

**Agriculture and the Millennium Development Goals : The Role of Open  
and Distance Learning**

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## **Abstract**

One of the major focus of the Millennium Development Goals (MDGs) is agricultural development and the eradication of poverty and hunger. A significant percentage of the population in Africa lives in the rural areas with agriculture as their major preoccupation, but these group of the populace are barely or not informed about new techniques and improved technologies in agriculture. There is no gain emphasising the importance of education in driving home these new techniques and improved technological methods in agriculture; Open and Distance Learning is a mode of learning that can render this education accessible to the generality of the populace regardless of time and space. ODL has proven to be effective in the acquisition of skills and knowledge for agricultural productivity as in the case of Sugarcane farming techniques in Kenya, etc. and increasing the income of the farmers. These has expose the indispensability of ODL in achieving the MDGs, vis a vis, reducing poverty and hunger, therefore, this paper attempts to shed more light on the potentials and the role of Open and Distance Learning in achieving this major focus of the Millennium Development Goals.

## **INTRODUCTION**

In the year 2000, all member states in the United Nations adapted the Millennium Declaration which formed the basis for the formulation of the Millennium Development Goals (Mannan, 2007). The MDGs set goals for global poverty reduction by 2015 among others (Prowse, et al 2007). Globally, the latest UN MDGs report shows that the proportion of people living in extreme poverty has fallen from 28% in 1990, to 19% in 2002. This implies that we may be on the way for success in 2015. However, “progress has been uneven and the ongoing levels of human deprivation remain staggering” as noted by Kofi Annan. Improvements in agricultural productivity and non-agriculture have facilitated structural economic change in Asia which has driven global poverty reduction. However, there has been little or no progress on overall poverty rate in sub-Saharan Africa, since 1990 (Prowse, et al 2007)

About 70% of the MDGs Target group live in rural areas, particularly, in Asia and Africa, and for most of the rural poor, agriculture is a critical component in the successful attainment of the MDGs. More immediate gains in poor households welfare can be achieved through agriculture, which can assist the poor overcome some of the critical constraints they now face in meeting their basic needs (Rosegrant, et al 2006). Therefore, an important component in meeting the MDGs by 2015 in many parts of the world is a more productive and profitable agricultural sector. To facilitate these, therefore, education and dissemination of information on improved methods of agriculture to farmers via the Open and Distance Learning is highly imperative.

### **AGRICULTURE AND MDGs- REDUCTION OF POVERTY AND HUNGER**

Agriculture is important to the World nay Africa and Africans. About 70% of the populace in Africa is involved in agriculture. It is the main stay of the economy of several African countries (and other countries of the World) contributing a high percentage of the GDP (Adewale, 2007). An estimated 1.2 billion people are absolutely poor, living on less than US \$1 per day; nearly twice that number live on less than US \$2 per day. Currently, about 800 million people go hungry each day (CIDA 2003, 4). Approximately 75% of the absolute poor in developing countries live in rural areas, where they depend on agriculture for their livelihood. Therefore, reducing poverty in rural areas, and hunger in both rural and urban areas will depend heavily on the sustainable development of agriculture. Through efforts in the agricultural sector, income of the rural poor must increase rapidly, and food production in the developing world must more than double over the next twenty years to keep up with population growth (CIDA 2003, 4).

Agriculture policy papers has highlighted the critical role of agricultural productivity in stimulating agricultural growth and poverty reduction (Prowse et al 2007, 2). Agriculture is strongly linked with the eradication of poverty and hunger which is the foremost goal of the MDGs, halving by 2015 the proportion of those suffering from extreme poverty and hunger. However, other MDGs have direct or indirect linkages with agriculture (Rosegrant et al 2006, 1-2). Rosegrant reported that in achieving a Universal primary education (2<sup>nd</sup> MDG), a more dynamic agricultural sector will change the assessment of economic returns to educating children compared to the returns from keeping children out of school to work in household agricultural enterprise. Also, in promoting gender equality and empowering women (3<sup>rd</sup> MDG), agriculture empowers women farmers directly, and indirectly through reduction of the time burden on women for domestic responsibilities. For the reduction of child mortality (4<sup>th</sup> MDG), agriculture indirectly contributes by increasing diversity of food production and making more resources available to manage childhood illnesses. Agriculture directly helps improve maternal health (5<sup>th</sup> MDG) through more diversified food production and higher-quality diets, and indirectly through

increased incomes. It also directly helps combat HIV/ AIDS, Malaria and other diseases(6<sup>th</sup> MDG) through higher quality diets, and indirectly, by providing additional income that can be channeled to health services. Agricultural practices can be both direct causes of , and important solution to environmental degradation(7<sup>th</sup> MDG). More productive agricultural technologies allow the withdrawal of agriculture from sensitive environment. Developing a global partnership for development (8<sup>th</sup> MDG) will help maintain the steady increase in agricultural trade, and significant increases in development assistance offered to the agricultural sector

However, agriculture, especially African agriculture is faced by several problems making the continent the most backward in agricultural production. The farmers are largely in the rural areas with small and fragmented plots, having little or no contact with extension services and crucial information needed for production, processing and marketing(Adewale, 2007). Farmers have no knowledge of market prices, and little access to input and output markets. Consequently, yields are low, and income from agriculture leaves little for the farmer to turn over.

### **OPEN AND DISTANCE LEARNING, MDG AND AGRICULTURE**

“ I would like to mention at the outset that FAO is convinced of the important role education plays in agricultural development and rural poverty reduction. We believe that without addressing the education of people living in the rural areas, often the majority of the population in many countries, little can be achieved to reach the MDGS by 2015, especially MDG1 relating to the reduction of poverty and hunger....” (Changchui 2005, 1). This statement was made at a workshop focused on strengthening distance education in agriculture and rural development in the largest Distance Learning institution in the world( China). This activity portrays the strong conviction of the important role that Open and Distance education can play in educating rural populations as a means for promoting positive change.

Education and learning are widely recognized as essential to processes of development and poverty reduction. In many developing Countries, issues of educational access, equity and quality have been identified as pre-requisites to the achievement of developmental goals. Given the inadequacies of conventional systems of education, training, and agricultural extension, many developing countries have introduced innovative approaches to ODL( Alexander et al,2006). There has been a resurgence of international interest in distance learning and distance education as potentially useful strategies for addressing human development issues. This resurgence has been established in part in the evolution of new information and communication technologies(Alexander et al, 2006).

Open and Distance Learning (ODL) has emerged as an approach in increasing education opportunities to reach the unreached. It has the potentiality to bring education to the geographically dispersed, both rural and urban people and to accelerate the achievement of MDGs( Mannan, 2007). Education is the route to the full development of people as human beings with social, spiritual, intellectual, and cultural aspiration as well as with economic interest (Daniel, 2004). While education plays a key role in achieving MDGs, it is also realized that traditional educational system no longer suffice. There is a clear need for business-unusual approaches in order to create a knowledgeable society (Khan 2005).

### **The role of ODL**

The importance of ODL via information and Communication Technology can further be underscored by a workshop organized by FAO in collaboration with other institutions in 2005 where: bridging the rural digital divide where new information and communications technologies

can be appropriately applied to enhance education and information access were strategised (Changchui, 2005).

The first millennium goal is to eradicate poverty and hunger, especially to halve the proportion of people living in less than a dollar per day and those who suffer from hunger. Thus, empowering millions of farmers and small holders and giving the masses in the rural areas of the world more control over their lives are imperative (Daniels, 2004)

There is a real divide to bridge here. Many organizations conduct research on agriculture and try to share the information or results. The difficult task is communicating these results to the individual farmers (Daniel, 2004). Communication operates in two directions: (1) to help farmers and smallholders define their own need (2) to enable agricultural extension workers, through dialogue to match these needs to real possibilities (Daniel, 2004). Technology (ICT which is a key component of ODL) can help to scale up this process.

Information is widely acknowledged as one of the critical factors of production decision. Patrick et al (1993) pointed that farmers demand for information has increased in recent years due to greater market instability, more complex production technologies among other. Lack of timely information can prevent good quality decision and thus lower the efficiency of production decision among farmers. Differences in decisions about what crops to grow can be attributed to differences in resources level of knowledge, environment, approaches concerning uncertainty and other factors (Mar Corazon et al, 1998). Farmers require information to link various inputs at reasonable prices, and also output markets (Adekunle et al 2004) These may increase farmer income. "A strong (Extension) linkage complemented by flawless information flow enhanced by the effective use of information and communication technologies (ICTs) will significantly boost agricultural production and improve livelihoods in developing countries" (Arokoyo 2005).

The new means of communication namely internet, and others has led to a new way of teaching, allowing distance learning or opened distance learning, more and more used by educational institution at all levels (Vieira et al 2006).

### **Application and the use of ODL**

ODL in recent times has been used in the acceleration of the MDGs especially in the area of agriculture nay reduction of poverty and hunger.

In a research study carried out by Adekunle (2006) in Ago-Are Village, Oyo state of Nigeria, he reported that there was a significant increase in the yield of maize (1.05 – 2.46kg) per unit area after 18 months of exposure by farmers to ICT and internet connectivity. He reported that this increase was largely due to the farmers' ability to get a new variety and reach for information on how to grow the new variety through interaction with scientist, made possible by the internet. He also reported a significant increase in the farmer income because farmer used the ICT and internet facilities to monitor market prices for better market penetration, thereby choosing a good market for their commodities and demand reasonable prices from middlemen and buyers. Also, there was a significant increase in the use of fertilizers, from 22% recommended rate to an average of 62% of the recommended rate. The increase in the use of fertilizer in an indicator of increasing market outlook for a subsistence-oriented farmer. He also reported an increase in farm holdings of participating farmers from 2.22ha to 3.76ha after 18 months of exposure to the internet. This was probably due

to the fact that farmers increased their income and having surplus which was ploughed into expanding their holding.

In a related development, according to a news bulletin CONNECTIONS, vol 12 no 3 from the commonwealth of learning released in October, 2007, the Kenyatta University seeks to reduce poverty among peasant farmers in Kakamega district in Western Kenya. An instance was in Igbotse-Shikoti village in Kakamega district, Kenya where farmers were learning to improve their livelihoods through sugarcane farming techniques taught by Kenyatta University. Some 75% of farmers in this area live below the poverty line. The main reasons been lack of knowledge and information. It's reported that the university is working with local partners to develop an agricultural knowledge ICT centre that will use computers, television, telephones and radio to deliver agricultural information to farmers and their families, enhancing their ability to access better markets and prices for their produces.

The news bulletin also reported that "one village foundation", an all-volunteer NGO in Ghana was involved in a project focused on ICT capacity building and communication development. It involves developing ODL modules to teach the rural poor ways to get balanced nutrition from locally available foods, etc. it also included developing and broadcasting radio programmes through local community radio stations.

It is pertinent to state that ODL provides a lifelong learning opportunity. According to the news bulletin, lifelong learning for farmers programme has been launched in Sri-lanka by the Commonwealth of Learning (COL). This is in response to a critical need where the wealth of information resulting from agricultural research and development often fails to travel the last mile to the village of the developing world where it is most needed. While government face challenges in funding adequate agricultural extension, globalization is creating increasing competition for poor rural farmers.

Lifelong learning for farmers addresses these issues by empowering vulnerable rural women whose predominant form of employment is agriculture to organizing themselves to solve problems with producing and marketing-their products and foods security, improve their living conditions among others. Lifelong learning for farmer has the potential to provide rural women with information an access to credit. It enables communities to move away from donor depending towards a development process that is sustainable and self-replicating. According to the bulletin, farmers in Sri-lanka are learning to cultivate more profitable crops, thus a farmer in the Hambantota region saw his income rise by a factor of six when he switched from growing mixed vegetables to banana. The bulletin further reported that lifelong learning for farmers is also being adapted and introduced in Jamaica, Kenya, Mauritius and Papua New Guinea.

## **Conclusion**

Given that the majority of poor people live in rural areas or rely on agriculture, and that agriculture paves the way for economic growth in the poor developing nations, agricultural and rural development will underlie progress on the broad array of economic and social indication stressed by the MDGs.

Of the MDGs, the first goal is the one that clearly involves the agricultural sector: The poor around the global are disproportionately farmers, and perversely, the hungry also most commonly find their livelihood through agriculture. By increasing food availability and incomes and contributing to economic growth, higher agricultural productivity and supportive pro-poor policies allow people to break out of the poverty-hunger-malnutrition trap. Broad based agricultural growth is the key for decreasing poverty and increasing growth in sub-Saharan Africa.

Because of the importance of ODL to higher agricultural productivity, COL is working with the Forum for Agricultural Research in Africa (FARA) to expand technology – mediate Open and Distance Learning (ODL) for agricultural education in Sub-Saharan African. FARA is increasingly involved in agricultural education, extension and development.

A report commissioned by COL recently, outlined eight country cases studies about the use of ODL for improving livelihoods through agriculture. The countries included were Cameroon, Ghana, Kenya, Nigeria, Sierra Leone, Tanzania, Uganda and Zambia. The report focuses on the urgent need to use ICTs to provide education training information and communication about agriculture.

It is therefore imperative that the largest group of illiterate population in the rural areas should be provided learning opportunities to meaningfully participate in the development process, and ODL has proved to be the effective method of doing it.

## References

- Abdul, Mannan(2007). Role of Open and Distance Learning in accelerating outcomes of the millennium development goals. Pp1-7
- Adekunle, A.A., Olowu, T. A. and Ladele, A. (2004). Bridging the gap between Farmers and Reseachers, the effect of resource centers on the productivity of Farmers in Katsina, Katsina State of Nigeria. IITA Publication. 46pp
- Adewale, A.(2007) .Using ODL aided by ICT and Internet to increase agricultural productivity in rural Nigeria. Pp 1-2
- Alexander, G. F., Malcolm, H., Scott, M. (2006). odl for agricultural development and rural poverty reduction: a comparative analysis of innovation and best practice in Asia and the Pacific. Pp 1-2
- Arokoyo, T. (2005) .ICT's Appication in Agricultural Extension Service Delivery. Journal of Agricultural Extension in Nigeria. Pp 245-251
- Canadian International Development Agency (2003). Promoting Sustainable Rural Development through Agriculture- Policy. Pp 1-17
- Changchui, H. (2005). Keynote address delivered at the Open and Distance Learning for Agricultural Development and Rural Poverty Reduction : A Workshop to Explore Innovation and Best Practise in Asia and the Pacific. Bangkok, Thailand. Pp 1-2
- Connections (2007).Learning for Development. Common Wealth of Learning News Bulletin. Vol 12 No3
- Daniel, J. (2004): Learning for Development: The Role of Distance Education, Keynote address to the Papua New Guinea Association for Distance Education Symposium, Port Moresby.
- Daniel, J. (2004). Technology: the missing link between Education and Development. A Public Lecture Delivered in Massey University, New Zealand.
- George F. Patrick, Gerald F. F. Ortmann, Wesley G.Musser and D. Howard Doster ( 1993). Information Sources of Large ScaleFarmers . CHOICES . Third quarter. Pp 40-41
- Khan, A. W. (2005). Distance Education for Development, Keynote address to the ICDE, New Delhi, India.
- Ma Corazon, M. Lawas and H. A. Lunning ( 1998).” GIS and Multivariate Analysis of Farmers Spatial Crop Decision Behavior” Netherland’s Journal of Ag5icultural Science 46(1998). Pp 193-207
- Mark W. Rosegrant, C. Ringler, T. Benson.....(2006). Agriculture and Achieving the Millennium Development Goals. International Food Policy Research Institue. Pp 1-9
- Martin Prowse, L. Peskett and T. Braunholtz (2007). Millennium Development Goals, Agriculture and Climate change. ODL Blog: Commentary from leading development. Pp 1-8
- Vieira, M. M. C. S. I. Matias, C. Ramalho ( 2006). Role of ODL on sharing pilot plant resources among European Food Engineering Universities. European Journal of Open, Distance and E- learning. Pp 1