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ONE TO FOUR HECTARES : WHAT EFFECTS CAN A FSP STRATEGY HAVE ON SUCH HOUSEHOLDS?

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Abstract

The concept of the Farmer Support Programme (FSP) is one of serving and supporting all small farmers, including part time farmers, so that they can be more efficient in competing in agricultural resource markets and gain better control over their own destiny. Using the preliminary results from the DBSA's evaluation reports of the FSP's in Venda, Lebowa, KaNgwane and Kwazulu, this paper shows the possible effects the FSP strategy have of farmers farming on small farm size of between 1 and four hectares. This is done by comparing farmers using the FSP services and those who do not. The paper concludes that the FSP strategy has positive effects on farmers operating on small areas of 1 hectare or less, but these effects can be increased by ensuring farmers' access to more secure arable land. In addition, improved marketing structures, favourable price policies and institutional change are important requisites. It is also argued that the FSP is not a deliberate strategy to perpetuate black farmers as the FSP contributed significantly to the economic well-being of the small farmers. However, certain policies will have to be reviewed to increase access to improve all other services. Finally it would appear that presently and even in the post-apartheid South Africa the sustainability of the FSPs will depend on land reform and institutional change, price policies and improved marketing systems.

Uittreksel

Een tot vier hektaar: watter effek het die "Farmer Support" strategie op sulke huishoudings

Die sentrale konsep van die "Farmer Support Programme" (FSP) is die bediening en ondersteuning van alle kleinboere, insluitende deeltydse boere, sodat hulle instaat is om op 'n meer doeltreffende wyse in landbou hulpbronmarkte te kan meeding en sodoende hul eie heil kan uitwerk. Hierdie referaat beoog om die effek van die FSP op landelike huishoudings wat op plase van tussen 1 en 4 hektaar boer, uit te wys. Dit word gedoen deur gebruik te maak van resultate uit evaluasieverslae van die FSP. Deur die boere wat aan die FSP deelneem met nie-deelnemers te vergelyk kon daar bepaal word watter effek die program op hierdie boere gehad het. Dit is bevind dat die FSP oor die algemeen 'n positiewe effek op kleinboere gehad het. Hierdie positiewe bydrae kan egter vergroot word indien boere verseker is van groter besitreg op bewerkbare grond. Verder is beter bemarkingskanale, gunstige prysbeleide en institusionele veranderinge ook belangrike voorvereistes. Die gevolgtrekking word ook gemaak dat die FSP nie 'n doelbewuste poging is om swart boere in hul huidige omstandighede te laat voortbestaan nie. Die FSP se bydrae tot die verhoging in ekonomiese welvaart van hierdie boere is 'n beslissende bewys dat dit nie die geval is nie. Sekere beleidsverandering sal egter nog steeds nodig wees om hierdie boere se toegang tot ander dienste en markte te verbeter. Ten slotte is dit duidelik dat die volhoubaarheid van die FSP-strategie in 'n groot mate afhanklik sal wees van grondhervorming, institusionele verandering, prysbeleid en verbeterde bemarkingsinfrastruktuur.

1. Introduction

A rationale of the Farmer Support Programme (FSP) strategy in South Africa is being initially analysed by different groups (Sibisi, 1990). Among the questions being asked are:

- What effects can a FSP strategy have on small farmers who predominantly operate on very small areas of 1 hectare and less in developing areas of South Africa?
- In FSP a deliberate strategy to perpetuate subsistence farming by Black farmers to the advantage of White farmers?
- How sustainable and relevant will FSPs be in the post-apartheid South Africa (Singini and Sibisi, 1992).

The crystallisation of the FSP approach by the Development Bank of Southern Africa (DBSA) involved three main actions, namely:

- The initial design of DBSA's internal policy framework for a small farmer approach based on both local and international experience. A major emphasis was placed on the flexibility of the policy framework to facilitate adjustments on the FSP on a "learning by doing" basis.
- The conceptualisation, planning, implementation and monitoring of specific FSP projects based on demand and supply of support services. The design and implementation of on-going FSP evaluation programmes to consolidate the "learning by doing" process in order to ascertain the long-term impact of FSPs.

The FSP objective is based on the provision of support services and incentives to farmers and entrepreneurs to increase the efficiency of agricultural resource utilisation, improve food security and promote entrepreneurial ability over a broad front. The following support services (elements) form the total package within the DBSA-supported FSP:

- Adequate provision of agricultural production inputs and funding (credit).
- Provision of mechanisation services.
- Provision of marketing channels and services.
- Provision of adequate extension, information and demonstration services, information and project-related research, provision of training to facilitate development of managerial skills.
- Provision of agricultural infrastructure (on- and off farm).
- Promoting de facto production rights.

The Development Bank of Southern Africa (DBSA) decided in January, 1990 to evaluate its FSP approach. The evaluation is being implemented in KwaZulu, Ciskei, Venda, Lebowa and KaNgwane by three teams of non-DBSA researchers. Notwithstanding the fact that the evaluation is still in progress the initial results so far produced, have information which can answer the above questions.

The concept of the FSP is one of serving and supporting all small farmers (including small part time farmers) and smallholder agricultural producers to give equitable access to resources and support services so that they can be more efficient in competing in agricultural resource markets and gain better control over their own destiny.

It is believed that, although the FSP is by no means an ultimate solution to the above and other rural and agricultural development problems, it is nevertheless an effective strategy developed for South African circumstances (Sibisi, 1990).

The adoption and implementation of the small farmer approach as a development strategy in India, Malawi, Kenya and Zimbabwe has reportedly created incentives for small farmers to increase their contribution to total agricultural production (Van Rooyen *et al.*, 1987).

2. Farm sizes

Small farmers predominantly operate on generally small areas of 1 hectare and less. One of the questions that can be posed in this regard is what effects can FSPs have on such farmers? It is therefore attempted to compare the farm sizes in similar programmes elsewhere in Africa.

The evaluation findings in FSP areas in South Africa show that the average dry land cropping farm sizes range from 0.8 to 2.47 hectares, while for irrigated farmlands, the average sizes range from 0.04 to 1.01 ha.

Table 2 shows the farm sizes in similar projects elsewhere in Africa, which were entirely funded by the World Bank.

Compared to average farm sizes of other projects such as in Lesotho, Malawi and Cameroon, it can be noted that the farm sizes correspond to those in the FSP areas of KaNgwane, Venda, Lebowa and KwaZulu.

It is reported by the World Bank (1981) that yield targets in some of the projects were achieved and in some cases surpassed. This particularly happened in the agricultural projects of Cameroon, Nigeria, Uganda, Malawi and Gambia. For example in Malawi, compared to the pre-programme situation, the average yield of maize achieved during Phase III increased by about 20%, while the average yield of tobacco increased by about 150%. The yield target for tobacco was hence surpassed. Although there was an increase in the yield of maize, the target was not achieved due to ineffective extension and marketing services as well as to a conservative price policy (World Bank 1981).

Economic history has it that farms grow in size and that land holdings amalgamated. This does not mean that agricultural projects such as the FSP should wait until farm sizes have grown. Indeed, often they will only grow after support services have been supplied. There is clear evidence that as the flow of support services increases and fertilizer and all manner of mechanical equipment become available, the need for credit and more land increases. Theory suggests that under certain circumstances there may be a positive relationship between increased farm size and higher agricultural productivity in low income developing nations. However, empirical studies in each farming area are necessary to determine the particular conditions that prevail.

The objective of the FSP, namely, to increase efficiency of agricultural resource, to improve food security and to promote entrepreneurial ability, was tested by means of including the six elements of the FSP in a discriminant function to determine the contribution of these factors to increasing agricultural production. This paper thus only show the initial evaluation results which contribute towards increased output in rural areas of S.A.

3. The effects of the FSP

3.1 Venda

The initial evaluation results indicate that FSPs contribute positively towards increased output in rural areas of Venda. More importantly, surplus production is associated with households who make use of FSP related services.

The main crop being produced in Venda by the small-scale farmers is maize, and the results indicate that the non-FSP farmers' production of maize is lower than that of FSP members. It is further evident that the FSP farmers earn significantly higher amounts from the sale of crops and livestock, and in addition the FSP farmers invest more in agriculture and are more productive land users.

With respect to farm inputs, FSP farmers use more seed (28,98 kg) and chemical fertiliser (9,9 kg) than the non-FSP clients (13,71 kg and 5,4 kg, respectively). With respect to organic fertiliser (manure), the opposite result was obtained. The above clearly indicates how the FSP can provide a growing market for agri-linked industries and could thereby also promote rural development.

All elements supporting the FSP strategy were included in a discriminant analysis to determine the contribution of the elements of the FSP in increasing income and agricultural production. From variables selected, presented in the discriminant function (Table 3), it is clear that factors associated with the FSPs in the Mashamba and Khakhu

Table 1: Average farm sizes in the FSP areas

Area	Dry land Cropping (ha)	Irrigated Cropping (ha)
KwaZulu	1.35 - 1.56	-
Venda	0.9 - 1.35	0.04 - 0.11
Lebowa	1.69 - 1.75	0.12
KaNgwane	2.47	1.01

Source: Van Zyl *et al.* (1992) and Lyne & Ortmann (1991)

Table 2: Average farm sizes in three dryland crop projects funded by the World Bank

Project	Country	Average Farm Size (ha)
1. Lilongwe Land Development Programme (LLDP)	Malawi	1.0 - 3.0
2. Cameroon Semry Rice Project	Cameroon	1.6
3. Thaba Basin Rural Development Project	Lesotho	2.02
4. People's Participation Project	Zambia	0.5 - 3.7

Note: All the above projects were rain-fed.

Source: World Bank (1978, 1979, 1981) and Chilivumbo, 1985.

Table 3: Variables discriminating between surplus and deficit subsistence producers in Venda

Discriminant Variable	Standardised Co-efficient		Partial R ²	Significance P < F	Group Means		
	Surplus	Deficit			Surplus	Deficit	Significance P < T
Soil erosion affect production	2.917	4.164	0.1791	0.0917	1.161	1.433	0.0856
Availability of ploughing services	18.394	12.079	0.2603	0.0520	1.000	1.100	0.0002
Education expenditure	-0.0110	-0.0077	0.3206	0.0222	110.39	102.21	0.0143
Use chemical fertilizer	0.0159	0.0158	0.0871	0.1000	156.55	90.387	0.3473

Source: Van Zyl *et al.* (1992)

wards of Venda contribute towards changing households from deficit to surplus producers. Furthermore, analysing the selected variables to determine positive effects of the FSP, the use of fertilisers and ploughing services significantly correlated with the provision of credit ($r = 0.943$; $p = 0.0003$). This clearly shows that FSP elements support agricultural output. However, variables not selected by the discriminant analysis do not necessarily mean that they are not contributing to a successful FSP, e.g. farm sizes.

A further discriminant analysis discriminating between high and low usage of chemical fertiliser was also carried out. It was determined that the two variables: to carry out soil conservation practices and the need to see the extension officer more often are the factors that distinguish strongly between the high and low application rates of fertiliser. These results to a certain extent support the above findings of the first analysis. These results, however, do not imply that high usage of chemical fertiliser is sustainable from an economical and environmental view point.

3.2 Lebowa

The evaluation of the FSP in Lebowa is being conducted in the Kadishi and Phokoane areas. Indications are that the Phokoane farmers are using FSP support to a much greater extent. Although households in the Kadishi area own bigger areas of land than in the Phokoane area, the Phokoane FSP farmers worked their smaller land more intensively.

One interesting indication in Lebowa is that the non-FSP farmers in Kadishi are better farmers than the FSP farmers. This finding is in contrast to expectations and contradict findings in all other FSP areas in the country.

However, it is not difficult to see why this situation has arisen in Kadishi. Findings in Kadishi indicate that satisfaction with availability and packaging of agricultural inputs between FSP farmers and non-FSP farmers is the same in terms of fertiliser, seed, chemicals and ploughing services.

Table 4: Variables discriminating between deficit and surplus subsistence producers in Phokoane

Discriminant variable	Standard discriminant function			Group Means		
	Coefficient	Partial R ²	Significance P < T	Deficit farmer	Surplus farmer	Significance P < T
Chemicals: Insecticides	0.2647	0.1572	0.0085	5.015	7.077	0.0011
Area intercrop	0.1993	0.1493	0.0105	1.667	1.938	0.0352
Area ploughed	0.0974	0.1162	0.0253	2.598	2.180	0.0489
umber of adult females	0.3605	0.1302	0.0174	2.050	1.554	0.0047

Source: Van Zyl *et al.* (1992)

Table 5: Estimated discriminant function for surplus and deficit producers in KaNgwane as a whole

Explanatory variable	Standardised Co-efficient		Partial R ²	Significance P < F	Group Means		
	Surplus	Deficit			Surplus	Deficit	Significance P < T
Savings	0.00054	0.00021	0.1384	0.0016	1688.00	561.08	0.0001
Access to extension	0.07965	0.06447	0.0885	0.0468	11.31	8.53	0.1110
Education expenditure	-0.00035	-0.00019	0.0623	0.1486	1923.08	676.01	0.001
Access to credit	6.73452	6.52745	0.0979	0.0950	1.39	1.79	0.0231

Source: Van Zyl *et al.* (1992)

However when it comes to the availability of extension services, dips and sprays, the non-FSP clients are better off than the FSP clients. In fact, the findings show that in Kadishi the extension officer visited the FSP members on average 17 times per year, while he paid 64 visits per year on average to the non-FSP members. Furthermore, findings also show that there is a higher attendance of the crop and livestock courses by the non-FSP farmers in Kadishi. These findings indicate a classic case of the effect of the FSP strategy. From a discriminant analysis it is clear, that extension and training (exercising soil conservation practices) are important factors to be considered in agricultural development. In fact, in a separate analysis it was found that training also significantly contributed towards higher production.

Similar to Venda, one of the spin-off effects in Lebowa due to the FSP was the increase of seed and fertiliser usage in the area (not only by FSP clients, but also the non-FSP clients).

Discriminant analysis indicated that fertiliser application was affected by the availability of ploughing services and the amount of chemical insecticides used, while seed usage was affected by soil conservation practices and extension services. These variables could all be related to extension and training and therefore implies the importance of training and extension services to rural farmers and to increased agricultural output.

A discriminant analysis, selecting variables to distinguish between surplus and deficit producers in the Phokoane area showed, that variables selected (the use of chemical insecticides, the area inter-cropped, the area ploughed and the number of females) all directly or indirectly fits into the FSP objective.

The results implicate that the occurrence of intercropping in the case of surplus producers is somewhat lower than deficit producers on average. However, intercropping does exist because small farmers need to reduce risks in case of crop failures resulting from adverse climatic conditions and disease occurrences, since not all crops are affected

equally. Under subsistence production, productivity per unit of land is usually higher where intercropping is practised than where single crop is produced. Whilst individual crop yields may be slightly lower than in a pure crop stand the aggregate yield of all crops intercropped is usually more than in a pure crop stand. In general a mix of cereals and legumes can improve the long productivity of land through improvement of soil structure and fertility.

A discriminant analysis of surplus versus deficit producers indicates that surplus production is associated with households which use FSP support services, plough small areas and have more adult females in the households.

3.3 KaNgwane

The evaluation in KaNgwane indicates that the FSP farmers in general have significantly more access to mechanisation services, training and irrigated crop lands than non-FSP farmers. The FSP farmers used more chemical fertiliser (687,5 kg), pesticides (25,7 kg) and hybrid seed (89,2 kg) than non-FSP farmer (510 kg, 3,5 kg and 48,0 kg, respectively). All these inputs are more generally available to the FSP farmers than the non-FSP farmers.

The average yield for maize production is higher among the FSP farmers than the non-FSP farmers. For example in Mswati area, the average yield in the case of FSP farmers was 1.05 ton maize/ha, while the non-FSP farmers had an average of 0.75 ton maize/ha. The difference in yield could be related to the lower use of input by the non-FSP farmers. Through analysing surplus and deficit producers in KaNgwane it was determined that savings, access to extension, education expenditure and access to credit were the main variables discriminating between surplus and deficit production (Table 5). It appears, however, as if access to credit and extension are the major variables discriminating between surplus and deficit producers in KaNgwane.

3.4 KwaZulu

Initial findings in KwaZulu (Lyne & Ortmann, 1991) indicate that the FSP farmers achieved significantly higher farm incomes than non-clients. In fact, some 40% of clients sold crops while for non-clients the incidence was only 19%. However, where seasonal loans were withdrawn, such as in Hlabisa (KwaZulu), farm incomes also dropped. In the case of KwaZulu it showed that investment in farming diminished when borrowing stopped.

An econometric model was estimated which discriminated between households that were net sellers and those who were not selling any surplus produce. This model analysed the households intention to produce a surplus.

As hypothesised, these estimated co-efficients all carried positive signs. The estimates however suggest that the KFC credit and land rental are the most important variables discriminating between sellers and non-sellers.

From an additional analysis discriminating between high and low input users it is evident that high input farmers own more draught animals and are more familiar with the extension service than low input farmers. Furthermore access to credit and land rented, again surfaced as important variables. The KwaZulu results indicate that elements of the FSP have a significant positive impact on input usage and gross farm incomes.

4. The land issue and farm sizes

It is clear that small farm sizes without FSP support services limit the potential gains from farming. However, it is also clear that small farm sizes with FSP support services but without appropriate reaction to increased needs of the farmers, limit the potential gains from farming and therefore limit the benefits of the farmer support programme. It can therefore be concluded that the FSP causes a growing need with farmers to expand their farm size. FSP support services may also cause growing need for more agricultural extension services as the number of decisions required of farmers increase.

Although there is a shortage of land in the FSP areas, land is not fully utilised, because food and income can be acquired at lower cost off the farm.

The preliminary evaluation results indicate that FSP members were the only farmers being prepared to rent additional arable land, and often are more determined to have their own grazing area. Presently, there is no incentive for any emergent livestock farmer to improve the quality of communal grazing as the benefits accrue largely to other users. The FSP support services offer incentives to households to grow crops and rent more land, i.e. households committed to farming make use of FSP services. Contrary to expectations, results indicate that households that have little incentive to grow crops do not rent their land to emerging farmers. The reason being that they consider renting to be risky and they would lose their right to own land if they do not farm it themselves.

It would appear that in areas where the FSPs are not being implemented, or where they have been implemented for a very short time (eg. in Kadishi area of Lebowa) respondents are generally satisfied with the current land tenure system and satisfied with the way the land is being allocated. But even then, most of them indicate that they would prefer to have a title deed or some proof of ownership of the land they are farming on.

The FSP clients tend to need more land for farming purposes, and regard themselves as more able to work additional land than non-clients.

Dryland cropland and grazing land are the most common to be rented or shared. The rent paid (eg. in Lebowa) for less than an hectare is R23.88 per year.

The FSP would be much more effective if surplus farmers could rent under-utilised land from their neighbours. While many households would like to rent more land, very few do. In fact rental arrangements between households are virtually non-existent. Rental transactions were observed only where the risk was low, eg. where the KFC or the Venda Department of Agriculture was the lessor. Clearly, one of the problems which requires attention is land tenure arrangements. The long term success of FSP will be dependent on farmers being able to get secure access to land, not only in the homelands but throughout South Africa.

Empirical studies in agriculture undertaken to explore the relationship between size of farm and productivity in developing areas have shown an inverse relation. Greater intensity of input use and better husbandry appear to be the causes of larger output per unit of land on small farms. This has in fact been shown in India, Taiwan and Brazil. However, as production expands as a result of the FSP strategy (eg. in Lebowa and KaNgwane) on these small farms the use of more inputs will not cause more production unless farmers have access to more secure land.

The evaluation results so far indicate that the FSP surplus farmers need more secure land. The FSP clients in almost all the survey areas have indicated that they need more land and are able to work more land but are not able to purchase or rent additional land mainly due to lack of capital or credit facilities.

The problem of demand for more secure land for cropping or the issue of "land hunger" come to the fore as the second major problem facing farmers in the study areas. This issue could have important implications for future implementations of FSPs and for land reform in South Africa in general. As subsistence farmers become increasingly surplus producers and more commercially orientated, as a result of the FSP, the demand for more land will increase as well as for more extension services, marketing services, training etc.

The question therefore lies in how land rights can be made secure. Land titling is widely believed to increase efficient land use and agricultural production by easing land transfers, providing collateral for agricultural loans, etc. Attwood (1990), however noted that there are many African situations where land titling or registration would not have the intended impact, would not be economically justifiable, or would even be counter-productive. Furthermore, establishing a land registry or land titling system often does not lead to a wholesale change from a traditional, informal set of property rights and rules to a modern, legal one. Several short- or medium-term solutions to different kinds of insecurity problems exist and could be as effective, but much less costly, than land registration. Attwood (1990:667) list the experience in the Ivory Coast where tribal allocations were declared legal and registered holdings, as one such an example. This resulted in easier transfer of land and a booming agricultural land market.

A further possibility would be the introduction of some measure to ensure the security of contracts supporting a

land (rental) market. This will enable the transfer of land to the more efficient users of agricultural land.

As noted earlier, one of the questions posed is what effects can the FSP strategy have on households who farm generally such small areas? It has been shown that similar programmes in other countries with corresponding farm sizes have achieved their targets and in some cases surpassed them. In the case of the FSP in South Africa, the initial results indicate that those farmers who use the support services, given the small sizes of their farms produce more and do have surplus for sale. In addition, such farmers invest more in education which can be regarded as a motivator. However, as discussed above, these farmers operating on these small sized farms do need access to more arable and secure land. In other words, without the FSP strategy the small subsistence farmers will remain as such for a longer time if not for ever.

Is the FSP a deliberate strategy to perpetuate subsistence farming by Black farmers to the advantage of White farmers? From the evaluation it seems that the FSP strategy is the right strategy to improve the economic well-being of the small farmers but certain policies in the TBVC and self-governing territories and the rest of South Africa which influence agricultural operations require modifications. The World Bank (1989) reports that of the 197 operations in African agriculture that have been examined, nearly half were judged to have unsatisfactory performance. Although some operations suffered from changes such as climatic (droughts) and the like, performance could be better if better macro economic management had been in place. In South Africa, for example, the policy of non-provision of support services to black farmers outside the TBVC and self-governing territories even when they secure land, need to be reviewed at a higher policy level. In one of the African countries where a similar programme has proved to be successful in terms of production, the small scale farmers cannot sell their produce until the head of state and his ministers have sold their produce. It is such policies that hamper the activities of the small scale farmer (World Bank, 1989).

How sustainable and relevant will FSPs be in the post-apartheid South Africa? Sustainability is often concerned with the effects of a project over the very long term. It would appear that presently and even in the post-apartheid South Africa the sustainability of the FSPs will depend on the following factors:

- land reform and institutional change
- price policies and
- improved product marketing structures.

The indications so far are that development of the small-scale farmers in the FSPs areas are hampered by the traditional land tenure system and communal services. Land reforms in which cultivators have been able to obtain ownership of the land they till, have almost universally resulted in increased productivity per hectare. Well documented land-to-tiller reforms in Japan, Taiwan and South Korea (Stevens, 1977) provide evidence of accelerated growth in small farms after land reform. In the case of South Africa, land reform will have to take place in the country as a whole and not only where FSPs are being implemented.

According to the World Bank (1989) it appears that institution deficiencies are the main reasons why agricultural operations have failed in many countries. These include weak staffing, poor organisation and management

of project entities and other agencies on which operations relied, and poor understanding of non-market incentives.

With regard to the FSPs in South Africa, the institutional factor is also a matter for concern. There is not enough commitment by professionals to ensure success in the projects. What may be needed is institutional innovation at all levels, because of the long-standing rigidities within some of the present institutions which cause artificial constraints in resource use, resulting in slower growth.

Furthermore, according to initial findings of the evaluation, surplus households can sell their produce only at a price which is less than the purchase price at which the deficit households can purchase these goods. This acts as a disincentive to produce a surplus. Price policies should therefore be reviewed with the aim of encouraging small farmers to increase production. While the judicious use of farm product price support has elsewhere provided some success in increasing agricultural output, it is widely believed that producer price subsidies would be impossible to administer as supply is inelastic.

As far as the marketing structures and facilities are concerned, the initial findings indicate that little support is provided in this area. A lesson could be learnt from Zimbabwe (Rohrbach, 1992) where buying depots and collection points are provided and operated in the small-holder areas. The availability of improved technologies and favourable market incentives brought a tripling of small-holder maize production and a thirty-fold increase in maize sales in Zimbabwe.

Indications from the evaluation reports (eg. in Lebowa and KaNgwane) show that production has expanded due to the FSP. As production expands, individual producers often rapidly increase their saleable surplus of farm produce. Since individual transactions are typically small, arrangements are needed to aggregate saleable surpluses.

5. Conclusion

Evidence from other developing countries has shown that farm sizes of small-scale farmers are typically small, averaging in most cases between less than 1 ha to 4 ha. It has also been shown that such households do need support to gain equitable access to resources so that they can be more efficient in competing in agricultural resource markets and gain better control over their destiny. Actions making markets more efficient thus should be incorporated in the DBSA's FSP strategy.

It is accepted that the small-scale farmers in developing areas of South Africa have small sized farms, but that does not exclude them from provision of support services and incentives to increase their efficiency and productivity.

The evaluation results have indicated that the FSP strategy has positive effects on farmers operating on small areas of 1 hectare or less, but these effects can be increased by ensuring farmers' access to more secure arable land. The question therefore lies in how land rights can be made secure. Several possibilities exist, which could result in easier transfer of land and a booming agricultural land market. In addition, improved marketing structures, favourable price policies and institutional change are important requisites. It was also argued that the FSP is not a deliberate strategy to perpetuate black farmers as the FSP contributed significantly to the economic well-being of the small farmers.

Table 6: Estimated discriminant function for sellers and non-sellers

Explanatory Variable	Standard Co-efficient	t Value	Group Means	
			Sellers	Non-sellers
Fertiliser (kg)	0.465	3.77**	756.8	151.0
Contractor (R)	0.234	2.08	318.4	75.5
KFC credit (R)	0.194	1.64	228.7	42.9
Area rented (ha)	0.611	6.13**	0.307	0.001
Machinery (%)	0.271	1.96	19.2	4.3
Chemicals (R)	0.407	3.82**	29.9	1.94

Note: * and ** = significance at 5% and 1% level of probability, respectively

Source: Lyne & Ortmann, (1991)

However, certain policies will have to be reviewed to increase access to improve all other services. Finally it would appear that presently and even in the post-apartheid South Africa the sustainability of the FSPs will depend on land reform and institutional change, price policies and improved marketing systems.

Note

- 1 The authors also acknowledge the comments and inputs of M. Lyne and G. Ortmann, University of Natal, Pietermaritzburg.

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