

## **EXTENSION NEEDS OF SMALL-SCALE DAIRY FARMERS IN THE NORTH-EASTERN FREE STATE**

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### **ABSTRACT**

*The study evaluated the management practices of small-scale dairy farmers in the North-Eastern Free State. The sample area focused on farmers (on communal and state land farms) in the former self-governing territory of Qwaqwa, as well as in parts of the Harrismith, Kestell and Bethlehem districts where newly settled land-reform beneficiaries are concentrated. In this study it was found that most of the problems experienced by the farmers were related to the unresolved land tenure system (communal land), as well as shortage of water, lack of working capital, untimely veld fires, lack of co-operation among farmers (farming group schemes) and inadequate extension services to advise small-scale dairy farmers. Due to a lack of mechanical implements, all the small-scale dairy farmers in the sample made use of manual labour. Knowledge, skills, training and co-operation among themselves were identified by the respondents as being prerequisites for success. Future interventions aimed at improving and strengthening the sustainability and the livelihoods of the small-scale dairy farmers, thereby ensuring equity and reducing economic vulnerability of small-scale dairy projects, should take into account a number of different factors. With regard to extension, government should endeavour to provide an effective service, thereby establishing links with formal channels of marketing, as well as local markets and informal marketing systems, training in farming principles, financial assistance, assistance in acquiring a farm or more land, improving environmental conservation and promoting social infrastructure. The study also reveals that mixed farming should be promoted, since it is unlikely that small-scale farmers can make a living purely from dairying.*

### **1. INTRODUCTION**

Most of the rural small-scale farmers in African countries wish to improve their standard of living (Mukhala, 1999). Small-scale farmers would also like to make a profit, generate income, increase wellbeing, and improve food security and sustainability of environmental resources. The pre-1994 government's policy of separate development has resulted in various development challenges, especially

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in the previous homelands and the TBVC states. The challenge is to meet the needs and aspirations of an expanding and developing population. The most basic of these requirements for livelihood is gainful employment. The study's focus area, Qwaqwa, has a limited natural resource base. It is important that the limited available resources be fully utilised to produce food, create employment opportunities and contribute towards the country's economy.

Small-scale dairy projects were initiated in 1989 by the old Qwaqwa government (Department of Agriculture) in the Qwaqwa extension wards of Makeneng, Tsheseng and Makwane. At Monontsha and Mangaung agricultural wards, individual farmers are actively practising dairying in backyards and on communal lands. Even after the 1994 general election the idea was propagated and implemented in various areas in the Free State province and beyond the geographical borders of the province. Four dairy projects were launched, namely Raohang Makeneng dairy, Metsimatsho dairy project (which was moved to Humewood experimental state land farm in 1994), Dinkoeng dairy and Delville dairy. The Department of Agriculture in the Free State province introduced a strategy of pioneering small-scale dairy farming programmes in their extension service, with the intention that it would, hopefully, encourage or stimulate people who were willing to farm with dairy cows (Ntsane, 1999). The former Agri-Eco farm workers launched other small-scale dairy projects in the North-Eastern Free State. New farmers who were settled on state land (114 farm units) and land-reform beneficiaries on state land were also engaged to practice dairy farming.

In South Africa "small-scale" is often equated with a backyard, non-productive, non-commercial, subsistence agriculture that is found in the former homeland areas (Van der Mey, 1995 and Kirsten & Van Zyl, 1998). For the purpose of this study, the definition of a small-scale dairy farmer in the new dispensation is anyone who uses cattle and agricultural resources to derive all or part of their livelihood from dairy cattle, with a relatively small farm size and turnover. This definition recognises the farming community and the environment in which they live as a continuum or a spectrum. Supporting the needs of these new entrants is important and in accordance with the policy of the Provincial and National Departments of Agriculture.

The research is responsive to small-scale dairy farmers' own interpretation of and priorities for their farming activities. The holistic approach adopted in this study attempts to identify the main constraints faced by farmers, as well as the promising

opportunities available to small-scale dairy farmers. The research attempts to gain a realistic understanding of what shapes small-scale farmers and how the various influencing factors can be adjusted so that, taken together, they produce more beneficial outcomes. It also attempts to reflect the activities, needs and constraints of the small-scale dairy farmer, and to provide planners, implementers and policy makers with up-to-date information on small-scale dairy farming.

The specific objectives are as follows:

- To evaluate and to understand the core activities and services rendered by small-scale dairy farmers in the North-Eastern Free State.
- To understand the needs and the aspirations of these farmers.
- To ascertain how support rendered to small-scale dairy farmers can be improved.
- To examine the key constraints and opportunities of small-scale dairy farmers.

## **2. MATERIALS AND METHODOLOGY**

Due to the multidisciplinary nature of the research project the Participatory Rural Appraisal (PRA) approach (Chambers, 1990 & Van Zyl, 1999) was used, and it was guided by the steps in the Farming System Research and Extension (FSR/E) model for development and extension of new agricultural technology (Bembridge, 1991). Lesotho and Kwazulu-Natal surround the study area. The study area includes the entire district of Witsieshoek, as well as parts of the Harrismith, Kestell and Bethlehem districts. The new area incorporated in 1984 in terms of proclamation R 181 (First Consolidated Area), including land purchased in terms of proclamation R 131 and R 216 (1984 Consolidation Area) for agricultural production purposes, and the Tribal Area through which the Qwaqwa government has transferred 16 000 hectares and 34 000 hectares of land to the Batlokwa and Bakwena tribes respectively, are included in the research area.

In order to satisfy the objectives of the study, a questionnaire was developed for specific use among small-scale dairy farmers. In the questionnaire provision was made for farmers' comments by means of open-ended questions. Stratified random sampling was used to select respondents. Data collection and interviews took place between May and July 1999. The interviews were held in Sesotho with individual farmers at their respective farming areas. The completion time varied between 60 and 120 minutes.

Areas in Qwaqwa where small-scale dairy farming is actively practised and where the research was conducted can be divided into two main groups, namely individual farmers and group farmers on communal and on state land. The sample for different types of small-scale farmers on communal land is shown in Table 1.

**Table 1: Sample size of different types of small-scale farmers on communal land (Masiteng, 2000)**

<b>Project/farm on communal land</b>	<b>Number of small-scale dairy farmers interviewed</b>
<b>Group farming:</b>	
• Qwaqwa Makeneng Agricultural Ward (Makeneng dairy project)	4
• Qwaqwa Tsheseng Agricultural Ward (Dinkoeng dairy project)	4
• Qwaqwa Makoane Agricultural Ward (Delville dairy project)	2
<b>Individual farming:</b>	
• Qwaqwa communal land	26
<b>Total</b>	<b>36</b>

A summary of the small-scale dairy farms and projects on state land involved in this research is given in Table 2.

**Table 2: Sample size of different types of small-scale farmers on state land (Masiteng, 2000)**

<b>Name of project/farm on state land farms</b>	<b>Number of small-scale dairy farmers interviewed</b>
<b>State land project (group farming):</b>	
• Humewood project	5
• Werda project	3
• Land Bank farm	2
<b>Individual farmers:</b>	
• State land - 114 farm units in Harrismith, Bethlehem and Kestell magisterial district	27
<b>Total</b>	<b>37</b>

The sample was representative of small-scale dairy farmers farming in different areas. Of the 73 questionnaires, farmers on communal land completed 36 questionnaires and farmers on state land completed 37 questionnaires.

### **3. RESULTS AND DISCUSSION**

The average age of respondents was 52,9 years, which is high. Most of the small-scale dairy farmers (50,7%) had no formal school training and a large proportion was illiterate. The low level of literacy resulted in several complex and demanding problems during the implementation of long-term plans and programmes.

#### **3.1 Other sources of income**

Faced with a poor resource base coupled with low income and a high rate of unemployment, small-scale dairy farmers realise that farming alone will not produce all the income that the household needs. Reports from the Free State Department of Agriculture in 1998 have shown that the temporary nature of income generation from dairy projects results in a very low annual income which, in isolation, could not sustain the household. Masiteng (2000) assert that poverty is greatest among households whose main income source is only farming or livestock production under a communal farming system. Many of the poor respondents (45%) indicated farming and livestock as their main income source. The principal source of income to aged respondents is pensions. Masiteng (2000) stated that households receiving both pensions and wage work have a relatively low incidence of poverty. This shows that there is a wide range of income disparity among these farmers.

#### **3.2 Allocation of land**

In the Qwaqwa area the allocation of sites is presently a function residing with the District Chiefs of each Tribal Council (village). The District Chiefs issue "Permission To Occupy" (PTOs) permits for residential and business sites, as well as permits for grazing to be utilised on a joint and communal basis. The government allocates state-administered land to small-scale farmers around the Qwaqwa area. Most of the respondents (46,6%) in the Qwaqwa area use the communal land that was allocated by the District Chiefs of the Tribal Council. The respondents (24,6%) utilising the land allocated by the government have

obtained the utilisation rights on state land by means of three-year lease contracts with the Free State Department of Agriculture. Utilisation rights cannot be traded or transferred. The farmer must obtain special permission for the subleasing of a unit or for the construction of fixed capital assets. Some respondents (16,4%) have legally purchased land from the government through the land reform programme, while 9,6% of the respondents lease the land allocated by the government.

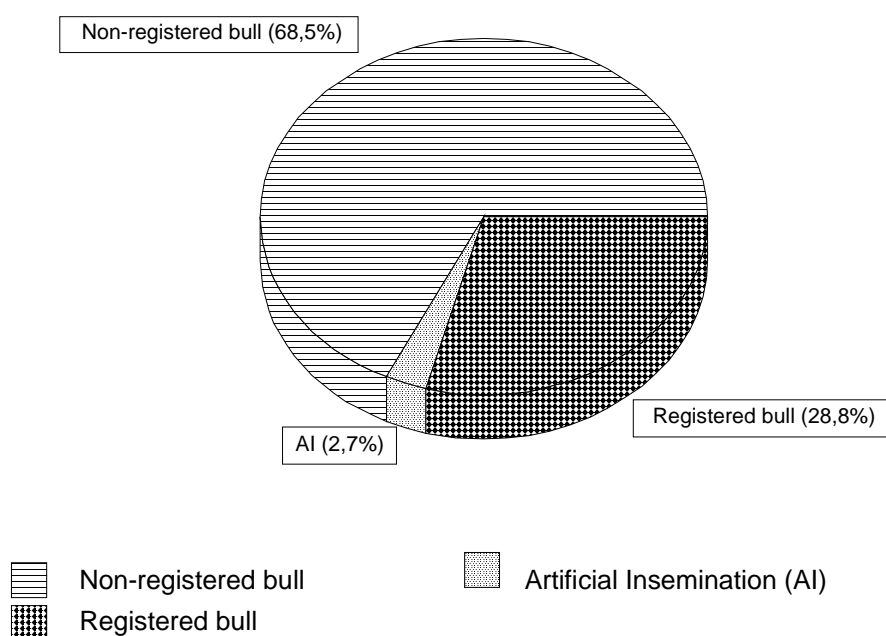
From the farmer's point of view, where farmers are farming as a group, non-active members were found to create problems and conflict among other active members. Less active members demand the same share as actively involved participants. On a comparative basis this result resembled those of Du Plessis & Schalkwyk (1997), Dillon (1998) and Olivier (1999) who reported that the policy in the Eastern Free State should be to settle farmers on an individual resource base and to avoid settling large groups on a farm, since the practice has shown that amongst members of groups, most of the extension support is focused on resolving differences amongst members. Individual holdings of cattle in the Qwaqwa area are usually herded by day by a young family member or a farmer on communal land, and are kept in a small enclosure or communal kraal close to the house at night. Farmers spend most of the time looking after the cattle and maintaining and upgrading facilities, especially those farmers who market their milk on contract to Thaba Dairies and to private contractors.

### **3.3 Types of cattle breeds**

The word "type" refers to the conformation of the animal, which indicates or suggests the purpose it serves (Gravert, 1987; Casey & Maree, 1993 and Gertenbach, 1995). Gravert (1987) reports that dual-purpose breeds are preferred where land is scarce or expensive for dairying. The Holstein-Friesland dairy breed is the breed most preferred by a large number of developing dairy farmers (41,5%) because of its potential, if managed correctly, to produce greater quantities of milk and meat compared with other dairy breeds. Several respondents (26,5%) keep beef breeds (milked once a day), while other respondents (24,5%) keep mixed or non-descriptive breeds for both meat and milk production. Gertenbach (1995) argued that indigenous, cross- and beef breeds, as well as other local breeds, are relatively well adapted to the environment; they spare grazing, have a low rate of infection by ticks and parasites, and most probably would outperform other types of stock under

similar levels of management. Masiteng (2000) is of the opinion that cattle are well integrated into the overall use of crop residues.

In the Qwaqwa area the free use of bulls by everybody is perceived by the respondents on communal land to be advantageous. On the negative side is the uncontrolled breeding and poor grazing management, and with this background in mind farmers in this study were asked what they use for mating cows and, if a bull, whether it is a state-registered bull or not. Figure 1 gives the different ways in which cows are mated on the farms of the respondents.



**Figure 1: Methods used to fertilise cows in the study area (n=73), (Masiteng, 2000)**

The tendency (68,5%) among respondents was to home breed young sires to be future bulls, and not to buy registered bulls, which might result in a low yield.

Smallholders practising mixed farming, as well as other traditional groups, own dairy cattle breeds in the Qwaqwa area for various reasons. The priorities of the small-scale and traditional livestock owners in the study area (Masiteng, 2000) are to:

- generate income;
- produce milk and finally meat;
- fulfil social, cultural and religious requirements and obligations;
- generate and accumulate capital;
- provide status within the community; and
- provide power and fuel.

### **3.4 Marketing strategies**

Uncontrolled management of communal grazing lands in the research area has resulted in poor livestock performance. The average monthly sale of milk by individual respondents on state land is 2273 litres of milk compared to the monthly average of 869 litres of milk sold by respondents on communal land. In group situations, respondents on state land sell 5763 litres of milk per month and respondents on communal land sell 1734 litres per month. The situation in the communal farming system was affected by demand and supply in that an increase in milk production resulted in a drop in income, since surplus milk had to be sold at a lower price (R1,20 instead of R1,50) to Thaba Dairies and other private contractors. It is therefore not a wise idea to encourage small-scale dairy farmers to produce more milk than they can afford to sell. From the respondents' point of view farmers are satisfied with the local marketing, as they charge a price per litre of milk according to the demand and supply. The average price per litre of sour milk is R1,57. The study revealed that competition is also very high, as hawkers buy milk in bulk and then sell it at a lower price (R1,20) to win regular customers.

Production peaks in the late spring/summer when cows are on green grass, and reaches a low during winter. Milk consumption, on the other hand, is highest in midsummer and in midwinter when schools are closed and children are at home.

### **3.5 Infrastructure and facilities**

It was evident from the survey that the infrastructure used by farmers on communal lands near cattle posts and by the newly settled farmers on state land farms is poor (in terms of fencing, access roads, water points, electricity, irrigation system and equipment, and dairy facilities). However, the Department of Agriculture, through the Community Project Fund Support Programme (CPF-SP), has made some progress in addressing certain specific problems regarding



infrastructure. Farmers in this study were asked whether they have sufficient infrastructure to operate dairy projects or farms. There was a severe lack of infrastructure, as the majority of the respondents (78%) use communal kraals to hand-milk dairy cows, while 22% of the farmers use milking parlours. These parlours can accommodate 6 to 20 cows per milking period and are equipped with milking machines, but due to a shortage of electricity the milking machines are not in operation.

### **3.6 Preference regarding different needs and management**

The objective of the Department of Agriculture was to end its involvement in the dairy projects by 1994 (Ntsane, 1999). Nevertheless, farmers still felt that without the involvement of the Department, their chances of survival if struck by disaster such as drought or fire would be reduced. It would seem that the Department did not explain clearly to the farmers that it would move out and that the grants would be withdrawn when the former Qwaqwa Department of Agriculture established group dairy projects in 1994.

The largest group of respondents (47,9%) indicated their future aspirations as being to develop, grow, be known, be recognised, be successful and be well organised in farming. This is due to the fact that farmers are concerned about the lack of respect and recognition from the government and other commercial farmers. The government is accused of not fulfilling the promises made to the small-scale dairy farmer since 1994, following the general democratic elections (regarding infrastructures, financial assistance, technical assistance, and land availability for crop and animal production).

Respondents are of the opinion that training (12,8%), infrastructure development (10,7%) and water supply (9,4%) services provided by the Department of Agriculture are worthwhile and in line with their opinion regarding the management of dairy projects, but that they need to be improved. Suggestions from the farmers regarding the improvement include dairy courses, availability of veterinary services, and retraining of farmers and labourers. Farmers acknowledge the fact that farming with pure dairy cattle breeds, coupled with good feeding, will pay off in the long run. In general farmers felt that their self-image had been boosted since their involvement in dairy farming.

### **3.7 Level of success**

Various indicators of extrinsic and intrinsic factors can be used to rank the level of success of small-scale farmers, namely standard of living, income, consumption, access to information, finance, training, and factors such as freedom and political or human rights (Sirur & Van den Brink, 1995). Among the indicators for the level of success of the dairy projects or farms in this project (Masiteng, 2000) are:

- the management level of funds;
- the gross income generated off the project;
- the level of training of respondents;
- co-operation amongst parties in general; and
- the availability of markets for the milk.

The percentage reflects the successful projects and is not necessarily an indication of the responses of the sample. In response to a question to respondents asking them to rank the level of success of their projects in respect of their own farming situation, 46,6% of the farmers ranked their level of success as moderate. Compared with only 7,7% of the farmers on communal land, a greater number of the individual farmers on state land farms (18,5%) ranked their level of success as high.

Large proportions of respondents were uncertain about the outcome of the eventual success of dairy projects, since most of the projects on communal and state land farms are still in operation. However, the majority of the respondents rated the outcomes of the projects as reasonable.

## **4. CONCLUSIONS AND RECOMMENDATIONS**

There are major differences between small-scale dairy farmers with regard to age, level of training, skills, years of experience, type of enterprise, availability of resources and manner in which they acquired land.

Although a large proportion of the respondents (23,0%) would like credit on a large scale, this should be avoided because it has caused the downfall of many developing agricultural projects. The level of credit must match the level of production and the potential ability of production.

Most of the farmers in the North-Eastern Free State were found to depend mostly on subsidies from the Department of Agriculture. It is difficult to detect whether or not they will function independently in the long run. It seems unlikely that small-scale dairy projects can survive if struck by a sudden disaster such as fire or drought. The most common reasons for failure of the dairy project were:

- a lack of funds;
- a lack of water;
- a lack of land;
- a lack of farming know-how and skills;
- a lack of reliable marketplaces;
- security of tenure, which hinders expansion or development; and
- a lack of infrastructure in general.

Apart from marketing and pricing problems, several technical factors affect the development of small-scale dairy farming in the North-Eastern Free State. These include (a) limited access to credit; (b) the unavailability of veterinary services; (c) inadequate training and extension services to compensate for the limited experience of farmers with the relatively complex activities involved in dairy farming; and (d) the frequent undernourishment and the variable quality of milk, the latter being the result of poor breeding practices.

Farmers view dairying as a future investment for their children. It is recommended that a good working relationship among dairy farmers, other farmers and neighbours should be encouraged. Farmers should form organised bodies to fight stock theft, veld fires and crime. Farm watch organisations should be promoted. Rural safety networks should be established with the assistance of the government and the private sector. The networks should include rural councils, farmers' associations and non-governmental organisations involved in farm welfare.

Unless small-scale dairy farmers on communal land and state land farms are well equipped with good management practices and skills, their cattle may prove to be unprofitable.

Farmers on communal and state land farms need an extremely diverse range of training to facilitate the development of managerial and technical skills.

The types of government assistance or support required by respondents can be summarised as follows:

- financial assistance;
- training;
- technical advice;
- marketing of milk and advice on marketing;
- continued assistance on existing dairy projects; and
- assistance in acquiring a farm or more land.

The service delivery system should grow to be more responsive to the needs and aspirations of small-scale dairy farmers. Development activities directed towards small-scale dairy farming operations should therefore be based upon sound technical, financial and administrative procedures. Needs and aspirations of the farmers should be identified and prioritised by means of a uniform analysis of needs.

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