
**EDUCATION NEEDS OF EXTENSION OFFICERS
IN LIMPOPO PROVINCE, SOUTH AFRICA****Thomas B. Murphy**

Extension Educator
542 County Farm Rd Suite 206
The Pennsylvania State University
Montoursville, PA 17754
Phone: (570) 433-3040
Fax: (570) 433-4331
E-Mail: tbm1@psu.edu

Thomas H. Bruening

The Pennsylvania State University

Abstract

The progression from subsistence to commercialized farming in South Africa has been a slow process since the political shift from apartheid. With the end of white-only rule in 1994, there have been a variety of programs attempting to move the agricultural systems in the country to a level where greater numbers of blacks are involved in production agriculture. With a vital role to play, agricultural Extension has developed an important position in the need to facilitate new landholding and use arrangements, foster commercialization, and discover new market opportunities for this emerging class of growers. This issue is even more pressing as globalization of the marketplace creates risk for those that fail to participate as early as possible. A needs assessment was initiated and developed with the Department of Agriculture in Limpopo Province, to determine the capacities of field-based Extension Officers within the districts of the Province. Results showed a great lack of the basic elements of a traditional Extension program as defined by western standards. Many units operate without simple office equipment, computers, reliable transportation, and in some cases, electric and phone utilities. Extension Officers also indicated many shortfalls in training, clear work objectives, and difficulties associated working with a largely illiterate rural population. More in-depth training in financial management skills, marketing theory, computer technologies, and communication expertise were cited continuously by participants. For Extension to make an impact in the agricultural development of Limpopo Province, major financial and human capital investments will be needed in the near-term.

Introduction

Limpopo Province of South Africa is an area with a wealth of natural resources and it has the potential to develop economically in a variety of ways. While the use of its mineral resources has been expanded to fill national and international demand for raw materials, many of its other potential resources are not as well utilized. Limpopo has the highest unemployment rate in the nation with 32.8% of people out of work (Sapa, 2005).

In many cases infrastructure shortfalls are identified as a key-limiting factor for growth. Infrastructure needs can take on a multitude of forms within the agricultural sector. For agricultural opportunities to expand, access to reasonable priced credit, irrigation schemes,

communication technologies, crop production skills, and market development are very important to the successful movement of black farmers from subsistence agriculture to that of an emerging level at a commercial scale (Magadzi, 2005). South Africa as a whole is still moving through the transition of historically white-owned farms, to that of majority black ownership (Nammour, 2004). Since Limpopo is located so far from the commercial centers of the country, it is even further behind in a number of aspects of this transition (Department of Agriculture, 2001). Many black farmers lack basic agricultural production skills, they possess even fewer marketing skills and most lack the needed management capacities to compete effectively in global markets (Department of Agriculture, 2001).

Extension in Limpopo is designated as the governmental entity whose mission is to develop entrepreneurial skills in the farm community, as they move from white to black ownership and operation of the majority of the agricultural production in the Province. Assessment of needs of the emerging commercial black farmers has been curtailed by a lack of financial resources and limited development of a proper protocol to discover the needed information. More than 900 Extension Officers work in the Province in field-based locations. Often Extension Officers and staff lack many of the same basic resources as do their clientele T. Nomagne (personal communications, May 8, 2005). Due to this shortfall, Extension risks being marginalized as private enterprise and foreign investors are stepping in to fund prime agricultural projects. These outside entities often bring their own production and marketing expertise, largely bypassing Extension. With their efficient systems, they employ a low percentage of the available farm labor, export much of crop they produce, and put little back into the local economy. With the great need to rebalance the equation, Extension needs to establish an institutional vision, quickly develop its staff capacities, and establish itself as the source for information to economically advance agricultural stakeholders in the communities where it is located.

Purpose and Objectives

The purpose of the project was to identify the educational and technical needs of Extension Officers (EO's) that prevented them from delivering education to farmers in an effective and efficient manner. The first objective was to identify the technical training, instructional activities, and program planning needs of EO's that were critical for them to carryout their professional responsibilities. The second objective was to determine the Extension Officers training infrastructure needs. Specifically, the assessors were looking to identify weaknesses that could be targeted for improvement at a later date.

The third objective was to develop a report for Extension administration where by a plan could be crafted for follow-up in service activities to advance the technical and programmatic capacities of the EO's

Theoretical Base

Needs assessments are used to identify the deficiencies that exist within educational systems. In particular, they can help Extension with program planning to set the educational direction. Needs assessments that are conducted with input of the community help foster participation of local people and promotes democracy. Motivation theory further suggests that educators should appeal to individuals' basic needs and interests to deliver impact. Accountability demands that the community is engaged and connected to programmers. Support from the public expects educators to meet documented needs. Moreover, using needs

assessments effectively helps educators to anticipate conflicts by knowing the needs. By continually assessing needs, educational programmers can alter content and processes to meet changing community problems. As society becomes more complex increasingly people are connected to others (Etling, 1991).



Figure 1. Rational model for needs assessment - adapted from Etling (1991)

Methods and Procedures

The data was gathered through an on-site needs assessment using a nominal group process. This data process contributed to a transparent collection of ideas that is an important cultural factor in gaining acceptance and participation of Extension personnel in South Africa. There were approximately 900 EO's in the Extension system in Limpopo Province in 2005. The needs assessment was accomplished by meeting with EO's that were invited to participate by the Ministry of Agriculture. There were four widely distributed locations where the sessions were held. The director of Extension in Limpopo made the logistical decisions and invited EO's that would participate in the process. At each location, EO's and a small number of Extension administrators, were asked to consider their individual needs in six topic areas: 1) Communications, 2) Technical Knowledge, 3) Program Planning, 4) Agribusiness Development, 5) Market Identification, and 6) Monitoring and Evaluation. Upon completion of the individual identification of relevant needs, a discussion facilitated within small groups condensed and determined their perceived top two priorities. Those needs were then all listed for the larger group and individually ranked a second time. The data in the tables reflects the logical combination of the top two listed needs from the four locations. In each major category there were eight to twelve items that were a part of the final vote within each group of Extension Officers.

Results

Topic 1: Communications

- Communication and facilitation skills
- Analyze/research current situation
- Computer/Internet access, computer use skills
- Making farmers aware of the commodity group*
- Identification of local farmer capacity and natural resource requirements*
- Negotiation skills
- Illiteracy

*Tied in voting

In the area of communications, the participants indicated communication and facilitation skills as the top factors in their inability to convey technical information to their clientele. This is a critical skill if farmers are going to be able to increase crop improvement and market development. Staff felt they lacked the methodology to analyze the needs of the audiences and communities where they worked. Lack of computers and internet access in Extension offices or at farm locations ranked next and was cited in most sections and locations of this needs assessment process. Many of the Extension officers were working with the formation of commodity groups to develop market opportunities. Yet they often indicated the majority of subsistence farmers were unaware of the efforts to organize them as a group. EO's identified the need to determine and match farmer cropping capacities with natural resource availability, particularly crop inputs. EO's also felt that many of the farmers and farm marketers they worked with, lacked strong aptitudes in the art of negotiating market price, contracts, land arrangements, and other issues connected with production agriculture. A common theme during many of the discussions was the problem of clientele illiteracy and the inability to convey technical information in a manner that could be understood.

Topic 2: Technical Agriculture

- Lack of technical and computer skills
- Production planning and growing culture
- Land resources
- Soil analysis*
- Marketing
- Production management
- Pest control

*Tied in voting

Needs in technical agriculture were most commonly cited in the areas of technical production skills and access to the most basic computer technologies (both hardware and applications). EO's indicated more emphasis needed to be placed on planning crops, rotations, and the overall process through which sound production management practices are implemented including basic soil/plant analysis, and pest control. The groups ranked issues dealing with availability of suitable land for crop production and the capital necessary to purchase cropping inputs. EO's also indicated there was little crop production in-service training for field-based staff which created a situation where they felt poorly equipped to work with farmers to solve technical production problems as they occurred. A sample of farmers interviewed indicated they often sought technical and marketing information from ag industry sources, bypassing Extension because of the perception that the information could not be obtained from Extension staff.

Topic 3: Agricultural Business Skills

- Business planning
- Needs analysis of the business community
- Financial management*
- Finances/capital
- Market information
- Business management skills*

*Tied in voting

Extension officers expressed a clear educational need for both themselves and for their clientele in the most basic levels of agribusiness and marketing. The assessment indicated business planning to be the top priority as EO's attempted to assist subsistence grower's move up the economic ladder to "emerging" producers. The business planning response was seen as an umbrella under which most of the other key business skills would find their place. Skills associated with the ability to conduct a needs analysis for a business were cited as lacking. Identification of credit and management was seen as critical for the successful development of new small-scale farm enterprises. Market research and basic marketing skills ranked high in the assessment due to EO's indicating they had limited knowledge in this subject, knew the importance of it to their clientele, and saw little opportunity to improve the situation. Many EO's realized that the internet was a pathway to this type of needed information. Training in business management was seen as being critical for successful development of staff capacities needed to advance stake holder's agricultural enterprises.

Topic 4: Market Identification

- Pricing strategy
- Market identification
- Market trend discovery
- Expose farmers to markets*
- Market research and information*
- Supply vs. demand relationships

*Tied in voting

Participants in the assessment indicated that subsistence and emerging farmers had little training in strategies to price their commodities in a profitable manner. Often it was a varying price that bore little resemblance to what the market was able to bear or considerations of what the commodity cost to produce. Markets and market trends were cited as rarely identified by farmers nor an integral part of the thought process in how market price was set for commodities being sold to consumers. EO's also raised the concept of political barriers preventing new growers from being exposed to or entering existing marketing locations or established systems which were generally controlled by larger, pre-existing commercial farmers. Extension staff indicated little expertise on their part or on that of their farm clientele, in how to conduct basic market research or discover its associated components. Sources for marketing information were discussed as being severely lacking, both from a local standpoint and on a global basis.

Topic 5: Extension Administration

- Professional development
- Development of budgets
- Administrative record-keeping
- Development of archives
- Project management
- Human resource and development skills
- Financial management
- Computer skills

When asked to identify needs associated with the Extension administrative system under which they functioned, EO's ranked professional development opportunities as their greatest request. This was discussed as the need for updated in-service training on many aspects of their positions, ranging from technical subject matter to common administrative tasks. Development of budgets, sources of funding, and their relationship to the successful outcome of projects was a high priority during this component of the assessment. Keeping improved records for their administrators, to document need, demonstrate impact, and to plan for the future were cited by participants during the ranking of the topics. Other issues ranked by the groups included a greater need to effectively deal with human resource considerations (i.e. hiring parameters, educational requirements, etc.), and in-service training on increasing computer literacy.

Topic 6: Program Planning

- Planning cycles and strategy
- Evaluation of staffing and financial resources
- Evaluation and monitoring
- Need analysis*
- Development of a work plan*
- Survey-based research

*Tied in voting

Program planning was recognized as an area where there was much need for change within the Extension organization. Planning cycles and strategy was the highest ranked need of the group. Discussions with the participants indicated little effort was given within the Extension organization to develop mid- and long-term planning goals along with developing a strategy to convey the goals to stakeholders, both inside and outside the organization. There was also a greater need for evaluation of what had already been accomplished, current vs. future needs, and what financial and staff resources were available. The assessment also identified there was a need within Extension to develop a work plan to give field-based EO's clearer direction of administrative expectations.

Conclusions, Implications, and Recommendations

It is clear from the discussions and data collected from the EO's participating in the needs assessment that much needs to be done in the ongoing training of the field-based staff. The data indicated the majority of the staff possessed a low level of basic expertise in market analysis, development, commodity pricing, market trends, and packaging options. Without continually updated training for the EO's and conveyance of that knowledge to local agricultural producers, the shift of Limpopo's black subsistence farmers to the classification of "emerging" and then "commercial" will fail to keep pace with the rest of South Africa and other developing countries in Africa.

Learning various agribusiness skills were routinely identified in the four group sessions as being key to the practical training of Extension staff with intentions of advancing the local agricultural populace. With limited communications, equipment, erratic utilities in many Extension offices, and a largely illiterate rural population, Extension has many fundamental obstacles to overcome in the drive to move forward. A financial and administrative commitment by the Limpopo Department of Agriculture to resolve training and equipment shortfalls was consistently identified by Extension field staff as an imperative in the very near term. In the most basic terms, office equipment upgrades should allow for greater access by all staff to

computers and the internet along with skills training in both areas. There is a window of opportunity for Extension to identify itself as the purveyor of agricultural and rural development information. Without efforts made to address this issue, Extension's value to the farmer will likely diminish.

Educational and Practical Importance

The results clearly indicate a range of deficiencies regarding the skills of Extension Officers. It is also obvious that there is a lack of physical resources necessary to overcome many of the infrastructural needs of their clientele. Impoverish black farmers with limited education will not be able to make the transition to economic sustainability, without the assistance of a local Extension system that is prepared to meet the technical skills, have basic communication technology, reliable transportation, and financial means to address their needs. The emergence of commercial black farmers is a positive sign that the transformation of production agriculture in South Africa is beginning. Well-educated and prepared Extension officers can accelerate this process and help meet the needs of a challenged population. This will dictate a commitment from Extension administration in the Department of Agriculture of Limpopo Province to invest in the training needs of its field-based staff as discovered in this assessment. The six key areas for continuing education of the EO's will need to be in Communications, Technical Agriculture knowledge, Agribusiness Development, Market Identification, Extension Administration, and Program Planning.

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