communication the ideas, fact and information to farmers, but not only that to assist farmers grasp and understand the ideas, and information more quickly but, with ease and less energy and timely manner.

Moreover, it is also emphasize that for extension information delivery services to farmers to be effective there is the need for Agents to provide firsthand experience like showing real objectives to farmers e.g. Photographs, chart, pictures, slides etc. but one cannot bring all the real things into the classroom or venue where interaction with the farmers is taking place, rather agent would like to tell the farmers about the old ways of doing things such as spacing, old seedling varieties and newer ones with practice of harvest happening in the past. To make these experiences near reality, extension Agent need the help of visual aids like flash-cards, charts, diagrams, maps, pictures, etc among others?

Again, with the advancement of technology in all fields of human endeavor, and agriculture not in exception, agents are now able to get video recorded films which provide great support to extension lessons. One must remember that a more collection of areas. From the above therefore, it is now pertinent for extension agents to integrate audio-visual aids in dissemination of information to smallholder farmer's development.

Speaker gets his or her message across to the audience (Tracy, Hoover, Ricky and jimmy, (nd), Audio-visual aids has been defined since by Hass and packer (1955) as a devise that assists the instructor to transmit to a learner (farmer) Facts, skills, attitudes, knowledge, understanding and perception. Visuals aids are any instructional device through which a message can be heard as well as seen. All these materials are complementary and supplementary to the course contents that the extension agents are planned to Impart to farmers.

These materials are called audio-visual aids. Audio-visual aids are of various forms. Some say they are broadly of two types, some say of three types, sill other say of four or five types. But the materials audio-visuals aids that are used at extension teaching level may be classified into three major categories.

1- An aid that influences the learner's auditory sense (i.e. sense related to listening or hearing) is called audio aids. These include: the record player or gramophone, the radio (programs) etc.

2- In visual aids, the learner's sight sense is involved. Such aids are the black-board, the bulletin board, pictures, chart, photographs, posters, maps, the globe, models, specimens, textbooks, silence motion pictures, etc.

3- The third category of aids aid audio-visual. In these aids it seems that both the listening (ears) and Viewing (eyes) senses are involved. Such aids are television (programs), Videos (films), motion pictures (computer-assisted instruction) etc.

Keeping the media (or medium) in mind, audio-visual aids could be divided into two categories, printed and non printed media. Aids or materials highly dominated by printing are called the print medium. The most appropriate example of print medium is the textbook or supplementary readers. The message of the reader through the medium of print, all materials other than textbook or supplementary reader come under non-printed media. TV, Video films, charts, pictures, graphs, etc, are all non materials. Although these classifications may not appear to be very appropriate, this has been done to bring in the concept of the print medium.

Considering the aforementioned definitions above, in the context of this paper, therefore, the term audio-visual aids technologies refer to anything that an extension agent uses to help to convey the message when communicating with the farmers. Its impact and effectiveness can be greatly increased by the use of suitable audio-visual aids (UNESCO/UNICEF Cooperative program, 1980). It's of great importance to note that audio-visual aids when carefully selected and properly used in extension lessons, offers the followings:

1. The interest of the farmers can be maintained the mode of presentation. It is difficult to concentrate on what someone is saying; but if the agent refers to a chart, or illustrate a point with some slides, his audience attention can be maintained.

2. When information is presented to more than one sense (e.g. sight and touch as well as hearing), more are taken in and are better understood and remembered.

3. Process and concepts that are difficult to express in words alone can be explained.

4. The procedure for farmers to applying for a loan e.g. may sound confusing, but a simple chart or diagram can make the process clear, again the life cycle of a crop pest can be explained by showing a series of slides or drawings.

5. The effects of decisions and actions that farmers might take can be shown. Photographs of a cattle dip or a model of a cooperative store can give farmers a clear idea of just what it may be considering.

6. Pictures can have a more immediate impact on our emotions than words. Photographs of a heavy crop, for example, are likely to arouse interest more effectively than details of yields read out by an extension agent.

7. Visual materials can be particularly used to provide new experiences or to correct wrong impressions.

8. The use of audio-visual aids stimulates interest in farmers. This leads to the whole hearted attention on the part of farmers, which ultimately developed a linking for subject.

9. Audio-visual aids bring the past of the years and even centuries into a short period of minutes.

10. These aids help in making the whole world a real audience of events occurring in the various parts of the world, for example new farming methods, or application of certain seedlings, etc.

11. They make agents instructions matter lively and interesting (Adesola, 2012).

Types and classification of Audio-Visual Aids used in Extension Services

Audio-visual Aids exist that can be integrated into extension related teaching and learning process. According to FAO, (2006) the following are some of the Audio-visual Aids technologies used for extension teaching and learning purposes:

1. Projected media e.g. films, filmstrips etc.
2. Broadcast and Telecommunication media e.g. Radio and Television.
3. Computers/teaching machines
4. Printed materials e.g. journals, textbooks, handouts.etc.

5 None projected cards e.g. chalkboards, adhesive e.g. flannel graph, magnetic board, bill board Etc.

6. Pictorial cards e.g. charts, photographs
7. Three dimensional aids e.g. models, replicas.

From the above classification one can see that Audio-visual aids have different classifications. According to (UNESCO/UNICEF Training manual 1998) classified AVA in the following classes:

- ❖ Visual
- ❖ Audio and
- ❖ Audio-visual.

Table 1 below presents the classification of audio-visual aids technology for clarity and articulation.

Table 1 classification of audio-visual aids

S/N	Visual aids	Audio aids	Audio-Visual aids
1	Non-projected material (aids) - chalkboard - Adhesive e.g. Flannel graph, Magnetic Board, Billboard, Plastigraph etc.	Record and Recorded Players	Film
2	Pictorial Material (aids) ❖ Charts, ❖ Photographs	Tape recorder	Television
3	Mobiles Material (aids)	Radio	Video
4	Three Dimension Material (aids)	Language laboratory	Satellite Broadcast
5	Projected Materials (aids) ❖ Filmstrips and Slides Projectors		Recorded Programs

Source: UNESCO/UNICEF Training manual (1998)

Strategies for the use of Audio-visual Aids in Extension lessons

Considering the significance of audio-visual aids in extension information service delivery to farmers, this paper advocating for proper utilization of these technologies for enhancing service delivery smallholder farmers whose majority are characterized as illiterate (Mohammad, 2016), can stand to benefit from these range of technologies that could assist them in understanding the lessons, issues and concerns on farms practices. In some instances, it has been observed that extension agents often use sophisticated audio-visual aids which require electricity and complex machinery such as projector or television sets (UNESCO/UNICEF cooperative program, 1980).

But there are many simple aids that the agent can make logically, and these have several advantages thus:

1- They do not require a power source or heavy equipment.

2- They do not cost much to produce and they can be made to suit the practice needs of the agent (UNESCO/UNICEF cooperative program, 1980).

The audio-visual aids that can be found available to the extension agent to use especially that can assist in teaching the farmers issues related to their farming have been outlined by FAO, (2006) thus:

1. An object: A real object is often the most effective aids. It enables the farmers to understand exactly what the extension agent is talking about. Equipment and tools can be shown, sample of diseased plant and insect pest displayed and different seed varieties and fertilizers handled by farmers. Where an object is too large to be shown, a model of it can some time be used as a teaching aid. Poultry farmers for instance can stand to learn about the construction of poultry shed, for example, or the installation of a dip tank can be demonstrated by using a model, which can be taken to pieces in front of the audience.

2. Use of photographs: photograph can produce a substitute of the real objects. They can be passed around the audience or displayed by the agent. If the photograph is been taken to use as a visual aid, just the right amount of detail should be included for the audience to recognize it. Too much detail confuses and distracts, while too little prevents recognition. Photograph of people doing things are more likely to interest the farmers than photographs of objects alone.

3. Blackboards are widely available in schools, rural training institutes and extension offices. They may be fixed to an inside wall or supported on a freestanding easel which can be moved around. They are useful for setting dawn the main point's headings of a talk, for sketching simple drawings and diagrams, and for noting point raised in questions and discussion. If using a Blackboard, the agent should practice writing on it, if necessary by drawing horizontal chalk line for guidance. He should make sure that the writing is larger enough for someone at the back of the audience to see clearly and that the headings and the phrases are kept short. There is too much space on the Blackboards and the agent will lose the audience's attention if he spends a lot of time with his back to them when writing. On the other hand, white Board has a smooth, shiny surface on which colored felt pen be used, but it's important to use only pen with water solution ink. Whiteboards are easier to use than the blackboards from both the agents and the audience's point of view. The pen flow smoothly over the surface and the colors are much clear than the chalk on the blackboard.

4. Use of Newsprint: Newsprint which is an inexpensive paper can be obtained in large sheets and fixed to a blackboard or to the wall of a building. It can be used in the same way as a blackboard but it is more versatile. Text and drawing can be prepared on several sheets,

before a meeting, to avoid having to write while speaking. Used sheet can be kept for future reference. At the planning meeting with the group of farmers, for example, the agent can take away the sheets to guide him in preparing a written record of the decision taking.

5. Use of Posters: Posters is another important aid they are useful for highlighting the main theme of a talk and well charts can be used to show complex processes. Although they are used mainly in classroom teaching where they can be left on the wall for future reference, they can also be carried by the extension agent to help him to convey ideas to farmers.

6. Flip chart: A flip chart is a large pad of paper on a stand. It is a very useful and flexible way of recording information during presentation, agent can even use pre-prepared sheet for key points. Record information as he/she go along. Use the turning of a page to show progression from point to point. Remember to make your writing clear and readable and your diagrams as simple as possible. Many extension agents will already have access to printed posters, wall charts and flip charts, but they can also be made locally with large sheets of paper and colored pens. When taking flip charts, the following points should be taken into account.

1- Lettering should be large.
2- Diagrams should be simple.
3- Information on each sheet should be limited.
4- Pictures from posters and magazines can be cut out and stuck on by those who cannot draw.
5- Pre-testing is important for all home-made visual aids.

7. Use of projected aids: Films, color slides, filmstrips and overhead projector transparencies are useful in teaching aids, bringing color variety and interest to an extension talk. However, they all require specific equipment and electricity. Extension agent are therefore, more likely to use them in training centers and schools, although some slides projectors can be adapted to work from a 12-volt car battery. Film, filmstrips and slides are best used at night or in a room with curtains drown or shutters closed. Daylight screens can be used for small groups. Overhead projectors can be used in daylight, provided the sun is not shining directly on the screen or wall on which the image is projected. It is equally important for the agent to use color slides that can be selected and put in a suitable sequence by the extension agent. He can produce his own slide to his purposes, process he has access to the camera, film and film processing facilities. A slide set can easily be modified or updated by replacing one or more slides. If they are kept dry and free from dust and finger prints, they will remain in good condition for many years. An agent can either provide his own spoken comments on the sides, or a commentary can be recorded on an audio cassettes. With synchronized equipment, the tape can be modified so that slides automatically change at appropriate point.

Filmstrips contain a sequence of slides in a single continuous strip of film. They are shown on a slide-projector fitted with a filmstrip carrier between the projected body and the lens. They cannot be modified easily and the sequence is fixed, but individual frames cannot fall out or be put in the projector the wrong way round. They are useful when a fixed message has to be presented many times.

Overhead projectors: are usually only found in a classrooms and conference or meeting rooms Diagrams and text are put on to a sheet of transparent acetate with special felt pens; the acetate is then place on a flat glass platform through which a light shines, projecting the contents on to a vertical screen. The agent can write on the acetate while facing his audience,

or he can prepare it beforehand. If he covers different part of the sheet with paper, he can gradually reveal the sections of a diagram, thus achieving an effect similar to the flannel graph. There are many different types of visual aids. The following advice will help you make the most of those commonly used.

8. PowerPoint (or equivalent): Microsoft PowerPoint is probably now the most commonly used form of visual aid. If used well, it can really help you in your presentation; used badly however, it can have the opposite effect. The general principles are:

Do	**Don't**
Use a big enough font (minimum of 20pt)	Make it so small that you can't read it
Keep the background simple	Use a fussy background image
Use animation when appropriate	But don't over-do the animation-it get distracting
Make things visual	Use endless slide of bulleted list that all look the same

Extension agent can produce slides in three ways as suggested by Tracy, Hoover, and jimmy (nd) as follows:
1- Pre-prepared slides: this can be words or image either hand written/drawn or produced on a computer;
2- Spontaneously produced slides: these can be written as you speak to illustrate your point or to record a comments from the audience.
3- A mixture of each: try adding to Pre-prepared slides when making your presentation to show movement, highlighted change or signals detailed interrelationships.

He/she should that the text on the slides is large enough to be read from the back of the room. A useful rule of thumb is to use 18 point text if you are producing slides with text on a computer. This should help reduce the amount of information on each slide. Avoid giving your audience too much text or overly complicated diagrams to read as this limit their ability to listen. Try to avoid list of abstract words as these can be misleading or uninformative.

9. Paper handout: Handouts are incredibly useful. Use handout if your information is details to pit on a slides or if you want your audience to have a full record of your findings. Consider the merits of passing round your handouts at the beginning, middle and end of presentation. Given too early and they may prove a distraction. Given too late and your audience may have taken too many unnecessary notes. Given out in the middle your audience will inevitably read rather than listen. One powerful way of avoiding these pitfalls is to give out incomplete handout as key stages during your presentation. You can then highlight the missing details vocally, encouraging your audience to fill in the gaps.

10. Video (DVD or VHS): Video gives you a chance to show stimulating visual information. Use videos to bring movement, pictures and sound into your presentation. Always make sure that the clip is directly relevant to your content. Tell your audience what to look for, avoid showing more film than your need.

11. Artifact or props: sometimes it could be very useful to artifact or props when making a presentation (think of safety routine on an aero-plane when the steward shows you how to use the safety equipment). If you bring an artifact with you, make sure that the object can be seen and be prepared to pass it round a small group or moves to different areas of a large room to help your audience view it in detail, remember that this will take time and that when an audience is immersed in looking at an object, they will find it hard to listen to your talk. Conceal large props until you need them; they may distract the audience attention.

It is equally important to note that whenever audio-visual resources is planned to use, the following should be taken into considerations;

1- Audio-visual aids Technology involves the integration of men, machine/ materials and ideas,
2- Men; Extension Agent, farmers, members of youth club, women groups etc.
3- Machine/material; AV equipment and mass media used for training and teaching purposes e.g. Radio and TV. Ideas: objective of teaching task.
4- Selection and continues evaluation of the materials.

Specifically, Audio-visual aids technology concerns itself with the use of the equipment (hardware) and materials (software) in the extension teaching and learning process. For effective teaching a suitable objective must be set for the lesson, after this the extension agent should seek to organize and structure learning task. With this he/she will ask such questions as what materials, equipment and method will I need to use so that the farmer might learn better. This question should enable the Agent to identify the correct style, quality of materials and equipment that are requested for effective teaching of the topic so that the learners can acquire the necessary knowledge, skills attitude, values, habits and interest with proper understanding of:

5- Extension Agent – technical message method of presentation.
6 – Environment is conducive, relevant to the circumstances of the user of the message.
7 – Audio-visual Aids technology to use (Tracy, Hoover, Ricky and Jimmy 2016).

For example in designing a virtual aids methods lesson many different rules for designing virtual aids, some of which will apply directly to different kind of equipment. In general, sticking to the following guidelines will provide high quality visual images:

1 – Use one simple idea for each visual;
2 – Make the text and diagrams clear and readable;
3 – Avoid cluttering the image;
4 – Keep your image consistent (use the same font, title, layout etc for each image);
5 – make sure your images are of high quality (check for spelling and other errors);
(UNESCO/UNICEF cooperative programme, 1980)

It is also important for an agent to always remember that an audience should be able to understand a visual image in a matter of seconds. The following should equally be considered while presenting an extension lesson to farmers thus:

1. Room layout: remember that your audience needs to be able to see as well as your visual aids. Try to involve every member of your audience by changing the layout of your room. Below are some suggested layouts to help maximize contact between you, your audience and your visual aids. e.g. speaking to small or large audiences. Source presentation available at,

http://www.le.ac.uk/oerresources/ssds/presentaionskills/page58.htm

Extension agents should use as many strategies as possible to arrange his audience in different settings. Use them to create different atmospheres; for example, an intimate setting might suggest an informal tone, while placing yourself at a distance might suggest a more formal relationship.

Another thing worth noting here while preparing to use visual aids in extension lesson is that, Agent should be able to check the equipment to ensure that it:

Works;

- Is the equipment you are familiar with (How do you start the slide show?)
- How do you change the pad?

- Should you permanent or waterproof pen? Among many other question an agent need to ask self for successful extension lesson presentation, etc among others.

Agent should try to be familiar enough with the tools he prefer to use to ensure that he/she won't be thrown if something goes wrong. A confident use of visual aids will help marry them to your spoken presentation helping them become part of an impressive performance. Whatever audio-visual aids an extension agent intends to use, the following rules must be adhered to for successful information service delivery to smallholder farmers:

- ❖ Select the aids most in accordance with your objectives, the composition and the size of the audience where the aids will be used.
- ❖ Select the aids to reinforce your message. They are there to support, to complement and to supplement the spoken word, and should not be expect to communicate their contents without explanation. Refer to them, explain to them and ask questions about them.
- ❖ Make sure that the audience will be able to see and hear clearly. Audio cassettes that cannot be heard or lettering that is too small to be seen can make the audience restless and inactive.
- ❖ Practice using the aids beforehand. Where projected aids are used it is important to be completely accustomed to the equipment. For example, there are seven incorrect way of loading a slide in to a projector but only one correct way. (FAO2006p.6-11)

Challenges and strategies

In an attempt to properly harness the potential of those audio-visual aids technologies, some challenges seem to negate both the extension agent and the farmers to utilize these resources in the course of extension teaching and learning situations more properly. Such challenges envisaged could be classified into factors thus:

Financial/ Administrative factors

- ❖ Poor funding of extension agencies in the country could not promote the use of audio-visual aids resources by extension agents.
- ❖ Lack of availability of the resources in extension institution could not encourage agents to use in their lesson
- ❖ Poor or inadequate mobility could not allow extension agents to travel to rural remote areas not taking to using teaching aids resources.
- ❖ Poor remuneration and rural allowance to extension agent could not promote them to use AVA in teaching and learning situation in Nigeria.

Technical Factors

- ❖ Problem of technical knowhow, show how most extension Agents available for teaching and learning farming techniques.
- ❖ Problem of maintenance culture from the part of extension agencies especially publicly funded ones.
- ❖ High cost of maintenance.
- ❖ Poor conducive atmosphere for preserving such AVA in extension Agencies.
- ❖ Rapid change in technological tools due to rapid technological Advancement.
- ❖ Incessant power failure in the country.
- ❖ Techno-phobia among farmers in most cases and to lesser extent extension agents.

Educational Factors

- ❖ High illiteracy rate among majority of smallholder farmers may not permit farmers to see the advantage of using AVA in learning process.
- ❖ Low level of education from the part of extension agents may not promote them to use best and relevant AVA in teaching farmer.
- ❖ High cost of materials (aids) nowadays.
- ❖ Inadequate continuing education from the part of extension agents and farmers as well could not promote the use of AVA especially the modern ones.
- ❖ High cost of training could discourage the extension organizations not to send their Agent to receiving training.

From the forgone catalogue of factors mentioned above, the following are proffered as the way forward for minimizing the challenge:

Financial/ Administrative Factors

- ❖ Adequate funding should be provided for the extension related services in the country so that working tools such as the use of Audio-visual aids could be promoted by the extension agents.
- ❖ Provision of Audio-Visual resources in extension institution could encourage agents to use them in their lessons.
- ❖ Adequate mobility could promote extension agents to travel to rural remote areas to integrate and use teaching aids resources in their lessons.
- ❖ Attractive remuneration and provision of rural allowance to extension agent could promote them to use AVA in extension teaching and learning situation.

Technical Factors

- ❖ Promotion to learn the skills and techniques on how to operate audio-visual especially the most technical ones should be promoted among extension Agents. In other word it is necessary for agents to learn the use and operate most of the AVA available for teaching and learning farming technique.
- ❖ There should be regular maintenance training from the part of extension agencies especially publicly funded ones.
- ❖ AVA should be preserved under good and conducive atmosphere for proper preserving in extension agencies.
- ❖ Extension agencies should try to keep face with rapid technological change in tools in order to carry farmers especially smallholders with the trend in farming businesses.
- ❖ There should be provision of an alternative power supply as most of the AVA gadget relied on using electric power to operate.
- ❖ Farmers as well as extension agents need to be enlightened on the significance of these technologies for supporting extension teaching and learning process.

Educational Factors

- ❖ Farmers should be mobilized to see the advantages of using AVA in teaching and learning process.
- ❖ Extension agent should be encouraged and supported to further their studies as this will go a long way in promoting them to use the best and relevant AVA in teaching farmers Agricultural Technologies. Hence improve farm practices.

- ❖ Government should provide subsidy on high cost of materials (aids) nowadays for farming development. Moreover, less costly and logically available AVA could be encouraged to be use by extension agents.
- ❖ There should be opportunity for continuing education from part of the extension agent to farmers as well this could promote the use of AVA especially the modern ones.

Conclusion

In conclusion, one should note that extension services worldwide nowadays rely heavily on the effective strategies that could promote farmers especially smallholders to use and apply new technologies introduced to them for improved farm production. The paper has tried to explain the concepts of AVA and extension information services as well as the benefits of integrating AVA in extension teaching and learning as this will go a long way in keeping farmers more enlightened especially in quickly grasp extension lessons. Types and classifications of AVA have been explored in the paper as well as the strategies that could be employed which could promote the use of these technologies. Also, challenges as factors that discourage the use of AVA technologies in extension lesson were identify and discussed as well as measures that could minimize the challenges identified were carefully recommended as a way forward for the general farming development and especially smallholders farming in the country.

Recommendation

Based on the findings of the study, the following recommendations are made: Science and technology should be more encouraged and Audio-Visual technology in teaching and learning of extension services to stimulate adoption of improved technologies by farmers in Nigeria. There is need for adequate provision of teaching materials and latest information by extension agents to enable farmers to witness the benefits of their productivity. There is need for government to support farmers with inputs such as fertilizer, access to agricultural loans, accessible road and market linkages.

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