

# 4. The farmer support programme in KaNgwane

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## 1. INTRODUCTION

The KaNgwane FSP was introduced in four phases. The first three phases provided sheds, agricultural inputs and small-scale water supply systems respectively. The fourth phase for the first time specifically supported livestock production. The second phase is partly an extension of the first phase in that it provides mechanisation services more comprehensively and partly an expansion of all FSP elements into new areas: it will provide comprehensive farmer support services to 2 700 additional small-scale farmers on 10 000 ha in eight additional localities in the three main regions of KaNgwane.

The following agricultural support services are provided in KaNgwane:

**Service centres.** Eight service centres facilitate provision of the following farmer support services in new localities within the three main regions of KaNgwane: production inputs and capital requirements; credit; marketing; training; and extension, demonstration and research.

**Mechanisation services.** The second phase provides credit to 30 additional contractors for repair of their tractors or purchase of second-hand reconditioned tractors. It also finances the purchase of equipment for the 26 existing contractors established during phase one and for the 30 additional contractors to enable them to provide comprehensive services to farmers and the local community, as required.

**Irrigation equipment for small-scale farmers.** The FSP finances the purchase by approximately 26 individual farmers or farmer groups of irrigation equipment and engines for existing small irrigation farms on which they have de facto land rights.

**Production loans to farmers.** Production loans are made to dryland farmers and new small-scale irrigation farmers for the partial financing of short-term production inputs for their crops.

**Training and extension.** These assist farmers and contractors to use or upgrade their skills in raising the productivity of land, labour and capital.

## **2. IMPLEMENTATION AND EXTENT OF THE KANGWANE FSP**

FSPs have been implemented in KaNgwane since 1987. By mid-1989 there were 27 farmer associations managing the affairs of farmers, such as applications for loans. At present 87 farmer associations are assisted by the FSP. The farmer associations are coordinated by the KaNgwane Agricultural Union. Thirteen new service centres serving as distribution outlets had been constructed by mid-1989. The service centres, constructed by the implementing agents, will eventually be bought by the farmer associations.

Arable land size per farmer ranges from 1 to 10 ha. Crops grown are mainly dryland maize and cotton. Farmers expressed a desire to have their farms irrigated, and DBSA has approved loans for this.

Mechanisation packages consisting of a tractor, plough and trailer are loaned to individual contractors. The contractors offer services to FSP farmers. The provision of agricultural extension, research and demonstration is the responsibility of the KaNgwane Department of Agriculture and Forestry. The Agricultural Development Corporation of KaNgwane (Agriwane) also provides extension for certain purposes.

## **3. SAMPLE SURVEY OF RURAL HOUSEHOLDS IN KANGWANE**

Three regions of KaNgwane, namely Mswati, Mlondozi and Nkomazi, were selected for this survey. Household surveys were conducted between December 1991 and March 1992 and again in December 1992 and January 1993. This paper presents the results of the first survey only.

During October 1991 to February 1992 political violence occurred in Nsikazi region. Fieldworkers were requested by the tribal authorities not to survey farmer households. Nsikazi was therefore excluded from the evaluation programme of the FSP in KaNgwane.

### **3.1 Area description**

#### **3.1.1 Mswati**

The Mswati region is situated on the Highveld at an altitude of 1 050–1 700 metres above sea level. The region is mountainous, the Barberton Highland forming the northern border, and has a number of streams. The vegetation is typical of the Piet Retief sourveld. Annual rainfall averages 800–1 000 mm.

This study surveys three subregions of Mswati: Bettysgoed, Swallowsnest and Hartebeeskop. Three farmer associations operate in Bettysgoed: Zamani (Agriwane clients), Mashibambisane and Zamakuzaka (mainly women cultivating garden plots and with no access to credit supplied by Agriwane). In Swallowsnest farmer households belonging to the Vukani Nakhosikazi association were surveyed. Hartebeeskop was surveyed in farmer households from the Litjelebube association.

### **3.1.2 Mlondozi**

The topography of Mlondozi region, with the Amsterdam Undulating Hills in the south, is similar to Mswati. Drainage occurs in an easterly direction. The annual mean rainfall is 800–1 000 mm. The valleys of the region were traditionally used by white commercial farmers as winter grazing for their livestock.

Mlondozi consists of the Steynsdorp and Eerstehoek subregions. Farmer households of the Juluka, Mashihambisane and Ingogo farmer associations were surveyed in Steynsdorp. The results from the Juluka farmers turned out to be unreliable as the fieldworker was unreliable. These were omitted from the analysis. Farmers of Eerstehoek are renting a farm outside KaNgwane from a white farmer. These farmers have no access to credit services because Agriwane is prohibited by law from operating outside KaNgwane.

### **3.1.3 Nkomazi**

The Nkomazi region is situated in the Lowveld at 450–600 metres above sea level. The area is characterised by the slopes on the eastern and western sides of the Lomati River. Drainage is in a north-easterly direction and average annual rainfall above 1 000 mm. Three subregions in the Nkomazi region were surveyed: Schoemansdal, Schulzental and Driekoppies. Farmer households in Schoemansdal are members of the Isizamoyethu farmer association, and farm on garden plots. They have no access to Agriwane or FSP credit. The farmers in this ward are competing for the limited water supply with a major coffee project. Farmers of the Nhlanhla and Thuthukani farmer associations (mainly women on community gardens) were surveyed in Schulzental. For Driekoppies four farmer groups were identified for the survey. Three of these groups have access to irrigation water from a canal out of the Lomati River: Ngogolo (sugar cane), Likusasa Lethu (leather ferns) and Cedzindlala (garden plots grown by women).

## **3.2 Data collection**

Data were collected by a team of 10 fieldworkers by means of a questionnaire survey conducted between December 1991 and March 1992. The sample comprised 205 rural households in KaNgwane: 80 in Mswati, 45 in Mlondozi and 80 in Nkomazi. The distribution between the different subregions is indicated in Table 1. Only 176 questionnaires were usable. The selection of respondents according to farmer association meant that in most regions or subregions the respondents belonged to associations that were either members of the FSP or not. There were only a few cases with FSP and non-FSP members in the same farmer association or within one subregion with the same natural resource base. It was therefore difficult to make meaningful comparisons between farmers and farmers' associations. This should be borne in mind when interpreting the results.

**Table 1: Sample distribution of households and usable questionnaires in KaNgwane, 1991**

Region and farmer association	Sample size (households)	Usable questionnaires
Mswati		
1. Bettysgoed		
Zamani	15	15
Mashibambisane	10	10
Zamakuzaka	15	10
2. Swallowsnest		
Vukani Nakhosikazi	20	20
3. Hartebeeskop		
Litjembube	20	19
Subtotal	80	79
Mlondozi		
1. Steynsdorp		
Juluka	15	0
Mashihambisane	5	5
Ingogo	15	13
2. Eerstehoek	10	10
Subtotal	45	28
Nkomazi		
1. Schoemansdal		
Isizamoyethu	10	10
2. Schulzandal		
Nhlanhla	15	15
Thuthukani	5	5
3. Driekoppies		
Ngogolo	20	16
Likusasa Lethu	5	5
Cedzindlala	25	18
Subtotal	80	69
Total	205	176

### 3.3 Survey results

#### 3.3.1 Household demographics

The average size of each household in KaNgwane is 8,5 persons. Some 70 per cent of the population is economically active, 80 per cent of the economically active being women; there were no men aged 26–35 years among the households surveyed.

A large number of households indicated that they had lived on white farms before moving to KaNgwane. Most households (53 per cent) had been living in KaNgwane for more than 20 years.

### 3.3.2 Household income

Average income and expenditure of the households in the study area are shown in Table 2.

**Table 2: Average household income and expenditure, 1991/2**

	Income		Expenditure	
	Average (R)	CV (%)	Average (R)	CV (%)
Crops	4 389,53	(249,57)	Maize meal	1 126,37 (312,46)
Livestock	723,51	(275,97)	Other goods	1 289,15 (112,58)
Informal trading	505,69	(509,68)	Household expenditure	1 256,55 (129,38)
Income from land rented out	57,84	(972,35)	Transport	861,32 (165,24)
Hiring out equipment	110,62	(361,20)	Clothing	1 129,62 (134,73)
Occasional work	854,51	(248,03)	Savings	999,71 (241,50)
Cash remittance from family			Durables	419,59 (172,03)
in cities	2 655,88	(153,59)	Farm expenditure	2 990,10 (216,73)
Other	1 863,40	(339,09)	Education	1 164,92 (272,56)
Total	11 161,10		Total	11 237,33

Income from farming contributed nearly 50 per cent to the total income of the household. This provides a clear indication of the importance of farming and agriculture in general to the welfare of the rural community in KaNgwane. The success of the farming enterprise has a direct impact on the standard of living of the household. The large amounts spent on education, clothing and household needs give an indication of the high standard of living in KaNgwane compared with study areas in Venda and Lebowa.

While farming earned nearly half of the household's income, farm expenses made up only a quarter of total expenditure. Some farmers (21 per cent of respondents) also earned an income by ploughing other farmers' fields, and others (16 per cent of respondents) by providing off-farm services, eg transport. These were additional income sources for these households.

### 3.3.3 Farming

Water is important in the everyday life of rural communities in KaNgwane. Households are on average 1,6 km from the nearest water.

Livestock are kept about 2 km from the nearest water, and crop lands are on average 1,2 km away.

Table 3 gives an indication of land-use patterns in KaNgwane. Dryland crop land is the most common land rented or sharecropped. The average size of land rented is less than half a hectare. The average rent paid for dryland is R23,88 per annum (CV = 35,57). This is roughly R55 a hectare per annum. About 24 per cent of all owned land was fenced individually and 76 per cent as a group of plots or farms.

**Table 3: Average household land use, 1991**

Land type	Owned		Rented/sharecropped	
	(ha)	CV (%)	(ha)	CV(%)
Irrigated crop land owned	1,01	(316,15)		
Dryland crop land	2,47	(131,37)	0,37	(439,45)
Fallow land	0,15	(190,50)		
Grazing land	3,35	(313,09)	0,31	(904,67)
Garden plot	0,04	(693,27)		
Residential site	0,33	(284,46)	0,02	(1 326,65)
Community garden plot	0,11	(379,24)	-	-

From Table 4 the average yield of the two major crops, maize and sugar cane, was calculated as 1,9 t/ha and 111 t/ha respectively. This compares favourably with the average yield of commercial farmers in certain parts of South Africa.

**Table 4: Average household crop production and area cultivated, 1991/2**

Crop	Area planted last season		Production		Percentage households consuming their total harvest
	(ha)	CV (%)	(kg)	CV(%)	
Maize	1,95	(107,98)	3 897,55	(198,24)	34,1
Sorghum	0,37	(145,76)	322,00	(47,68)	96,0
Dry beans	1,93	(193,33)	21,42	(162,05)	61,9
Pumpkins	0,99	(187,94)	484,48	(125,05)	67,9
Potatoes	0,19	(255,07)	391,63	(225,82)	67,6
Cabbage	0,25	(167,08)	443,77	(256,01)	60,2
Spinach	0,02	(304,42)	392,92	(403,81)	60,2
Onions	0,03	(248,08)	255,36	(218,84)	61,4
Beetroot	0,10	(263,51)	495,62	(401,76)	58,5
Tomatoes	0,30	(171,63)	351,62	(190,77)	65,3
Sugar cane	5,93	(38,66)	659 833,00	(27,78)	0,0
Leather ferns	1,00	(0,0)	3 136,44	(118,77)	0,0

The total harvest of the maize crop was consumed by 34 per cent of households, and of sorghum by 96 per cent.

A total of 85 per cent of the households surveyed had access to grazing; 23 per cent of respondents said the condition of the veld was poor and 51 per cent that it was deteriorating. Fifty-two per cent of households owned cattle and 36 per cent other livestock, such as goats and chickens.

Most of the farmers learned about farming from their experience on white farms or by visiting other farmers. This background contributed to the fact that 69 per cent of the farmers in the study areas decided themselves when to plough, 82 per cent when to plant, 88 per cent when to weed and 82 per cent when to harvest.

Respondents in the three study areas listed the main obstacles to farming progress as follows (Table 5):

**Table 5: Constraints to farming, 1991/2**

Constraint	Respondents (%)	Constraint	Respondents (%)
Inadequate credit	82.4	Shortage of wood/energy	50.0
Drought	79.0	Poor tractor service from government	49.4
Lack of fencing	72.7	Poor quality drinking water	47.2
Land shortage for cropping	72.7	Inadequate extension	44.9
Low fertility of land	69.9	Quality of veld	48.3
Access to markets	64.8	Poor access to input delivery points	44.3
Erosion of land	56.3	Land shortage for grazing	40.3
Poor service from ploughing contractors	53.4	Lack of labour	31.8
Lack of crop storage facility	50.0	Pollution of soil	22.7
Poor access to daily water	50.0		

Inadequate provision of credit is considered the main problem. When respondents were asked which single factor limited success in farming, 36 per cent named credit. This again emphasises the importance of credit services in agricultural development in these areas. Lack of fencing is a problem in KaNgwane, Venda and Lebowa. Shortage of land for cultivation is also a problem, one which will have to be dealt with in future implementation of FSPs.

### 3.3.4 Comparison of different farming groups

Because of the wide diversity of farming activities in KaNgwane and regional differences between households, the averages presented above are to some extent meaningless. The high coefficients of variation in Tables 3 and 4 give a clear indication of the high variation in the survey data. A qualitative analysis of the characteristics and farming potential of four identified farming groups was therefore undertaken:

Group A: households currently farming on Agriwane projects.

Group B: households participating in Agriwane's farmer support and development support (FS & DS) (FSP) programme.

Group C: households cultivating mainly community garden plots and not receiving assistance from Agriwane.

Group D: households farming at Eerstehoek on farms rented from white farmers and not receiving assistance from Agriwane.

The respondents from the different farmer associations were classified by group as follows:

Group A: Ngogolo (sugar cane) and Likusasa Lethu (ferns) – 21 respondents.

Group B: Zamani, Vukani, Litjelebube, Juluka, Mashibambisane, Ingogo and Nhlanhla – 97 respondents.

Group C: Zamakuzaka, Isizamoyethu, Cedzindlala, Litjelebube (individual farmers), Mashihambisane (women producing on garden plots) and Thuthukani (women producing on garden plots) – 58 respondents.

Group D: Eerstehoek – 10 respondents.

The survey results were sorted into these groups to compare the FSP farmers (group B) with the others (Table 6) and distinguish commercial or emerging farmers from subsistence farmers. The Eerstehoek farmers (group D) and the farmers on Agriwane's sugar projects (group A) are much more commercially orientated than farmers in groups B and C as they earn most of their income from farming. The Eerstehoek farmers are renting land from white farmers and are farming independently of any support or credit provision from Agriwane. The commercial nature of their farming ventures is also evident from the fact that they sell 90 per cent of maize produced, 70 per cent of dry beans, 80 per cent of groundnuts and all potatoes, cabbage and green mealies.

Farmers on Agriwane's sugar cane projects produce only sugar cane under the indirect control of and with extensive support from Agriwane. They earn a substantial income from sugar cane production, with which they purchase maize meal and other food for household consumption.

It will be evident that no purpose is served by comparing the different groups of farmers (A, C and D) with the FSP farmers (group B) as they operate under completely different circumstances.



**Table 6: Comparison of different groups of farmers in KaNgwane**

	Group A	Group B	Group C	Group D
<b>Access to land (ha)</b>				
dryland	-	5	1-5	1-15
community garden plot	-	0,25	1	-
irrigated crop land	1-7	-	-	4-20
<b>Area cultivated (ha)</b>				
maize	-	5	3	4
dry beans	-	2	6,8	0,8
vegetables	-	1,03	1	3,75
groundnuts	-	-	-	1
sugar-cane	1-7	-	-	-
<b>Yield (t/ha)</b>				
maize		1,8	0,75	2,5
dry beans		1	0,23	0,4
sugar cane	120	-	-	-
<b>Income (R)</b>				
	(%)	(%)	(%)	(%)
crop income	30 000 (86)	3 500 (42)	1 188 (12)	10 761 (66)
livestock receipts	-	1 000 (12)	720 (7)	1 396 (9)
land rented out	-	-	20 (1)	895 (5)
hiring equipment	-	-	593 (6)	320 (2)
informal trading	500 (2)	300 (4)	650 (7)	2 200 (13)
occasional work	-	1 000 (8)	1 750 (18)	-
cash remittances	4 000 (11)	2 500 (30)	4 000 (41)	700 (4)
other income	-	-	781 (8)	-
<b>Expenditure (R)</b>				
	(%)	(%)	(%)	(%)
farm expenses	12 000 (38)	1 500 (12)	853 (8)	10 211 (42)
maize meal expenditure	4 500 (14)	3 800 (30)	878 (9)	934 (4)
other food	4 000 (13)	1 500 (12)	971 (8)	2 330 (10)
durables	1 200 (4)	1 000 (8)	890 (9)	25 (0)
education	1 000 (3)	1 000 (8)	1 093 (11)	600 (2)

#### 4. IMPLEMENTATION OF THE FSP ELEMENTS

Of the surveyed households 86 per cent were members of farmer associations, and 45 per cent had access to credit from Agriwane, 66 per cent to inputs, 31 per cent to mechanisation services, 27 per cent to marketing services and 42 per cent to training.

##### 4.1 Inputs

Agricultural inputs are provided to farmers through 22 agricultural service centres (sheds) distributed as follows: Highveld region: 5 sheds (one owned by Mashibambisane farmer association); Nsikazi region: 6 sheds (one privately owned by a farmer association in Hazyview district); Nkomazi west: 6 sheds; and Nkomazi east: 5 sheds.

These service centres do not perform functions typical of an agricultural cooperative nor are they linked to the provision of mechanisation

services or the marketing of surplus produce, as was intended in the project description.

In each of the regions the tribal authority allocated sites for the service centres. Many of the sites were insufficiently accessible and lacked water. Although there was good cooperation between the tribal authorities and Agriwane, the criteria for selecting the sites of some of the service centres were not met – mostly because of self-interest of the tribal chief.

According to Agriwane's five-year programme to strengthen the farmer organisations, Agriwane will assist farmer associations to take over the service centres. Agriwane is currently in the process of selling off all the sheds, Mashibambisane farmer association being the first to buy one when it took over the Bettysgoed shed in 1989. But the association has realised that it cannot run the shed on its own (Fischer et al, 1992). The shed was bought complete with stock. The farmer association was unable to repay the loan, which eventually led to Agriwane's not supplying credit or stock to the association. Without credit for buying new supplies for the shed, the association was unable to supply farmers with inputs once the initial stock sold out. Other farmer associations became wary of taking over sheds because of the unavailability of certain inputs from the Bettysgoed shed. The question arises whether the new managers of the sheds were sufficiently trained to ensure a successful take-over.

Agriwane purchases inputs (eg seed and fertiliser) in bulk at a discounted price from input suppliers and subsequently supplies the sheds. The production inputs are sold to farmers through the sheds at a price marked up above the purchase price according to the project description. Money raised in this way finances Agriwane's operations as well as the storage costs of the inputs. Farmers can buy inputs (in cash or on credit) repacked in smaller units according to their needs at the service centres. Since the introduction of the FS & DS programme the value and tonnage of the annual fertiliser contract negotiated by Agriwane has increased from 2 800 tons (R1,3 million) to 3 950 tons (R2 million). Although there was some increase in fertiliser consumption on Agriwane's projects, most of the increase can with some certainty be assigned to the FSPs.

Agriwane employs a service clerk to manage each service centre and to record and control the stock and sales of inputs. The records from each of the service centres are collected at the four regional offices from where they are forwarded to Agriwane's head office. The data are not computerised and are therefore somewhat difficult to obtain. Also high employee turnover results in the disappearance of information at many sheds. This means it cannot be said whether implementation of the FSP in KaNgwane has resulted in greater availability, or increased sales and use of inputs although fertiliser use has increased. Agriwane is now computerising the information.

By interview it was determined that 12 per cent of farmers bought their inputs from the nearest town, where inputs were cheaper than at the shed. Limited stocks of agricultural inputs at the sheds also encourages this. However, most farmers can only buy from sheds because of inadequate transport and infrastructure.

Agriwane is one of the main input suppliers in the region, but only 66 per cent of households in the region had access to inputs provided by Agriwane. None of the households in the survey was satisfied with Agriwane's input service. Most farmers in group B (the FSP farmers) were satisfied with the availability of inputs. In group C only some 50 per cent of respondents had access to inputs.

Virtually all (99 per cent) of the respondents made use of manufactured fertiliser; 51 per cent also used organic fertiliser or dung. Mechanical fertilising was practised by 56 per cent of respondents, mechanical planting by 55 per cent and mechanical harvesting by 11 per cent. Hybrid seed was used by 94 per cent and seed from traditional varieties was also used by 20 per cent. Chemical insecticides and herbicides were used by 40 per cent and 20 per cent of respondents, respectively.

#### **4.2 Credit**

The mission of Agriwane is generally viewed as financing the development of agriculture in KaNgwane. Agriwane emphasises its role as a financial intermediary and pays particular attention to financial management to ensure the lending of funds at minimum risk.

Agriwane provides credit on a group basis. A loan is provided to a farmer association rather than an individual, and the association is responsible for repayment of the total loan. Agriwane therefore requires farmers to form a farmer association before they can obtain credit. An exception is sometimes made with short-term and medium-term loans to individuals farming irrigated land or larger dryland acreages. Agriwane is reluctant to supply credit to individual farmers owing to their inability to provide collateral as security and the risk of absconcion.

Each farmer association applies for a production loan at the beginning of the production season by submitting a budget of input needs for the season. After approving the loan, Agriwane provides a letter of credit to the association stating the quantities of the various inputs which the association may purchase on credit from the service centres. The association's management allocates the approved credit among the members by means of individual letters of credit. This ensures that the credit or loan is used for productive ventures, and then only for the purchase of agricultural inputs. The on-lending procedure is a matter of book entries rather than physical transfer of funds.

Maize seed and fertiliser were bought with cash by 40 per cent of respondents. Households made less use of credit for vegetable production.

60 per cent paying cash for inputs. These households often do not have access to Agriwane FSP credit.

Agriwane recently decided not to provide loans to any association unless 75 per cent of the loan for the previous production year had been repaid. Agriwane provides some financial training to associations to facilitate sound administration of these loans. Loans are provided to associations at a fixed interest rate of 6 per cent per annum, the association on-lending to its members at an interest rate of 8 per cent. The 2 per cent mark-up is supposed to be used by the associations to finance take-over of the sheds. Agriwane's loans to individual irrigation farmers and larger dryland farmers are charged at 8 per cent. The difference is the cost of obtaining life insurance for the individual applicant. Irrigation farmers produce crops, for example sugar and cotton, with fixed marketing channels, making repayment more certain.

Agriwane views the policy as effective and having a low default rate. Agriwane officials indicated that they were considering changing their credit policy to accommodate farmers owing outstanding amounts individually. Such farmers would have to be identified by extension officers in each region. However, poor record-keeping by associations makes it difficult to establish which individual members are responsible for the outstanding debt of the association.

According to Agriwane, the farmers view the credit policy favourably. This could be true in some cases, but there is dissatisfaction with the credit policy among most farmers surveyed in KaNgwane. A recent survey found that 22 per cent of KaNgwane farmers receiving group credit did not favour this credit policy. Furthermore, 48 per cent of respondents did not feel responsible for repayment of the loan of the farmer association. Inadequate provision of credit is considered their main farming problem by farmers in KaNgwane (3.3.3 above).

Agriwane gave useful information on loans provided and repayments by farmer associations. Table 7 presents information for farmer associations receiving support under the FSP programme. From the table the default rate was calculated (total outstanding balance in each year as a percentage of the total loan to all associations): 1987/8: 9 per cent, 1988/9: 39 per cent, 1989/90: 22 per cent, 1990/1: 52 per cent, 1991/2: 50 per cent. The default rates in the last two seasons are exceptionally high because of the high outstanding balance (95 per cent) on the 1990/1 loan to the Zamani farmer association (taking into account also the effect of the drought in 1991/2) but they still call into question Agriwane's satisfaction with default rates on loans to farmer associations and consequently also the principle of group lending. Of particular importance is the paucity of proper records and the inability to determine individual farmers' debt. Controls are slack or non-existent, and farmers do not receive regular notification of outstanding debts.

**Table 7: Loans and repayments of selected farmer associations in KaNgwane**

Farmer association	Crop year	No of farmers	Total loan granted (R)	Credit granted per hectare (R)	Loan amount used (R)	Repayment (R)	Balance carried over (R)
Zamani	1987/8	27	31 000	155	27 784	25 152	2 632
	1988/9	28	37 406	187	31 460	12 946	18 513
	1989/90	-	No loan	-	-	-	-
	1990/1	18	43 972	399	42 776	2 108	40 667
	1991/2	-	No loan	-	-	-	-
	1992/3	-	No loan	-	-	-	-
Mashibambisane	1989/90	4	3 200	160	4 381	2 394	1 986
	1990/1	7	7 360	160	6 896	3 903	2 993
	1991/2	6	7 520	160	6 711	6 733	(22)
	1992/3	5	8 990	290	*		
Mashibambisane	1989/90	12	5 920	160	4 610	3 525	1 085
	1990/1	12	5 920	160	5 911	4 070	1 841
	1991/2	6	5 600	160	5 494	5 111	383
	1992/3	15	26 100	290	*		
Vukani (Swallowsnest)	1989/90	10	13 500	300	11 373	11 373	0
	1990/1	10	25 050	501	21 249	17 461	3 787
	1991/2	10	30 000	666	22 436	10 500	11 936
	1992/3	10	32 716	727	*		
Thutukani	1987/8	5	18 788	335	15 879	16 492	(613)
	1988/9	7	28 990	446	17 307	14 146	3 161
	1989/90	10	41 905	470	27 896	26 027	1 868
	1990/1	19	78 740	620	48 037	28 071	19 966
	1991/2	24	137 600	860	‡		
	1992/3	27	154 475	835	*		
Juluka	1987/8	11	5 280	160	4 647	3 037	1 609
	1988/9	11	25 380	540	23 858	9 293	14 565
	1989/90	13	16 140	538	15 336	21 963	(6 627)
	1990/1	11	20 472	682	8 441	8 653	(194)
	1991/2	11	36 400	1 213	18 518	4 501	14 016
	1992/3	11	26 330	877	*		
Ingogo	1988/9	23	10 139	235	8 573	7 920	653
	1989/90	†					
	1990/1	†					
	1991/2	†					
	1992/3	†					
Nhlanhla	1988/9	12	13 888	496	12 562	12 530	32
	1989/90	12	18 501	514	14 593	2 400	12 193
	1990/1	†					
	1991/2	†					

\* Current loan still in operation.

† No loan application received.

‡ Loan not used owing to drought.

No loan = No loan granted.

### **4.3 Mechanisation**

Agriwane and a number of tractor contractors provide mechanisation services to farmers in KaNgwane. Tractor associations were formed in each of the agricultural regions of KaNgwane to collectively determine the rates for the various mechanisation services. Agriwane provided loans at interest of 10 per cent per annum for contractors to obtain 26 new tractors and 30 reconditioned tractors. The contractors were supposed to repay the loan to Agriwane on an hourly basis, but many of the contractors avoided repayment fraudulently by disconnecting the hour meter of the tractor. Many of the contractors were then in arrears, with outstanding debt higher than the initial loan. Agriwane eventually had to repossess 13 tractors and a number of implements. Twelve of these were resold to new contractors on hire-purchase, the basis of Agriwane's present credit policy for contractors. This has proved more successful. Only a few contractors are in arrears and only one contractor is still repaying his loan on an hourly basis.

Agriwane owns 30 tractors, most stationed at the irrigation projects under its control. It also owns and rents out implements to contractors at a predetermined daily rate. It provides mechanisation services to the dryland FS & DS farmers only when contractors are not available or are unable to meet the demand in peak periods. It generally prefers not to have a part in this market. It provides certain of the more sophisticated services at a rate of R53,27 per hectare. The shortage of contractors and Agriwane's reluctance to compete in this market are a major concern to many KaNgwane farmers. There are also long waiting times and delays due to breakages. Typical rates for mechanisation services charged by contractors during 1992 were: plough, R110 a hectare; disc, R70 a hectare; plant, R50 a hectare.

Agriwane makes cash payments to farmers to enable them to pay for these mechanisation services. Repairs are generally the responsibility of the contractors, but Agriwane provides financial or technical assistance in certain circumstances. The nearest mechanic is usually contracted for repairs. Agriwane also provides training to contractors through the FSP. This has improved the service of the contractors.

### **4.4 Marketing**

Agriwane acts as facilitator in the marketing of agricultural products but never handles or stores any produce. Crops like sugar, cotton and maize have fixed marketing channels and Agriwane here limits itself to the arrangement of contracts, etc. Agriwane does not control the marketing of farmers' crops. It regards marketing as the farmers' responsibility and only assists when requested to do so.

Agriwane assists in marketing by providing four market facilities for fresh produce. It arranges the site (through negotiations with tribal or

local authorities), but is not responsible for administration of the markets. It monitors market activities and keeps record of daily sales. The markets are situated at KaNyamazane (30 km outside Nelspruit), Kamaqhekeza, Schoemansdal and Kabokweni in the Nsikazi region. Typical produce traded at these markets is cabbage, tomatoes, beetroot, spinach, beans, onions, avacados, bananas, eggs, broilers, other sub-tropical fruit and milk. To pay for the facility and all the administrative arrangements, the tribal or local authority collects a levy of R4 per pick-up and R6 to R8 per truck using the marketing facility. Agriwane is at present negotiating a DBSA loan to finance the building of basic structures at the market locations.

The general increase in sales at these markets is clear from Table 8. Not all the produce, however, is from KaNgwane.

**Table 8: Average monthly sales volumes for markets in KaNgwane**

Markets	1990 (kg)	1991 (kg)	1992 (kg)
KaNyamazane	64 619	86 062	78 253
Kamaqhekeza	55 974	105 972	144 662
Kabokweni	–	–	78 013
Schoemansdal	62 800	91 044	90 234

#### 4.5 Extension and training

In the 1991/2 season Agriwane presented a total of 194 courses, which were attended by a total of 2 644 farmers (Table 9). The extension officers employed by Agriwane and the KaNgwane Department of Agriculture pay regular visits to farmers and farmer associations. Farmers are presented with refresher courses and training in farming and cropping techniques. Agriwane has two mobile training units and a panel van equipped with training equipment which is used for training at various locations in the field. Four training officers are employed to present more advanced training courses in lecture form. The extension effort under the FS & DS programme uses demonstrations especially to illustrate the yield effects of new bird-resistant sorghum cultivars and *strep-siek*-resistant maize cultivars. Agriwane furthermore combines with the KaNgwane Department of Agriculture to organise farmer days. Gatherings of up to 400 farmers are quite common at such events.

While 42 per cent of respondents indicated that they had access to Agriwane's training and extension programmes, none indicated that they were satisfied with the service provided. In addition, 67 per cent of respondents indicated that they wanted to see the extension officer more often.

**Table 9: Training courses presented and attendance**

Year	Courses presented	Farmers attending	Farmers expected	Percentage attendance
1987/8	80	1 573	3 546	44
1988/9	137	1 834	3 948	46
1989/90	154	2 162	4 424	49
1990/1	168	2 432	4 984	49
1991/2	194	2 644	4 775	55

## 5. CONTRIBUTION OF THE FSP IN KANGWANE

### 5.1 Introduction

To determine the impact of the FSP in KaNgwane, the present situation should be compared with a baseline scenario; as this was not possible, the FSP farmers (group B) were compared with farmers not receiving any form of support (group C) – see 3.3.4. Significant differences were sought between the two groups (Table 10). As indicated earlier, direct comparisons should be treated with caution because of the composition of the groups.

**Table 10: Differences in the means of key variables for FSP and non-FSP farmers, 1991**

	Respondents		Significance of difference between means (p value)
	FSP (group B) n=97	Non-FSP (group C) n=58	
Access to credit	Yes	No	0,1336
Access to inputs	Yes	No	0,0045†
Access to mechanisation services	Yes	No	0,0000†
Access to training	Yes	No	0,0432*
Area of dryland (ha)	3,94	1,45	0,0000†
Area under maize (ha)	3,76	1,28	0,0000†
Total maize production (t)	3,92	1,96	0,0000†
Average maize yield (t/ha)	1,04	0,96	0,0000†
Maize sold (t)	2,62	1,13	0,0000†
Household consumption of maize (t)	1,38	0,98	0,0000†
Tomato production (kg)	325,94	368,75	0,0000†
Maize seed used (kg)	78,30	33,56	0,0000†
Chemical fertiliser used (kg)	588,58	253,70	0,0000†

\*Difference between FSP and non-FSP farmers significant at the 5% level.

†Difference between FSP and non-FSP farmers significant at the 1% level.



The wide diversity of agricultural activities in KaNgwane and the lack of consistency in the data made it difficult to determine the contribution of the FSP. Meaningful results could only be obtained in contribution to agricultural output and household income.

**5.2 Contribution of the FSP to increased agricultural output**

From Table 6 it appears that FSP farmers obtained higher yields in maize and dry bean production than non-FSP farmers. This is confirmed by Table 10. FSP farmers obtained an average maize yield of 2,76 tons per hectare, which was significantly higher than the 1,23 tons per hectare of the non-FSP farmers (p = 0,0000). This may or may not be attributable to the availability of inputs, finance, mechanisation services and extension under the FSP (Table 10).

Because of the large variation in farming activities within the areas in question, discriminant analysis was done using comparable FSP and non-FSP farmers (Nieuwoudt & Vink, 1989; Van Zyl et al, 1991; Lyne & Ortmann, 1991). Farmers were classified as high yielding (yield > 1,5 t/ha) and low yielding (yield < 1,5 t/ha). The discriminant analysis determines the factors associated with increased production. The estimated discriminant function correctly classified 73,64 per cent of the farmers as high yielding and 65,43 per cent as low yielding. The error count for the classifications was 30,46 per cent.

The results provided in Table 11 confirm that the FSP is associated with surplus producers. Information on maize cultivation and credit are both available to FSP farmers. The important contribution of the variable of 'own cattle' to the function may have to do with the fact that cattle are often used to finance crop production. This again underlines the importance of finance, savings or liquid assets (cattle) in surplus maize production in KaNgwane. It is also clear that the FSP elements, such as credit and training, make only a relatively small contribution to increased production – it is mainly factors outside the FSP framework that contribute to increased agricultural output.

**Table 11: Estimated discriminant function for high and low maize yielding farmers**

Explanatory variable	Standardised coefficient		Partial R <sup>2</sup>	Significance P < F	Group means		
	High yield	Low yield			High yield	Low yield	Significance
Own cattle	5,088	4,555	0,4615	0,0075	1,275*	1,568*	0,4755
Access to information	3,255	3,712	0,1443	0,0369	1,150*	1,309*	0,0800
Access to credit	2,851	2,765	0,1247	0,0247	1,400*	1,633*	0,8304

\*Dummy variable with 1 = yes and 2 = no.

### 5.3 Contribution of the FSP to increased household income and improved standard of living

An analysis of the difference in income and expenditure patterns of FSP farmers and non-FSP farmers is presented in Table 12. FSP farmers (group B) spend a smaller share of total household income on food and maize meal than non-FSP farmers. This may indicate that FSP households produce enough food for home consumption. Surplus money can thus be used for other purposes, for example durables. While differences in expenditure were significant, among sources of income only cash remittances were the significantly different: the non-FSP group's were higher, but this could be accounted for by the composition of the groups.

**Table 12: Income and expenditure differences between FSP and non-FSP respondents, 1991**

Selected items	Group B		Group C		Significance (p)
	(R)	(% of total)*	(R)	(% of total)*	
Expenditures:					
Maize meal	1 233,30	10,98	1 165,21	12,94	0,0000
Other food	1 150,00	10,24	1 290,52	14,34	0,0000
Household expenditure	1 168,34	10,41	1 172,74	13,03	0,2687
Transport	612,77	5,46	858,42	9,54	0,0006
Clothing	807,03	7,19	1 233,85	13,71	0,0000
Education	753,64	6,71	1 259,64	13,98	0,0146
Income:					
Crops	694,40	6,31	782,21	8,42	0,9126
Livestock	865,51	7,86	710,65	7,65	0,2041
Informal trade	267,71	2,43	638,06	6,87	0,0000
Occasional work	1 280,81	11,64	833,06	8,96	0,1553
Cash remittances	2 498,66	23,71	4 031,77	43,39	0,0002

\* Including items not shown

## 6. INSTITUTIONAL ASPECTS

### 6.1 Introduction

The institutional structure followed in the implementation of the FSP in KaNgwane was decided upon after discussions between the borrower (Agriwane) and DBSA. The programme was structured to Agriwane's requirements as they were familiar with the local agricultural circumstances. Thus the programme was designed by Agriwane in close cooperation with DBSA.

According to the project description Agriwane implements the programme and provides management support for the FSP. It recovers costs for all elements for which it is responsible through a net annual

budgetary allocation from the KaNgwane government and a mark-up on production inputs supplied to farmers. It is also responsible for service centres, mechanisation services, irrigation equipment for small-scale farmers, marketing and training.

According to the project description the main function of the KaNgwane Department of Agriculture in the FSP is to provide extension services in the programme localities. Its engineering branch also assists in the detailed planning of small irrigation farms.

The programme was implemented somewhat differently in KaNgwane from the other regions. This is discussed in the next section.

## **6.2 Agriwane and the KaNgwane Department of Agriculture**

Agriwane was responsible for the first FSP (Agriwane also calls it the 'farmer support and development support programme' – FS & DS) in South Africa. Agriwane was thus the first organisation to borrow money from DBSA for this purpose. It currently implements and manages the programme through its Assistant General Manager of Agriculture and his two agricultural managers (respectively responsible for the Highveld; Nsikazi; and Nkomazi east and west). Agriwane employs 26 extension officers who are specialists with grass-roots experience and knowledge of agricultural practices in the particular regions, and the Department of Agriculture employs 104 qualified extension officers with at least an agricultural diploma.

There is some tension between the junior officials of the two institutions. According to an arrangement between Agriwane and the department, the department was to be solely responsible for training and all extension officers would be transferred to it. However, at the beginning of December 1992 the 26 extension officers were still employed by Agriwane.

There is good cooperation between the two institutions at senior and management level. The department has biweekly management meetings. To ensure further coordination in agricultural development efforts, the Assistant General Manager of Agriculture is also represented on the management committee of the department. The General Manager of Agriwane and the Secretary of Agriculture in KaNgwane also meet informally and regularly to ensure close cooperation between the institutions. Regular informal meetings are also jointly held to discuss project proposals.

## **6.3 Liaison committees**

Regional committees liaising between regional officials, Agriwane, the department and officials of the local agricultural union meet formally every month. The liaison committee meetings are reportedly working well in the Nsikazi region, fairly well in the Highveld region and irregularly in the Nkomazi region.

#### **6.4 Farmer associations**

There are currently 126 farmer associations in KaNgwane with a total membership of 2 921 farmers. Of these, 12 associations are situated on formal project schemes but are also served under the FSP. A total of 87 associations (69 per cent) are receiving assistance through the FSP.

#### **7. CONCLUSION**

The evaluation of the farmer support programme in KaNgwane experienced a number of difficulties. Firstly, the wide diversity of farming activities and the differences between and within regions made analysis and interpretation of the survey data difficult. Secondly, there were difficulties in identifying farmers and farmer associations under the FSP. Thirdly, institutional cooperation in the evaluation process was sometimes lacking. Furthermore, general record-keeping on the extent of the FSP was lacking on the part of farmer associations and the implementing agent. A paucity of useful data at the institutional level made it difficult to put the survey results in perspective. The research team thus had difficulty in obtaining meaningful results from the analysis. Contradictory results were often obtained and for that reason different approaches were considered. The survey results were discussed in three different ways to obtain a clearer picture of farming in KaNgwane. Farmers were classified to determine the effect of the FSP. Two of the groups, FSP farmers and non-FSP farmers, were used in further analysis. Only the FSP farmers had access to all the FSP elements (extension, credit, inputs and mechanisation services). The FSP farmers produced more maize, obtained higher maize yields per hectare, sold more maize, used more fertiliser and seed and cultivated a larger area with maize than the non-FSP farmers. It is uncertain whether the FSP contributes to increased agricultural output and increased standard of living. Results from discriminant analysis based on a limited database indicate that credit and extension make only a small contribution to increased maize output. It is mainly factors outside the FSP framework, for example owning cattle, which contribute to increased output. However, FSP participants do achieve substantially higher maize yields per hectare than non-FSP farmers.

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