

Capacity Building in Open and Distance Learning (ODL) for Agricultural Development in Zambia

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Abstract

In its efforts to reduce poverty and improve food security, the Government of Zambia has given priority to agriculture. However, this sector faces a lot of challenges such as the need for trained human resource.

In order to address this challenge, agricultural training institutions need to supply adequate trained human resource to the agricultural sector. One of such institutions is the Natural Resources Development College (NRDC), which is the only public institution offering diploma courses in various fields of agriculture. However, due to inadequate resources and limited physical facilities, NRDC cannot meet the human resource needs of this sector from its residential courses.

As a means of increasing its capacity, the College has introduced an ODL programme. Since the college has no experience in ODL, there was a need to develop capacity in this area. Therefore the In-Service Trust of Zambia (ISTT) and the Directorate of Distance Education (DDE) at the University of Zambia (UNZA) developed a capacity development programme in consultation with NRDC.

The first phase of the programme involved conducting training workshops in Instructional Design and Materials Development. This was because an analysis of the characteristics and situational circumstances of prospective learners showed that the print medium would be the most appropriate mode of delivery. Subsequent training activities will concentrate on other aspects of ODL such as management and learner support.

The paper highlights the importance of agriculture in Zambia and the rationale for adopting ODL in developing human resources for the agricultural sector at NRDC. It also describes the nature of the programme, the output from the first phase and the level of commitment by the college management to provide the necessary resources for the programme, a critical success factor.

BACKGROUND

Zambia is a land-locked nation with a total land area of about 752,600 km² and a population estimated at about 11.7 million, with an average density of about 11 people per km² (World Bank, 2007). The estimated annual population growth rate has declined from 2.0% in 2000 to 1.6 % in 2005 due to several reasons inter alia successes in family planning programmes, public health problems, and the high incidence of HIV/AIDS.

Historically, the Zambian economy has depended mainly on the mining sector. However, the steady decline in the productivity of the mining sector has resulted in economic decline and erosion of the general standards of living (Ministry of Communications and Technology, MCT, 2006). By contrast, the agricultural sector is increasingly assuming a key role in the development of the Zambian economy and will soon become the engine of economic development for the next decade and beyond (Ministry of Agriculture Food and Fisheries, MAFF, 1999b).

The sector employs about 67 to 75% of the total labour force, the second largest source of employment after public service. Although 50 to 60% of the population derives its livelihood from farming (Institute of African Studies, IAS, 1996; Ministry of Agriculture and Cooperatives, MACO, 2004), the share of agricultural production in Gross Domestic Product (GDP) has

remained between 18 to 20%, contributing about 3 to 5% to export earnings (MACO, 2004). Agricultural GDP growth averaged only 1.5% per annum from 1965 to 1997 and exports for most years were less than 3% (Wichern *et al.*, 1999; MACO, 2004).

There are three categories of farmers in Zambia: small, medium, and large-scale farmers. The majority, about 800,000 small-scale farmers, live on average 1.5 ha (Francis *et al.*, 1997). They use simple farming tools and techniques, and heavily rely on family labour. The second category includes about 1,000 large-scale commercial farmers along the line of rail (Southern, Central, and Lusaka provinces) and in eastern Zambia (Wichern *et al.*, 1999). These farmers use modern technology, hire labour, and produce food and cash crops as well as livestock. This category is characterised by high agricultural production. In between the two categories are 50,000 medium-scale farmers with per capita land size of 5 to 20 ha. These farmers usually use draught power.

Before 1991, the Zambian agricultural policy empowered the Government to control the delivery of agricultural services and, to some extent, direct production of commodities through parastatals, cooperatives and other government-supported institutions (MAFF, 1999b; MACO, 2004). However, in 1992, the Government embarked on agricultural policy reforms as part of the economic structural adjustment program (SAP) (MAFF, 1995a). The main aim of the reforms was to liberalize the agricultural sector and to promote private sector development and participation in the production and distribution of agricultural goods and services. From 1995 to 2001, the Agriculture Sector Investment Program (ASIP), under the then Ministry of Agriculture, Food and Fisheries (MAFF), was the main vehicle for implementation of agricultural policy objectives (MAFF, 1999b). ASIP adopted a holistic approach to provision of improved and sustainable services to the sector by enhancing production through free market development, reduced Government involvement in commercial activities, and provision of efficient public services.

Despite the enormous potential for high agricultural production, after four decades of experimenting with various economic and agricultural policies, per capita production has generally declined because of unfavourable weather, hostile macro-economic conditions, and untenable sectoral policies (MACO, 2004). Other problems not addressed by previous policy reforms include poor service delivery particularly for small-scale farmers, marketing constraints especially in outlying areas as a result of poor infrastructure notably feeder roads, a void in agricultural finance and credit, weak regulatory framework and poor enforcement of legal framework, unfavourable world and regional markets, and poor accessibility and administration of land in Zambia (Wichern *et al.*, 1999).

Following a review of previous agricultural policies in 2004, the Zambian Government implemented another policy reform for the decade 2005 – 2015 (MACO, 2004). The overall objective of the new policy is to facilitate and support the development of a sustainable and competitive agricultural sector that ensures food security at national and household levels and maximize the sector's contribution to GDP.

The strategies for attaining these policy objectives include inter alia strengthening and monitoring the liberalized markets, facilitation of the private sector development, and diversification of agricultural production. The Government also endeavours to develop a science- and technology-led agricultural sector with emphasis on adoption of farming practices that are economically and environmentally sustainable.

There is therefore, a need for increased supply of agricultural personnel with relevant knowledge and skills to enable the government realise its agricultural policy objectives. The small and medium scale farmers particularly require the services of extension staff to provide agricultural knowledge and modern farming skills for increased output, while large scale farmers depend on qualified agricultural personnel.

OPEN AND DISTANCE LEARNING FOR AGRICULTURAL DEVELOPMENT

The Zambian Government recognises education as a key element in national development (MCT, 2006). Shortly after independence in 1964, the Government adopted different forms of ODL tailored to specific educational and training needs in the country (Mumba, 2002). The aim

was to increase national literacy level and to develop the human resource to meet national educational and training needs.

Zambian institutions have historically provided ODL at primary, secondary and tertiary levels. In the area of non-formal education, ODL has been used to promote the development of cooperative education and agricultural development. Since 1966 the ministry in charge of agriculture has promoted the use of radio to disseminate agricultural knowledge, information and skills to the large and wide dispersed rural population.

In recent years there has been an increased recognition of the potential of ODL to contribute to socio-economic development. Several institutions have either launched or are keen to launch new ODL programmes. However, the existing capacities of various institutions to offer ODL should be matched against necessary requirements for providing such programmes.

The Natural Resources Development College (NRDC) is one of the training institutions which has recognised the potential of ODL in enhancing its capacity to supply adequately trained human resource to the agricultural sector. It is the only public institution offering diploma programmes in various fields of agriculture. Despite the fact that it has been in existence since 1964, the College has not fully fulfilled its mandate of providing suitably qualified and adequate human resources to meet the needs of both the public and private sectors in order to contribute to the national food security and economic growth. This is due to limited physical facilities and inadequate human and financial resources.

At the same time the demand for programmes offered at the College has been on the increase in the past decade. Consequently of the nearly 1,000 applications received by the College annually only 300 applicants get accepted due to limited places.

As a means of increasing its capacity, NRDC introduced an ODL programme in 2007. Since the College has no experience in ODL, there was a need to develop capacity in this area. For distance learning expertise, the college approached the In-Service Trust of Zambia (ISTT) and the Directorate of Distance Education (DDE) at the University of Zambia (UNZA) to develop a capacity development programme.

The ISTT is a training institution that provides demand driven in-service training programmes to support the agricultural, environmental, and agro industrial sectors in Zambia and the SADC region in general. Since 1999 the ISTT has organized ODL training workshops in grain management, cowpeas and soybeans production and improved livelihoods targeting learners from Eastern and Southern African countries. These training workshops have been collaborative programmes involving Regional Training Institutions (RTIs), Southern Africa Development Community (SADC) Regional Training Programme, Commonwealth of Learning (COL) and the Directorate of Distance Education (DDE) at the University of Zambia (UNZA).

The Directorate of Distance Education (DDE) at the University of Zambia has the mandate to organize, coordinate, and administer all distance learning courses offered by various departments of the University of Zambia. It also provides consultancy and advisory services to a variety of education and training institutions.

The first phase of the programme involved conducting training workshops in Instructional Design and Materials Development. The learning materials produced were print based because an analysis of the characteristics and situational circumstances of prospective learners showed that this was the most appropriate mode of delivery. Subsequent training activities will concentrate on other aspects of ODL such as management and learner support.

THE TRAINING WORKSHOPS

During the period August 2007 and March 2008 ISTT in collaboration with DDE-UNZA conducted two training workshops in "Instructional Design and Materials Development" targeting NRDC academic staff.

Although the College had already started offering some of its courses through ODL, most of its staff were not familiar with the concepts and practices. Notwithstanding the fact that most

of the participants had not developed ODL materials, they had some experience in planning, developing courses and preparing teaching materials for different courses at diploma level in the various disciplines offered at NRDC for full time students.

Two training workshops were organised and were attended by (41) participants (9 female and 32 male). The participants were drawn from the eight (8) departments at the College namely: Agricultural Business Management, Agricultural Education, Agricultural Engineering, Animal Science, Basic Sciences, Crop Science, Food and Nutrition, and Water Engineering, which are all expected to offer distance learning courses.

The development of the programme for the workshops included administering a questionnaire to the participants. Some of the significant outcomes of the questionnaire was information on the occupational characteristics of learners that are enrolled for the ODL programme at NRDC and expectations of workshop participants which were helpful in determining the methodology and content of the training workshops. Therefore, the content of the training workshops was directly related to the participant's expectations. The workshops were coordinated and facilitated by resource persons from ISTT and DDE-UNZA.

EVALUATION OF THE TRAINING WORKSHOPS

The workshops used formative and summative evaluations based on responses by participants to evaluation questionnaires. Round table discussions with resource persons and participants further provided additional information about the workshops. The session evaluation helped monitor and direct the workshop progress while end of workshop evaluation in the form of a final questionnaire covered training and logistical aspects of the workshop.

The evaluation of the workshops showed that the training resulted into a shared understanding of the concepts and practice of ODL and increased knowledge and skills of instructional design and materials development. In addition the NRDC management made commitment to provide logistical support and the necessary resources for the participants to complete the development of Modules. Management further undertook to initiate the process of developing a management structure for the ODL programme.

The workshops were highly participative as instructions, discussions, and exercises used helped participants to accomplish their assignments: the drafting of course and module outlines and developing distance learning materials. Participants produced course and module outlines and draft Units of selected Modules.

Towards the end of the workshops participants presented and discussed their draft Units of the selected Modules. They then discussed the way forward and developed a plan for completion of the Modules.

WAY FORWARD

In an effort to move the process forward the participants proposed the following:

- ❖ There was a need to regulate the use of ODL in agricultural training institutions (ATIs) which are under the Ministry of Agriculture and Cooperatives (MACO) and that MACO should only approve the use of ODL in those ATIs with developed ODL systems and trained staff;
- ❖ NRDC should conduct regular curricular reviews in order for the College to provide training programmes that are relevant to the emerging needs of its clients;
- ❖ The College should establish an ODL Unit, which should be headed by a fulltime Coordinator;
- ❖ NRDC Management should provide the necessary administrative and logistical support to enable participants complete the modules and deliver the programme efficiently;
- ❖ There was an urgent need for the College to develop an ODL policy to guide the development of the ODL programme;

- ❖ NRDC should undertake a market survey in order to develop ODL courses that are demand driven. The College should not necessarily confine its ODL course offerings to those offered to fulltime students; and
- ❖ There was a need for the College to enter into collaborative arrangements involving Zambian based training institutions and COL in the provision of ODL programmes.

CONCLUSION

The decision by College Management to organise two training workshops in Instructional Design and Materials Development demonstrates its commitment to providing quality ODL courses. This will no doubt increase the College's capacity to respond positively to the demand for its courses thereby contributing to the development of human resource for the agricultural sector.

It was clear from the training workshops that:

- ❖ ODL offers great potential to increase capacity to produce trained human resource in agricultural education and training institutions in Zambia;
- ❖ Since most agricultural training institutions in Zambia lack experience in ODL, they need to develop capacity in this area prior to offering ODL programmes; and
- ❖ There is a need to pay attention to issues pertaining to quality when offering ODL programmes.

There is a need for follow-up training to address challenges experienced in programme implementation and to refine the draft Modules. There is also need for training in programme management, learner support and monitoring and evaluation.

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