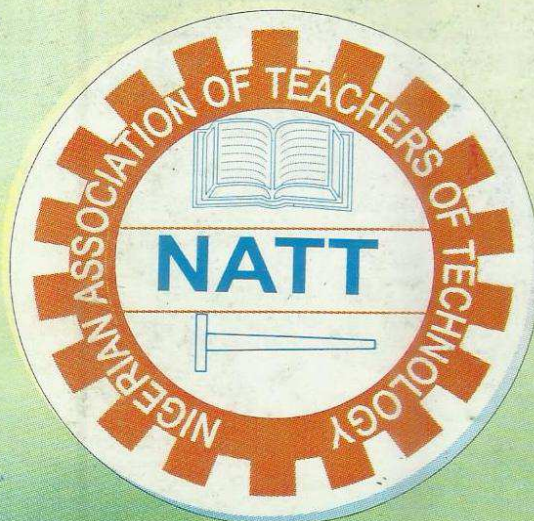


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Re- Inforcing Farmers Productivity in Akwa Ibom State through Agricultural Information Communication Technology Networking

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Abstract

Presently, agricultural production is hindered by limited information available to farmers. Most importantly, majority of the farmers are located in the remote parts of the state where they have no access to modern information and communication technologies. This study focused on the utilization of modern information and communication technologies such as electronic library, web sites, internets, telephones, computer, radio and television networking enhancing agriculture productivity through effective and efficient dissemination of knowledge and skills to farmers.

Introduction

Agricultural Information and Communication Technology (ICT) is the technology supporting activities involving the acquisition, creation, processing, storage, manipulation and dissemination of vocal, pictorial, textual and numeric information, with their related microelectronic bud combinations and telecommunications. The support equipment in the success of ICT includes computers, electronic and communication devices. This millennium has its entire developmental index pointing to the utilization of information and communication technology devices in various sectors of the economy. Some of the devices are e-mail, internet, telephoning, paging and teleconferencing. The need for modern communication system and its penetration in every facet of our nation building according to Adebayo (1999) can not be over-emphasized. In Akwa Ibom State, ICT awareness seems minimal and its application to agricultural productivity is restricted to few people, mostly among the elitist class that have direct contact with the western technology. Majority of farmers particularly those in the rural locations of the state are left out in the information and communication as sources of agricultural information and applications for improved productivity.

Akwa Ibom State as a part of the global community needs a re-inforcements in ICT to ensure that her people participate in the aglobal agricultural development. Asere (2002) observed that, a new approach to technology education has become a major tool for economic development and have to be given the prominent status in a bid to transform the productive capacity of farmers in the rural locations of Akwa Ibom State. Information and Communication Technology networking has become the present day nation's builder; bringing peoples and nations into one global village. Its application and utilization in agricultural industries to boost production is therefore imperative.

Information and Communication Technology Tools in Agriculture:

Low-income rural farmers have adopted some information technologies with considerable success. The best known is the mobile phone, which for example, helps reduce the information gap between farmers and traders. Mobile phones are

inexpensive, require no special training, and serve social functions beyond their use in rural trade. They are also easily shared or rented out, providing non farm income opportunities for enterprising rural farming households (Arman 2005) However, obstacles exist particularly in computerization of agricultural operations in Nigeria. The complexity of agricultural operations and enterpreneuring activities demands immediate utilization of information and communication technology to enhance efficiency through automation, electronic product quality control, electronic funds transfer, account reconciliation, networking and farm security operations (Ekong and Williams 2004).

Agricultural Information and Communication Technology Networking and Its Strengths

Agro Web Network aims to facilitate the generation, collection and provision of agricultural information, knowledge and best practices through:

1. monitoring information about related links to agricultural institutions,
2. providing necessary environments for net-working activities among different thematic group of farmers,
3. promoting national and international events related to the objectives of Agro web networking,
4. undertaking capacity building activities and promoting inter-institutional cooperation using development of communication schemes at regional, sub-regional, national and intra-national agricultural levels and,
5. enhance collaboration among participating farming institutions and other organizations through development and promotion of common standards and guidelines for agricultural information management.

Principles in Agricultural Information and Communication Technology Networking:

The networking activities in Agro Web are based on the common interest and responsibilities of the individuals and institutions involved. The Networking creates positive environment for implementation of Agro Web Network through decentralized approach. The possible reason is because Agro web is not a product of formal agreements or supported by a project, which needs centralized networking. Thus, the initiative from the stakeholders results in horizontal network in the structure of vertical connections from regional and sub-regional to national and sub national levels. The next step to the decentralization of the Agro Web Network is the facilitation of the farm level participation and the creation of a network of farmers' organization in participating countries (Uwe and wood 2001). Common standard but not uniformity national web pages have been established as partials for the countries in the region providing access to information in a standard format and structure about agriculture – relating research findings to the farmers and other users.

Community in practice and bottom –up approach is also possible as new initiative of Agro Web in the promotion of the network at the sub-national level and creating a platform for communication between farmers. The strong involvement of farmers in networking activities is essential to achieve a remarkable change in rural

livelihood and supporting sustainable agriculture. This approach is also being implemented in the development of special thematic networks (communities) such as Animal Genetic Resources, Veterinary medicine, farming education and Distance learning. These lead to a real community participation in agricultural practices. The involvement of local stakeholders give local farmers opportunity to be heard at decision-making level since most decision makers (mainly ministries of Agriculture) in participating countries are involved in Agro Web activities. The Agro web network has the following strengths:

- * integration of various agriculture related databases
- * launching the appropriate search mechanism for Agricultural information
- * development of Agro Web as a common language platform for farming families
- * presenting agricultural information to farmers at local community levels
- * enhancing dissemination of Agricultural research information to all stakeholders. (Extension agents and farmers).
- * stimulating research in Agro- related fields with the view of increasing food and fiber production.
- * promoting food stability through sustainable information and communication technology practices.

It could therefore be said that information and communication technology networking has become the major tool for enhancing the cost effectiveness of investments in agriculture for its numerous desirable benefits.

Re- Inforcing Farmers Productivity through Information and Communication Technology Networking

1. Electronic Library Technology Networking:

Modern electronic libraries store books, magazines, journals, annual reports, theses, dissertations, in diskette, tapes, records, video cassettes, Maps, drawings, paintings and artifacts electronically. These resources are of tremendous help in revitalizing agricultural knowledge and skills (Ekong and Williams, 2004). The functions of electronic library in agricultural production include:

- sewing the needs of agricultural research.
- providing for academic needs and interest of prospective farmers.
- facilitating self – education and enlightenment in Agricultural production.
- promoting self – learning among young and old farming communities.
- circulating research information to local farmers.
- providing information on special subject matter areas to farmers.
- providing materials which promote the research needs of Agricultural academic community.

2. Computer Technology Networking

Computer information technology is the acquisition, processing, storage and dissemination of vocal, pectoral, textual and numerical information by a microelectronic based combination of computing and telecommunication in Agriculture.

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Computer has the following strengths in the revitalization of agriculture in Akwa Ibom State:

- high storage capacity of agricultural information which enhanced easy access to needed productive and skill information,
- the information could be safely stored and could not be easily corrupted or damaged.
- information could be transmitted either through voice or print,
- agricultural research information could be easily accessed.

3. Internet Technology Networking

Internet is a global network made up of millions of computer networks, which allows access to Agricultural information. The internet tagged: "Information Highway" connects over 17,000 regional networks which series over 40 million active users spread over all continents of the world (Duru and Okon 2004).

Internet has the following influence in agricultural revitalization:

- agricultural information and research reports are transmitted and accessed in all parts of the world through electronic mail (E-mail).
- the worldwide web (www) provide agricultural information to farmers everywhere.
- file transfer protocol (FTP) store and access information to farmers.
- tele video conferencing enhancing the ability of local farmers to access current agricultural information and attend research seminars and workshops conferences from their respective homes.
- online ordering enhanced the ability of farmers to download electronic information on agricultural issues.
- invoicing enhanced the recording and relieving agricultural information.
- telephoning enhanced computer telephone communication where vital information's are accessed.
- text and directories support fast transmission and accessing of agricultural information from all parts of the world.
- telnet supports the storage, processing, reliving and accessing of agricultural information.
- network computing enable the exchange of agricultural massages and information to and from any part of the world.

4. Audio Electronic Media Technology Networking:

Radio and audio cassettes are effectively utilized in the communication of agricultural information and skills to farmers. (Asere 2002). In Akwa Ibom State, two radio programmes are put up weekly in the local language and in English for transmitting current agricultural knowledge to the farmers. The radio programme goes a long way in assisting;

- the dissemination of agricultural knowledge and skills to farmers in all parts of the state.
- in providing farmers with new research discoveries

- in training less-educated farmers in their local communities.
- in instructing farmers on new agricultural techniques.
- in providing farmers with a guide on modern agricultural practices.
- in sensitizing individuals to choose agricultural production as a vocation.

5. Television and Video Technology Networking

Television and video networking combines the audio and visual aids in transmits agricultural information to farmers. Using the device, knowledge and skills are transmitted simultaneously (Arman 2005). The device has the following strengths:

- combining the power of hearing and seeing to inform, educate and entertain farmers.
- making the learning of agricultural issues and concepts easy, faster and enriching.
- motivating the farmers to adopt new technologies since seeing is believing.
- enhancing the ability of the farmer to follow agricultural procedures through recorded camera events
- facilitating technologies transfer as farmers could easily initiate the observed processes of production.

6. Telephone Technology Networking

The telephone has been of major importance in the process of agricultural information transfer. The utilization of video tapes, a communication technology derived from the combination of telephone, television and computer enhanced access to research information stored in other computer systems. This has the following strengths:

- allowing a two ways transmission of agricultural information in text, and graphics over telephone lines.
 - provide access to agricultural information stores in other computers.
 - sending agricultural information from central research stations to subscribes (farmers).
- Implications of Agricultural Information And Communication Technology Networking For Improving Agricultural Productivity of Farmers in Akwa Ibom State**

Agricultural information and communication technology networking would have implications for improving the productive capacity of farmers as follows.

1. Farmers in the state would be exposed by extension agents to various information and communication technologies in order to update their knowledge and skills in agricultural production.
2. would ginger the establishment of Information and communication centers in each of the 31 Local Government areas of the State by the state ministry of Agriculture.
3. Internet services would be made available to farmer at minimum cost by Government

4. it would facilitate Agricultural resource centre establishment at the state capital by the ministry of Agriculture for the storage, processing and dissemination of agricultural information to all farmers.
5. Air time allocation to agricultural programmes in radio and television would be increased by the media houses to make for detailed exposition of agricultural concepts, knowledge, techniques and skill applications to the farmers.

Conclusions

Agricultural productivity in Akwa Ibom State would be highly revitalized if the various information and communication device are effectively and efficiently utilized. Such as the electronic library, Agro-web network, computers, internets, televisions and telephones

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