Chapter 3

Application of Information Communication Technologies for Agricultural Development through Extension Services:
A Review

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ABSTRACT

This chapter outlines the role that Information Communication Technologies (ICT) play in the global context and in Africa, agricultural extension and Agricultural development. The role of and use of ICT by extension officers, the trends of ICT in agricultural information management, how ICT bridge the digital divide as well as the types of ICT tools used by extension officers such as radio, television, computers and internet. It also gives the perspective about the factors that influences use of ICT by extension officers which are seen as playing an important role human development.

INTRODUCTION

ICT and the Global Context

According to Roy (2005), the use of Information Communication Technologies is expanding rapidly. ICTs comprise of a diverse set of technological tools and resources to create, disseminate, sore and manage data and information. Traditional ICT tools such as television, radio and telephone have proven their effectiveness in promoting development in marginalized areas. The emergence of computers, the internet and wireless communication technology, along with powerful software for processing and integrating

text, sound and video into electronic media comprise modern ICTs. The spread of the global electronic network of computers popularity referred to as the internet and wireless telephony has generated an unprecedented global flow of information, product, capital and ideas. Furthermore Adesope, Asiabaka and Agumagu (2007), states that the advent of the computer gave a new direction to the information and communication technology industry. This is evident in the use of technologies such as electronic mail (e-mail), electronic commerce (e-commerce) and more recently mobile phone, which Salihu (2000) referred to as Palm assistant, because of its palm-size nature. Information communication technologies such as electronic mail and electronic conferencing provide scientists, administrators and information staff with rapid and reliable communication, while increasing productivity and decreasing communication costs by reducing the physical means of communication channels (Kerrigan, Lindsey & Novak, 1994).

ICT and Africa

Agriculture has and will be the backbone of the African economy contributing to the livelihoods of rural communities. The prospects of African globalization cannot be separated from the nature of its historical incorporation in the world economy, the ensuing commodity based export structure, unequal terms of trade and declining position in the world economy. Globalization demands driven re-casting critical questions on the role of state and NGO's to steer economic development through the use of ICTs. In Africa, most farming communities rely on the public Agricultural Extension services for technical farming advice and information. Information communication Technology can be the instrument for stimulating the growth and by ushering in unique forms of national and transnational exchange relationships between producers and consumers, for instance, the scope of widening markets, profitability and investments and the choice of diverse range products, services and facilities (Roy, 2005).

Africa, like the rest of the world, needs to attain the United Nation's Millennium Development Goals (MDGs) and the World Food Summit (WFS) goals to reduce the number of hungry people from 790 million to 400 million by 2015. To reduce poverty by 50% by 2015, the African economies need to grow at 7% per annum. Another target requires that a national strategy for sustainable development be in place in every country to ensure the reversal of current trends in the loss of environmental resources at both national and global levels by 2015. Several factors are responsible for the numerous challenges facing the continent. First, there has been underinvestment in the rural areas. Inadequate access to markets and unfair market conditions also continue to be major stumbling blocks. These challenges, coupled with the crippling impact of limited access to advanced technologies, weak infrastructure, high production and transport costs, present the image of a continent that will be poverty stricken for many years to come (ECA, 2005).

Richardson (1997) points out that ICTs are considered to be drivers of change for rural and agricultural development, as they are efficient tools for reaching rural and remote communities and for improving agricultural productivity. Due to this factor, ICTs can speed up the extension of development services in areas that include healthcare, education and agriculture. Furthermore, ICTs can be instrumental in strengthening partnerships and in providing a framework for shared learning. It is not surprising, therefore, that ICTs have led to increased use of a networked information environment and the development of platforms for better sharing and exchange of information and knowledge (Van Audenhove, 2003).

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