

## CHAPTER 1

### INTRODUCTION

Extension in South Africa finds itself at a crossroads situation, which has been brought about by a multitude of factors. According to Duvel (2002:i) the extension services have been blamed for failing to deliver effectively. Their credibility has been questioned and lacking competence has led to a waning confidence and commitment on the part of the extension workers. Where successes have been achieved, there has usually been an absence of tangible evidence due to a lack of accountability and systematic and regular evaluation (Duvel, 2002:i).

This has been exacerbated by changes within the country as well as changes in the international extension environment, which have led to additional constraints and challenges demanding a reconsideration and adaptation of the extension approach. The political transformation in 1994 led to a democratisation and restructuring of the extension service and also gave birth to the Limpopo Province which is mainly rural, consisting of five districts engaged in both commercial and subsistence farming.

This study forms part of the bigger study commissioned by the National Department of Agriculture to Duvel, to investigate extension approach in South Africa based on the following specific objectives :

- To exploit the large reservoir of experience, knowledge and viewpoints found in the country.
- To receive critical feedback regarding the different projects implemented in the various provinces designed to seek appropriate alternatives for Extension.
- To discuss the lessons learnt or to be learnt from these projects as well as from any other successes recorded or experienced by the Provinces.
- To become exposed to other alternatives reported to be successful abroad or in the country, with the purpose of widening the perspectives of delegates.
- To gauge the perceptions of delegates regarding the acceptability of different systems and/or specific principles (Duvel 2002).

Duvel's study took 18 months from 2000 until 2002 and it involved the provincial extension managers from all nine provinces of South Africa. The expressed need for an extension approach in South Africa was an indication all was not well within the extension delivery, of which Limpopo was not an exception. Extension in Limpopo had begun to shift from a commercial farmer focused strategy to one having small scale and subsistence farming as main target group. This shift was signalling the need for developing an appropriate extension approach.

The search for an appropriate extension approach in Limpopo, began in 1995 and in 1998 in which two initiatives were carried out. The first initiative involved a partnership between the Limpopo Department of Agriculture and the German Government through the German Technical Cooperation (GTZ). The name of the project was called Broadening of Agricultural Services and Extension delivery (BASED), whereas the second one was a partnership between Limpopo Department of Agriculture, National Department of Agriculture and the Dutch Government.

The National Department of Agriculture appointed Duvel in 2000 to undertake the national study to develop an appropriate extension approach for South Africa.

This current study was motivated by these two initiatives as well as the transformational agenda of the democratic government.

Whereas Düvel's study had a national and holistic focus, this study was was focused on the Limpopo province allowing for a more in depth investigation, particularly in regard to the variables responsible for the identified variation in perceptions and opinions. The linkage and mutual complementation of the two studies was ensured by the researcher being actively involved in the monitoring and implementation of the two pilot studies namely; BASED and the land reform projects, and also representing the Limpopo province in the national project committee responsible for the planning of the national project.

### **Objectives of the study**

The specific objectives of the study are the following:

- To identify guidelines of an appropriate extension approach from (a) literature overview and (b) from donor funded project initiative designed and adopted in the department for this purpose.
- To describe briefly and analyze the current extension performance in the Limpopo Department of Agriculture (LDA) to confirm the need for the introduction of a more appropriate extension approach.
- To evaluate and assess the acceptability of various alternatives within the main identified principles namely :-
  - \_ Needs based priority approaches,
  - \_ Institutional linkages, structures and community participation,
  - \_ Purposeful or programmed extension,
  - \_ Monitoring, evaluation and accountability
  - \_ Privatization and outsourcing
  - \_ Knowledge and resource support
- To make recommendations based on the findings of the study for a more appropriate extension policy and approach.

The report is organised into 13 chapters. Chapter 1 is an introduction. Chapter 2 outlines the problem of the study. Chapter 3 presents the theoretical background and Chapter 4 reports on the research methodology. Chapter 5 presents the current extension and chapter 6 to 12 discusses the findings of the study. Chapter 13 discusses recommendations relating to the different principles of extension.

## CHAPTER 2

### THE RESEACH PROBLEM

Research produces solutions but extension doesn't get farmers to adopt them. For a long time, the maxim has been "try harder"! Innovations must be pushed to the field with more effectiveness. The extension side of organizations must be strengthened, unified, and simplified through more "order and command", coupled with "supervision and sanction", so that the effectiveness of extension is increased. It is hoped that through such measures adoption rates will increase, thus, making projects more successful (Ehret, 1997:3).

Three types of agriculture systems are identified and grouped in terms of agro-climatic and socio-economic characteristics summarises the challenge for agricultural based institutions. The first two types of agriculture systems namely the high-input, high yielding production systems and the high capacity area of the tropics both face problems of over production and surpluses, whereas the third type of agriculture consist of the poorest and most vulnerable, these are the rural households with few resources beyond the labour of their own families.

"They work in areas with low and uncertain rainfall, little irrigation, steep slopes, poor roads and many other limitations. Yields are low and uncertain, land, forest and other resources rapidly being degraded" (Von Osten, Ewell & Merrill-Sands, 1989:69-70). Extension systems are faced with addressing the technological requirements of small-scale farmers that are consistent with their farming systems. Technological innovations are seldom aimed at the resource –poor farmers, on the other hand they depend on the use of costly inputs, which favours large commercial farmers. An observation is that newly generated technology may not always be relevant to the needs of poor farmers.

Researchers have found that extension systems still evolve around top-down supply driven extension approaches which do not adequately address the socio-economic situation of resource-poor small holder producers or their requirements (Kessaba,

1989 and Chambers, 1983). Appropriate extension approaches are expected to address these challenges. However, this harder push on extension has not produced the expected results. Several questions are not sufficiently addressed:

Can top-down oriented systems with their present practices and orientation identify problems of farm families of the resource-poor agriculture? Is research able to develop solutions, which fit the situations of this “third type of agriculture”?

Which extension approach is appropriate to which situation in Limpopo? Large scale or commercial farmers operate at different levels and do not experience similar challenges when compared to small-scale farmers. Based on the problematic area cited above, the following is the central problem namely:

“The Department of Agriculture (LDA) does not respond sufficiently to the developmental constraints and opportunities of the majority of small-scale farmers in the former homelands of Limpopo Province. The reason for this state of affairs could be ignorance or lack of understanding regarding the appropriate extension approach. This focuses the study on a search for an extension approach appropriate for the Province of Limpopo”.

## CHAPTER 3

### THEORETICAL EXPOSITION OF EXTENSION SYSTEMS

#### 3.1 INTRODUCTION

Research has shown that there is no extension system or approach that is appropriate for all situations, however there are organisations that prefer to propagate specific approaches in the world (Düvel, 2002:78). This might be seen as the cause of the problem because one may think this is the right thing. While this is seen as a problem on the other hand agricultural extension and research is worldwide one of the main factors contributing towards successful agricultural development (Jordaan, 2004:49). Based upon the above mentioned statement, agricultural development initiatives need to be guided by well designed policies that are implemented systematically.

During the past 10 years agricultural extension in South Africa has undergone a drastic change from a dualistic service (separate services of the commercial and small-scale farmers) to a single amalgamated service, now focusing almost completely on previously disadvantaged small-scale farmers. The request by the National Department to have an extension model developed created an expression that there was no appropriate one to service the entrant farmers as a result of new land reform policies (Düvel, 2004:1).

The question to be asked, is there an agricultural extension model which can be transferred from one country to the other? Very obvious differences occur regarding the understanding of what constitutes a model or an approach, how it can be pursued, compared and applied to achieved its objective. For example (Bolinger, Reinhard & Zellweger, 1994:11) believe that there is no such thing as one overall best approach to extension. The purpose of this chapter is therefore to review different dominating approaches and to derive lessons for Limpopo.

### 3.2 DEFINITION OF AN APPROACH/SYSTEM/MODEL

Some confusion arises when talking about different approaches to rural extension, because the description and the name of each approach emphasize different aspects. According to (Bolinger, Reinhard & Zellwer, 1994:11) approaches lack a clear common structure and make it impossible to compare them. Different authors use different words to explain the concept (approach/system/model), for example, Rivera (1989:93) calls it a “system”, Worth (2002) refers to it as an “approach”, while still others refer to it as a “model” (Düvel, 2004:1; Röling, 1985, Botha, 1992 and Swanson, 1984:6).

The meaning of an “approach” again differs. According to Hagmann and Shultz (2000), an approach is explained as a way in which different guiding principles are applied in a specific situation to fulfil different purposes and/or target specific development beneficiaries, whereas Bolinger, *et al* (1994:11), see an approach as consisting of a series of procedures for planning, organizing and managing the extension institution as well as for implementing practical extension work by staff with technical and methodical qualification and using the necessary and appropriately adapted means. The author will use these concept of ”approach, model, or system” interchangeably to denote the same meaning.

### 3.3 TYPES OF EXTENSION APPROACHES/SYSTEMS

In order to identify or develop an appropriate extension system, the logical point of departure is to take cognizance of already existing extension systems. Numerous systems are quoted in the literature (Oxenham & Chambers, 1978; Orivel, 1981; Pickering, 1987; Ray, 1985; Weidemann, 1987; Röling 1985(a); Röling, 1988 and Axinn, 1988). However, there is no straight forward statement which clearly outlines the universal acceptable typologies of “how many extension approaches” are present. One finds that the typologies tend to be contradictory and confusing to some extent.

The typology developed by Rivera (1989:113) summarized in Table 3.1. gives a more or less representative picture, although one of the shortcomings is that it has left out other models. For example: the Advisory model, Agricultural Knowledge and

Information System (AKIS) (Röling, 1995:3), the Problem Approach, Basic Needs and Integrated Rural Development and the Farmer Field School (FFS).

The following approaches are discussed: Top down delivery approaches, participatory systems, Contract farming and Rural development approaches.

### 3.4 TOP DOWN DELIVERY SYSTEMS

Table 3.1 identifies systems namely: conventional approaches, Training and Visit (T&V), University organised, commodity, and technical innovation systems.

**Table 3.1: Extension approaches and systems and their relationship to farmers**

System approaches	Type of system	Relationship to farmers
I Top down delivery services	Conventional T&V system University organised Technical innovation <i>Advisory</i> <sup>1</sup> Problem solving approach <sup>2</sup> Technology Innovation process <sup>3</sup> National Commodity Panel System <sup>4</sup>	Take it or leave it
II Participatory Acquisition System	Farm information dissemination (Taiwan) Farming Systems Research and Development (FSR/D) <i>Farmer fields school (FFS)</i> <sup>5</sup>	Take it or demand different packages or programmes
III Contract farming systems	Commodity development and production Commodity focussed AKIS <sup>6</sup>	Take it or else
IV Rural development extension approaches	Community development Extension Cum-extension Rural animation Integrated rural development programmes Basic needs and Integrated Rural Development <sup>7</sup> (IRD)	Take it or turn away

*Source: Rivera 1989 (originally developed by Dr Joao Barbosa of the World Bank)*

- <sup>1</sup> Added by author
- <sup>2</sup> Added by author
- <sup>3</sup> Added by author
- <sup>4</sup> Added by author
- <sup>5</sup> Added by author
- <sup>6</sup> Added by author
- <sup>7</sup> Added by author

These are not the only systems; other systems that can mostly be classified under the top down.

### **3.4.1 Conventional approaches**

Conventional approaches offer a broad categorisation that covers many general extension systems. Conventional agricultural extension systems are characterised by the fact they tend to be strongly hierarchical. The professional extensionists look upward for directives rather than downward for approval. Lastly there are few effective means for managing and supervising the middle and upper level staff members (Boone, 1987).

### **3.4.2 University based extension**

The most comprehensive example of university linked example is the cooperative extension service. The linkages are historically legislated and organizationally ingrained. The primary goal of this approach is to conduct educational programmes in selected subject matter in selected subject matter areas to help clientele solve problems in a way that is socially desirable and personally satisfying. There are challenges faced by developing areas which make it difficult to implement (Swanson & Claar, 1984:11).

University based extension is tailor-made for high income countries, with a move observed in countries like India, Kenya, Philippines and Nigeria (Norman, Manghezi & Paradza, 1994:112). It is argued that the implementation of this approach in South Africa would be difficult to accomplish without legislation (Bembridge, 1993:34). Alternatively it might need creativity.

### **3.4.3 National commodity panels system**

Arnon (1989:782) identified the National Commodity Panels System. This system consists of a research sub-system, a dissemination sub-system and a user sub-system. Although the model shows a joint decision making framework, the research is seen as having the sole role of producing technology while extension is seen as the delivery of

research result to farmers. This model is not generally accepted by the sub-systems concerned (Arnon, 1989:782).

#### 3.4.4 Technology innovation process

Another system which is seen as an improvement of the original Transfer of Technology (TOT<sup>8</sup>) is defined as the Technology Innovation Process (McDermott, 1987: 95). This model distinguishes the required sequences of functions in terms of steps or stages, which must be performed. For example the steps are: research, technology generation, technology adaptation, technology integration, technology dissemination and technology diffusion and adoption.

A close look at the steps shows that it assumes to be a linear paradigm in which research priorities are decided by scientists in research stations where technology is developed as well as adapted and integrated before it is handed over to extension to be transferred to farmers for adoption purposes. Although the model advocates that research-extension-farmer co-operation should begin at the planning stage, it is not always clear as to who does what within the stages. This model also advocates the use of a committee to link up the role players but the nature of the model remains top down.

#### 3.4.5 Training and Visit system(T&V)

There is a debate whether the T&V is a system or a management tool. Rivera (1989) classified it under the category of top down delivery (see Table 3.1). Others (Hagmann & Shultz, 2000) feel that T&V<sup>9</sup> per se is neither a concept nor an extension

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<sup>8</sup> *Linear “Transfer of Technology“ concept/model: „The normal basic paradigm of agricultural research and extension in which priorities are decided by scientists and funding bodies, and new technology is developed on research stations and in laboratories and then handed over to extension to be transferred to farmers“(R. Chambers).*

<sup>9</sup> *Hagmann and Shultz explained it as an extension management system based on the Western philosophies of industrialized agriculture and market economy. T&V core concept of extension is that in order to increase crop production findings from on-station research have to be passed on “farmers” in the form of technical messages. Outcome of the email Discussions on Clarification of the Terms: Concept Approach etc. (Hagmann and Shultz, 2000).*

approach. Train and Visit is usually applied to ministry based agricultural extension. The main goal is to equip extensionists with the ability to fill the information gap to the degree necessary to help farmers achieve the maximum in terms of crop outputs and profits through an intensive training programme on a fortnightly schedule.

A close analysis shows that the T&V system takes a classic top-down approach to extension. It is based on the institution based and is teaching centred. This concept stresses two aspects namely research must produce innovations out of which messages are formulated and extension has to deliver these messages to farm families so that they can be adopted. The T& V system was found to be a costly failure in most of the African countries in which it was promoted and tried and not sustainable financially (Hagmann & Shultz, 2000:1).

#### **3.4.6 Problem solving approach**

The steps involved in systematic problem-solving are not fundamentally different to the stages of systematically planned extension work and belong to the basic functions of management. The procedure always begins with an analysis of the given situation and ends with the evaluation of results (Albrecht, 1989:70). The problem solving approach also seems to be prescriptive in the sense that once the problems have been identified the agricultural technician would develop alternative solutions and draw programmes to implement it without the involvement of the affected people.

A close link exists between the problem-solving cycle and the cycles of Participatory Action Research. Based on this understanding, certain other philosophies and approaches to extension, such as teaching no longer fit, since this implies a partner with predetermined solutions. Freire (1970) calls this the “banking approach” since it is assumed that solutions can be stored and retrieved like money that can be deposited in a bank and withdrawn at any time when needed.

Modern mass communication (e.g. books, brochures, newspapers, radio) does not address acute individual problems of extension clients. Advertising (or persuasion) is not primarily client-oriented. While it is aimed mainly at the well-being of extension partners, it also benefits the advertisers. Compulsion has no place in the above

understanding of extension since there is no freedom to take decisions and personal responsibility is lacking (Albrecht, 1989:34-35). The researcher argues that there are two sides of the top down delivery systems. It is hailed superior on the one side and criticised on the other. The challenge is to find a middle ground.

The conventional transfer of technology (TOT) is often criticized (Röling, 1995 and Ehret, 1997) without considering the breakthrough it has brought about during the mid- 1960 when research was successful in the generating of high yielding wheat and rice varieties. This was the era known as the “green revolution”. It was generally accepted for the first time following the success of the TOT system that research was the principal source of new technology and that extension heavily depended on national research to generate the technology which it would extend to farmers (Kaimowitz, 1990:102).

One of the mistakes observed (Oram, 1985:102) was the assumption that research could be short circuited by importing technology and transferring it directly to extension services. The characteristic of the TOT systems that make them to be criticized is because they suggests a linear, one way process, all starting with the research and ending on the farm as an adopted technology. When the technology is not adopted by farmers, blame is apportioned to extension that is thought to be lazy in diffusing the technology.

Studies show that one of the problems with the conceptualization of diffusion research has been the assumption that social systems are homogeneous (Röling, 1988:28 and Röling & Ashcroft, 1973), whereas in practice they differ in terms of access to resources, opportunities, and production objectives. A number of factors, which determine such a rate, were documented in the past (Murton, 1965) and they include relative advantage, compatibility, complexity, divisibility and communicability (Rogers, 1983:70).

The top down systems are inadequate to resolve the problems of resource poor farmers. They focus on a “prescriptive package” approach to often pre-determined farmer needs aimed mainly at increasing farm production without taking the risk environment and social problems encountered by resource-poor, subsistence farmers

into account. It is not surprising that South African researchers found that the most preferred model for extension was the Technology Centred Approach /TOT (Bembridge, 1993, Botha, Steven & Steyn, 1999 and Düvel, 2001). It was concluded that the production capability for feeding the nation rests within the commercial sector which can afford to implement TOT approaches.

The adoption of a food security policy such as a sustainable livelihood for the country as a whole will mean that the most appropriate extension system for the small scale farmers would be the one that empowers the small scale farmers, based on people and not only focusing on the technology. Furthermore it should focus on unlocking the powers that are present in the farming and community systems namely, human assets, social assets, natural assets and the honouring of livelihood strategies (Moyo & Hagmann, 2000).

The critical analysis of the top down systems have been documented elsewhere (Chambers,1993, Kline and Rosenberg,1986,;Röling,1988 and 1994; Long & Van der Ploeg,1989). It is useful to indicate that there are five dimensions that are useful in understanding the systems namely the nature of innovation taking into account the whole farm, the assumed nature of learning about innovation by farmers, the assumed nature of extension and the conducive policy framework (Röling ,1985:2-3). These dimensions should assist when checklisting performance of systems.

People tend to be entrenched in stereotype thinking of one approach such as the transfer of technology model (TOT) because of its nature of coherence as a whole and never think of any other alternatives to it (Röling, 1985:3). There are situations where elements of the top down systems apply but it is by no means a system that can usefully inform all extension practice

### **3.5 PARTICIPATORY ACQUISITION SYSTEMS**

#### **3.5.1 Farming systems research and development**

Farming systems research forms part of the participatory systems as reflected in Table 2.1. Sometimes the systems are confused with methods, for example participatory

rural appraisal, (PRA) (Hagmann & Shultz, 2000) and Participatory Action Research (PAR).<sup>10</sup> Farming System Research is designed to test “appropriate” agricultural technology with client populations and has been widely adopted whereas the results of intended outcomes have only made marginal headway (Chambers & Jiggins, 1986).

Various names have been given to this type of agricultural system such as Farming System Development (FSD) (FAO, 1990:1) and On Farm Research (Ewell, 1990:190, Arnon, 1989:344. Some have called it Farming System Research and Extension (FSR-E) (Schmick, Poats & Spring, 1988), Participatory Research (PR) Ashby, 1987:25), New Farming Systems Development (NFSD) (Spedding, 1988:36), Farming System Perspective (FSP), Adaptive research planning team (ARPT) and On-farm Client Oriented Research (OFCOR) (Ewell, 1990).

Farming systems research approaches have distinct advantages over other top down systems. The top down approaches often did not address the constraints and development potentials of the farm household systems in development planning and implementation. Farming systems tend to perform essential functions such as:

- The identification of problems at the producer level;
- Generation of innovation;
- Validation under farmer's conditions;
- Dissemination;
- Utilization, and
- Evaluation (Anon, 1989:781).

These functions are executed within the top down framework. Most of the abovementioned methods were developed to correct the challenges generated by the top down systems. One observes that the deeper meaning of participation was not fully explored and the basic questions addressing the reasons for failure were never asked.

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<sup>10</sup> *PAR is an ongoing process of merging theory with action and action with theory. The overall process is broken into several cycles, each comprised of four parts namely planning, implementation, observation and evaluation*

It seems researchers avoided to ask the relevant question and instead asked the wrong question namely: “How can the top down systems be improved?” This has led to the identification of the unsustainable methods to make top down systems work. Von der Osten, Ewell & Meril-Sands, (1989:83-84) recommended that research, farmers and extension will be linked through contract, consultative, collaborative and collegiate participation.

Donor supported systems tend to view these systems as the solution for small- scale farmers (Ehret, 1997). Due to the associated limitation however it cannot be accepted as the panacea for all farming settings. Some of the identified limitations are that every farm is a unique system with its own family situation and particular likes and dislikes, changes of climate and marketing conditions are unpredictable, short term benefits and yield sustaining measures are often conflicting , it is difficult to set up interdisciplinary teams and that farmers are tired of answering more and more questions they want to see results and specialists have a limited understanding of the whole complex of problems (Bolinger, 1994:16).

### **3.5.2 Farmer fields schools (FFS)**

The concept of farmer field school was first applied in South and South East Asia and has shown potential to succeed among small scale farmers (Owen and Simpson, 2002). FFS is described as a future approach that agencies could be using to mainstream extension practice and can be used to build participatory practices into extension programmes (Simpson, 2001, Potius, 2000 and Rola, 2001). A close analysis of FFS reveals the following:

FFS is capable of being responsive to local needs over a wide range of conditions with a wide range of crops. It is able to combine an effective blend of participatory and experiential learning activities. Graduates from FFS have gained confidence and are willing to communicate viable technology to others in their immediate vicinity and beyond and are contributing towards social development. Some of the challenges of FFS relate to the focus and relevancy not necessarily being any greater than a more traditional delivery oriented programme.

The low levels of farmers self –awareness and actualization in terms of their real and possible roles in knowledge generation may be closely linked to the educational levels and training of field agents. There is also a fear that FFS may develop an “elite” bias favouring those who are literate and the perception that the content is based on “western” science.

### **3.5.3 Agricultural Knowledge and Information System (AKIS)**

An agricultural system which is not included in the typology is called AKIS<sup>11</sup>. An agricultural knowledge system is seen as an alternative system to TOT. The system was discussed by a number of authors who gave different interpretations (Röling, 1988:179, Brokensha, 1980, Richards, 1985, Nagel, 1980, Engel, 1989:3 and Kaimowitz, 1990:1). It is a system in which agricultural information is generated, transferred, consolidated, received and fed back in such a manner that these processes function synergically to underpin knowledge utilisation by agricultural producers (Röling, 1988:33).

The difference between Information and knowledge systems is that information is an attribute of the mind. It cannot be transferred. It is the outcome of lifelong information processing, storage and retrieval going on in the neurophysiological system. Knowledge on the other hand can be shared and accumulated in social groups (Röling, 1988:186). The author does not see it as an alternative because of its character. It would be a system within another system. It demonstrates the relationship between the main role players and stakeholders in the extension mix and highlights the need for institutionally strengthening the relationship among the contributors to the extension process. Whether it is a desirable thing or not to improve rather than to question the premise of the triad of the subsystems, AKIS is believed to provide a firm foundation on which to create a new understanding of extension (Worth, 2002:476).

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<sup>11</sup> *It is defined as A set of agricultural organization and or persons and the links and interactions between them engaged in such processes as the generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge and information with the purpose of working synergic ally to support decision making, problem solving and innovation in a given country's agriculture or domain thereof (Kaimowitz, 1990:1).*

It is further submitted that unless it becomes neutral without specifically singling out research institutions as the sole originators of information and knowledge, AKIS is probably biased to top down, the argument being that indigenous knowledge is also generated by illiterate people. In a sense AKIS aims at improving interconnection between models such as farming system research and technology processes.

### **3.6 CONTRACT EXTENSION SYSTEM**

The contract extension system can be explained by using two terms namely “contracting-in” and “contracting-out”. The first term refers to public sector extensionists providing services in contractual arrangements with private sector entities who provide at least partial funding, whereas contracting-out refers to the public sector contracting out the extension advisory services to the private sector (Crowder, 2001: 113). Mozambique and Uganda are some of the countries where this system is functioning although its sustainability is questioned. Extensionists workers are contract employees who are supported by projects funded by donors.

Contract approaches could be categorized as part of private sector extension. Umali-Deininger (1996:4) suggested that the private sector system can further be divided into two systems namely the profit sector systems and the non-profit sector. The private for profit systems include cooperatives, trade organizations, distributors, input manufacturers such as machineries, hybrid seeds, livestock, veterinary supplies, pharmaceuticals and agricultural information, agro-marketing, processing firms and farmer group operated enterprises.

The private for profit systems charge for the services they render to their clients. Private consultants for example are used by large scale farmers. Since they are highly trained subject matter specialist, they provide specialized technical and managerial services such as in Commodity development and production. It is observed that they provide significant service by helping farmers to move from a subsistence level to more commercialized farming through the use of purchased technologies. In counties such as Chile and Columbia an innovative system has been adopted which has implemented the use of a voucher system by farmers (Kraft, 1997).

The challenge of these systems is that resource poor farmers cannot afford some of the services provided by the private sector. On the other hand there are advantages from farmer controlled extension systems. They hire extension technicians thereby reducing the budgetary load of the government (Norman, Mollel, Mangheni & Paradza, 1994:114). The other category of the private non- profit system institutions such as NGOs, Universities, commodity boards and Non- commercial associations. In recent years NGOs have become active in agricultural extension, in most countries, but usually within projects with limited scope and scale in the context of overall national delivery needs (Ehret, 1997).

### **3.6.1 Commodity development**

This approach is generally organized through parastatal organizations or private sector firms. The basic characteristic of the commodity based extension is that the production system is vertically integrated from input supply to the technology adoption and marketing of the product (Norman, *et al*, 1994:113). Commodity approach usually concentrates on a single one cash crop (Bembridge, 1993:34).

The main advantage of the commodity approach lies in the high returns on crops while the disadvantage of this approach is that extension content is limited to technical and administrative or commercial aspects of the particular commodity. Farmers tend to depend on commodity organizations for advice, inputs and the sale of their crops.

## **3.7 RURAL DEVELOPMENT EXTENSION APPROACHES**

### **3.7.1 Community extension rural development systems**

The fourth type of the extension system (according to Table 3.1) includes systems that are based on rural animation and integrated rural development programmes. Rural development systems are seen as broader than agricultural extension and are recommended for consideration when improving agricultural extension systems. In some instances they involve their clients in planning, implementing, and evaluation of

programmes (Swanson (1984:7). However in practice, depending on the organization that implements it, Rural Development Systems may become top down in nature.

### **3.7.2 Rural animation**

The concept of the “rural animation approach” is associated with francophone Africa countries such as Senegal, Ivory Coast and Madagascar. This approach involves participatory rural development with specialists working directly with small farmers to develop, test and demonstrate improved agricultural technology (Kesseba, 1989:96). The extension agent operating under this concept is responsible for creating awareness. It is believed that the approach would offer an answer to the authoritarian and often repressive nature of intervention by Colonialists Governments. In a dialectical way it increases the competency of rural villages to express their needs so as to be liberated from the colonial dependence (Nagel, 1997:17).

“Animation rurale” relies largely on a number of voluntary collaborators called “animateurs or village animators”. The collaborator is responsible for organizing and stimulating an activity in a village. This requires special training. The village animators are taught how to organize and diagnosis in participation with the village and its population, and to prepare plans on the basis of a joint diagnosis (Schmidt, Etienne & Hurlimann, 1997). In reviewing the animation rurale (AR) as a philosophy of extension, it is reported that the objectives of AR were difficult to operationalize as and to sustain impact because of internal and external factors (Sulzer & Payer, 1990:34).

### **3.7.3 Integrated Rural Development Programme**

According to Swanson (1984:7) the integrated rural development approach traces its roots to the community development efforts particularly in South Asia. It is assumed that integrated rural development is participatory in nature. It adopts methodologies such as participatory rural appraisal (PRA), participatory technology development (PTD), participatory learning and action (PLA) and participatory integrated development approach (PIDA) (Ehret, 1997).

Rural development systems are also seen as broader than agricultural extension and are recommended for consideration when improving agricultural extension systems. In some instances they involve their clients in planning, implementing, and evaluation of programmes (Swanson, 1984:7). Rural Development Systems may become top down in nature depending on the organization that implements it.

### **3.8 EXTENSION APPROACH INITIATIVES PRECEDING THE STUDY**

Two initiatives were carried out in Limpopo namely; the partnership with the German and the Dutch governments. The outcomes of both initiatives are discussed separately.

#### **3.8.1 The German partnership (GTZ)**

The Department of Agriculture applied for donor funding from the German government in order to re-orientate the extension service of Limpopo. Short-term assistance was granted through the German Technical Cooperation (GTZ) and a consultant was appointed to do preparatory work by creating vision for participatory approaches. The process culminated with the inception of a three-year renewable assistance operated under the name of Broadening Agricultural Services and Extension Delivery (BASED). BASED formally commenced its activities in 1998 and came to an end at the end of December 2006.

##### ***3.8.1.1 Evaluations procedure of based pilot***

The purpose of the evaluation was to assess the impact of BASED in the pilot sites since its introduction in 1998 in the Department of Agriculture. Both qualitative and quantitative strategies were used to gather information for the study from both the extension workers and the programme beneficiaries (i.e the farmers). The questionnaire is attached as annexure B and C.

The researcher gathered the information on two separate occasions. In the first occasion, a coded questionnaire was used to collect the responses from the extensionists including those who participated as well as those who did not participate in the pilot areas. The questionnaire was administered in English and questions were

thoroughly explained to avoid misunderstanding. Each questionnaire took almost 40 minutes to complete. On the second occasion, six workshops were organised in pilot sites to assess the impact of BASED in relation to service delivery at the community level. BASED identified 6 pilot areas ( i.e. 3 per participating district). However due to time constraints, only two sites were visited namely Mbahela in Vembe and Spitzkop in Capricorn. The size of BASED samples is shown in Table 3.2.

**Table 3.2: Distribution of the sample in Pilot areas of BASED**

<b>District</b>	<b>Pilot areas</b>	<b>Farmers</b>	<b>Extensionists</b>
Vembe	Hagondo, Mbahela, Tshikonelo	195	35
Capricorn	Ga-Mogano, Ga-Thaba, Spitzkop	140	44
<b>Total</b>		<b>335</b>	<b>79</b>

The researcher together with the BASED manager and members of the BASED steering team identified procedures to guide the process of assessment. A daily programme was drawn and following the necessary protocol, groups were identified and given topics to discuss the impact of BASED such as changes at the community level, issues that were not tackled by BASED, their perceptions on the BASED programme, their achievements (with evidence), their problems and their vision.

Issues that seemed to be complicated were clarified. Feedback was offered to the broader community and neighbouring communities. The important issues arising from the group presentation were visualized on cards and then synthesized in plenary.

### **3.8.1.2 Findings from BASED**

**The findings are summarised as follows;**

- The Department has developed a manual for the reorientation of extension and research personnel involved in Participatory Extension (PEA) and Participatory development Approaches (PDA).
- The BASED approach is in the process of being instutionalized within the Department of Agriculture.

- BASED has given birth of a Non Government Organization (NGO) called NovAfrica, which functions independent of the Department of Agriculture and has become the custodian of the philosophy of participatory extension approaches. NovAfrica is involved in the training of extensionists and is in the process of facilitating the accreditation of the PEA course to be in line with the requirements of the South African qualification authority.
- BASED encouraged innovations among farmers as seen in the development of a maize variety used for seed purposes with the approval from South African National Seed Organization (SANSOR), zero grazing of goats, the adoption of a ripper planter the establishment of an umbrella organisation and the strengthening of the certain aspects of soil moisture conservation and soil fertility improvement. All the above mentioned achievements signalled changes in the way farmers approached their farming in the pilot sites and giving credit BASED initiatives.

### **3.8.2 The Dutch Government partnership**

The National Department of Agriculture facilitated the process of identification of projects that would be piloted in order to draw lessons for the development of an alternative extension approach for the Limpopo Province. A frame work was developed to guide the process which consisted of four steps namely the identification of the target pilot area, developing a business plan for the target pilot project, the appointment of a consultant to produce a desk top study based on the target project and finally to implement the findings of the desk top study and to generate lesson learnt for future extension delivery.

#### **3.8.2.1 Target area**

The Department identified land reform as the target area for the pilot. The reason for this choice was to respond to two strategic objectives namely to promote the success of the land reform program through appropriate farmer support services and to assess and respond to the development constraints of land reform beneficiaries on state land.

Eight land reform projects were identified focusing on livestock, crops or both livestock and crops. They are indicated in Table 3.3.

**Table 3.3: List of 8 land reform projects in Limpopo Province**

Name of project		Name of District	Mem-ber-ship	Type of enterprise	Type of project Ownership	Number of ha
1.	Nwanedi farmers	Vhembe	103	Crops	Lease <sup>12</sup> agreement	1300
2.	Steilloop	Waterberg	10	Livestock farmers	Lease agreement	15 725
3.	Matshehla	Capricorn	66	Crop	Lease agreement	396
4.	Strydpoort	Capricorn	6	Livestock	Lease agreement	8 451
5.	Lwalalemetse	Capricorn	126	Livestock & Crops	SLAG <sup>13</sup>	1 562
6.	Ikageng	Capricorn	102	Crops	SLAG	418
7.	Laboheme	Bohlabela	383	Crops	SLAG	425
8.	Makgofe	Capricorn	37	Broiler & Crops	SLAG	151
<b>Total</b>			<b>833</b>			<b>28 428</b>

### 3.8.2.2 Business plan for pilot land reform

The development of the business plan was coordinated by the sub directorate of Extension and Training, and the Chief directorate of Agriculture Regional Services.

The business plan developed five outputs of the projects namely:

- Developing the profile of land reform clients;
- Identifying capacity building needs and programs for the beneficiaries and extension staff supporting those farmers;
- Developing an appropriate extension program with implementation plan for land reform;
- Developing extension management information system for the projects; and
- Establishing linkages with relevant support service providers.

<sup>12</sup> This is state land offered to farmers with an option to buy should it be found to be free from land claims. If it is claimed the lesser is notified and the lease terminated.

<sup>13</sup> The acronym SLAG refers to Settlement for Land Acquisition Grant, being a grant obtained from the Department of Land Affairs. The communities were grouping themselves and each member was granted R16 000. 00. Resources were pooled to purchase the land. A Trust or Community Property Associations (CPA) was the legal entity used to transfer the land to the new owners.

The business plan was submitted to the National Department of Agriculture outlining the budgetary requirements. The National Department of Agriculture granted Limpopo Department of Agriculture (LDA) an amount of R1.5 million. The duration of the project was 12 calendar months.

### ***3.8.2.3 Appointment of consultants***

Two consultants were identified to perform certain tasks. The first consultant was mandated to produce a desktop study about land reform practices tapping on experiences outside and within South Africa. The consultant was guided by terms of reference developed for this purpose. The task culminated with a set of recommendations of the study.

The Department of Agriculture of Limpopo (LDA) developed criteria, and terms of reference for the selection of the second consultant, Development Focus of South Africa (DFSA) who received the bid to implement the recommendations of the first consultancy in four selected pilot projects namely Makgofe, Nwanedi, Strydpoort and Steilloop. The LDA monitored the activities of DFSA and reported on a monthly basis.

### ***3.8.2.4 Findings of the provincial pilot projects***

The detailed finding of the implementing agent is attached as “Annexure C” The lessons learnt are as follows:

- The implementing agent DFSA provided technical training as identified during the need assessment. They outsourced where they did not have expertise. Both farmers and extensionists were exposed to practical training. Although not sufficient extensionists visited institutions such as Irene, the livestock branch of the Agricultural Research council as well as Hygrotech field trial plots.
- Farmers were prepared to adopt the team work approach especially where they worked as groups as in the SLAG projects. Those who came from leased projects

such as the Steilloop were prepared to collaborate with external agents. They collaborated with ARC and SAVet. The latter offered to provide services on condition that farmers sign contract to buy all livestock remedies from them.

- Extensionists were re-oriented prior to the implementation of the training to farmers. This gesture helped to prepare the local extensionists for the after care when the implementing agent (DFSA) exited the pilot project. The local extensionists developed more confidence and their interaction with farmers improved making it easier during farmer training. It also improved mentorship and monitoring. The chances that the project would be more sustainable were also improved.
- Fundraising skills were imparted to the farmers capacitating them to identify and to access and identify sources of funding for their projects. Farmers complained that financial agents were far from them. Experience has shown however that as long as farmers are organized financial institutions come to the farmers providing they have potential to do good business with them.
- The performance of extensionists in land reform was not satisfactory. Consequently the performance of all extensionists linked to land reform projects ought to be monitored on a monthly basis by the district management.
- Farmers who were new to farming required more time to be introduced into farming. The relevant management training was provided during training sessions.
- Land reform projects did not have any explicit short, medium and long term development plans, and their business plans were considered not to be realistic.
- Farmers tended to show a dependency upon the Department. Farmer institutions were found to be weak in varying degrees. Some projects were well constituted (Steilloop – Rebone Farmers Association,) but without the enforcement capability of a constitution. Others did not even have working committees (Ikageng) or any constitution to guide them in their daily activities (Lwalametse).

- All SLAG projects faced the challenge of dealing with Trustees or ‘intruders during harvest time’ who approved not to understand that they had to offer their labour in producing whatever income is accumulated by the project before sharing profits (e.g. Makgofe). Many Trustees came to share the profit in Makgofe without re-investing a percentage of profit into the project resulting in the collapse of the project( until it was saved by a donation from the Department of Health and Social Welfare).

### **3.9 CONCLUSIONS**

Having discussed the four broad categories of extension systems namely top down, participatory, contract farming and rural development one can conclude that: there are different ways of organising extension. According to Baxter (1989:154) a basic consideration to be considered is the national policy framework within which such systems operate.

Extension systems are organized within a particular environment for a particular predetermined objective. There is no “one size fit all” extension system. The commodity approach can serve as an illustrative example. Areas differ in terms of agro-ecological zones, size of farms, farming systems and regional characteristics. It is imperative that extension develops a program which is specific to the needs of each group. It is quite feasible to have different systems operating side by side in a particular region /district.

It is important to consider the aspect of sustainability when developing extension systems. Out of the four criteria (namely situation specificity, financial sustainability, system flexibility and system wide participation) promoted by the World Bank, financial sustainability was placed in the fore front. Extension systems should demonstrate the sustainability in both financial (profit) and good conservation practises (World Bank, 1990). This can be achieved in various ways such as developing capital resources in the form of donor commitment, fee based cost recovery and the creation of endowment funds. (For example the T & V System collapsed when external financial support was withdrawn).

Extension depends on the willingness of both the implementing agents and the clients who should have a positive attitude in conceptualization and the execution of extension programmes. The success of the green revolution is a classic example showing that other forms of approaches such as top down can yield positive results when well managed. This also applies to commercial farming (with a consideration to the question of sustainability).

Based on the above findings, it can be concluded that there are a variety of approaches that depend on a number of factors hence the study to offer more clarity in terms of approaches within Limpopo.

The BASED pilot projects showed positive impacts from the participatory extension approaches. Participants could substantiate their cases through realistic evidence. In the case of the Dutch partnership, the practice in land reform did not have a basis for alternative extension approach because the participants were still heavily dependent upon the department.

The situation was compromised by the government programme that encouraged grants such as the Comprehensive Agricultural Support programme (CASP). This offering seemed to be in conflict with the principles of alternative extension which promotes self reliance in the case of BASED. Land reform participants from leased and SLAG projects were preoccupied by challenges they faced and had to spend time trying to sort out the institutional arrangements of their projects rather than devoting their energies to developing new ways for providing and offering extension.

The situation called for decisive leadership both from the farmer associations and from the Department. Efforts were made by the LDA to resolve the matter through the introduction of the policy of De-registration of absentee members in the projects.

## CHAPTER 4

### RESEARCH METHODOLOGY

#### 4.1 INTRODUCTION

The quality of research data depends on the quality of the information obtained from the respondents. This study coincided with a bigger study which was commissioned by the National Department of agriculture investigating a more efficient Extension Model for South Africa. A National Project Manager<sup>14</sup> was appointed following the completion of several donor funded projects of which the details have already been reported in the previous chapter. Participation was the key issue in the development and execution of the research instrument.

#### 4.2 DEVELOPING THE RESEARCH INSTRUMENT

The key issue guiding the investigation was the participatory condition, implying the intensive involvement of role players i.e. the extension managers as well as frontline extension workers. The initial involvement was in the form of a national workshop to which every one of the nine provinces was invited to send a delegation of about 10 representatives. Other role players invited were NGO's, farmer organizations, research institutions and tertiary education institutions.

The workshop, in general, was conducted in such a way as to facilitate the gathering of ideas, viewpoints, opinions, suggestions, etc., but also to allow a selection of the more valuable and founded viewpoints. The methods used within the group sessions involved nominal group techniques to ensure that no potential contributions were overlooked or overruled. This was invariably followed by Delphi procedures to facilitate interaction and the possibility for participants to associate themselves with viewpoints they believed to be the well founded.

The consensus opinion emerged from the workshop that no rigid model, irrespective of its nature, is acceptable because the situations between and even within Provinces

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<sup>14</sup> *Prof Düvel from the University of Pretoria was appointed in 2002.*

vary too much. However, the workshop did come up with a list of what, according to the majority opinion, was regarded as the most important principles. These principles were further refined and supplemented in a series of follow-up meetings of Provincial Programme Managers, who then, under the leadership of the National Programme Manager (Prof. G. H Düvel) proceeded to conceptualise these principles, and in that process identified the various alternatives within each of these principles. This process culminated in the preparation of a discussion documents (see Appendix A) that served as a basis for providing feedback to the extension fraternity and for receiving, in group sessions, an indication of their viewpoints and preferences.

Group sessions were held throughout the Limpopo Province, usually at regional or district level. In most cases they were preceded by discussions with the provincial management to win their understanding and support. The prospect of ultimately obtaining a report on the provincial or local situation, and thus receiving a valuable management tool, led to widespread involvement of extension staff in the interaction and feed-back process.

#### 4.3 SAMPLING PROCEDURE AND SIZE

The degree, to which the extension workers within the province were involved, is indicated in Table 4.1.

**Table 4.1: The sample size and sample percentage of extension personnel involved in group interviews**

<b>District</b>	<b>Total extension personnel</b>	<b>Respondents</b>	<b>%</b>	<b>Sample %</b>
Sekhukhune	107	63	58.87	19.4
Mopani	133	36	27.06	11.1
Vembe	235	43	18.29	13.3
Bohlabela	97	57	58.76	17.6
Capricorn	169	110	65.08	34.0
Waterberg	59	15	25.42	4.6
<b>Total</b>	<b>800</b>	<b>324</b>	<b>40.50</b>	<b>100</b>

Out of 800 extension personnel<sup>15</sup> in Limpopo 324 were involved in the group discussions constituting 40.50 percent. Waterberg had the lowest number of respondents, although when considering the existing size of the extension personnel at the time of the study (25.42 percent) it can be regarded as acceptable. Capricorn was best represented with 65.08 percent.

#### **4.3.1 Interviewing procedure**

Interviews were arranged at various centres within the Limpopo Province namely Mokopane (Waterberg District), Polokwane (Capricorn District), Thulamashashi (Bohlabela District), Madzhivhandila college (Vhembe District) Lebowakgomo (Sekhukhune) and Giyani (Mopani District). A copy of the discussion document was handed out to every participant for completion. Respondents were expected to give their views and preferences after explanation and background information provided by the facilitator and comments and contributions by other participants.

In order to gather informed opinions, participants were provided with the necessary background reasoning, explanations of the pros and cons and the implications of many of the alternatives within the principles. An interaction and exchange of viewpoints between the participants was promoted. Group interaction had to be restricted at times as, the group sessions took anything from six to eight hours or even longer. Before ultimately indicating their final viewpoint on the discussion document, it was emphasized that there were no right or wrong answers. This was done to encourage honest opinions and thus reliable information.

The provincial representative accompanied the National Program Manager who facilitated the group sessions during the group interview sessions, which took place from September until the middle of November 2002. Special care was taken during the group interview sessions to ensure that respondents understood the issues and

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<sup>15</sup> *The extension personnel refers to the work force doing mainly field work- specializing in crop production, animal production, animal health officials, resource utilization, agricultural extension, it also include professional officers known as subject matter specialists. The category does not include all support.*

knew how to fill in the information. A data projector was used to demonstrate how to complete the questionnaire in order to minimise mistakes by respondents.

There was no selection or sampling of the extension personnel attending the group interviews. The extension officers were invited through the chief directorate of Farmer Support at Head office, and it was open to everyone to voluntarily attend the interviews. The dates were carefully selected with the cooperation of the District managers to ensure that they would not conflict with district events.