F.R. TOMLINSON GEDENKLESING
F.R. TOMLINSON MEMORIAL LECTURE

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SMALL FARMER RESEARCH IN SOUTH AFRICA: A SURVEY1

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1. INTRODUCTION

The purpose of this 2001 Tomlinson Memorial Lecture is to present a (partial) survey of small farmer research in South Africa. The survey is partial in at least three senses. In keeping with the spirit of the occasion, I will concentrate on research by members of AEASA3. Thus, the first important milestone was a paper read at the AEASA conference in Stellenbosch in 1978 by Tommy Fényes (Fényes, 1978), at that time a Senior Lecturer in Agricultural Economics at the University of the North. I start with this paper because, after its acceptance, papers on small farmer research became a regular feature of the AEASA Conferences for the first time (e.g. Fényes & Van Niekerk, 1979; Fényes, 1985). There had been earlier papers (and the theme for the 1969 Conference of AEASA was ‘The economic development of agriculture in less developed areas’) but this had never been a regular feature of the Association’s activities4. The Stellenbosch conference was organised by Prof. Philip Spies, who had recently introduced a course in the economics of agricultural development into the Stellenbosch curriculum.

1 Thanks are due to Lizl Hobson and her team of Post-Graduate students for the research assistance provided.
2 Professor and Chair: Department of Agricultural Economics, University of Stellenbosch, Private Bag XI, Matieland 7602.
3 Some earlier victims of this decision include Geyer, 1971 and Coetzee (1977; 1978; 1979a and 1979b).
4 This included a paper on ‘The development of agriculture in less developed areas’ by a certain OPF Horwood (1970)!
Secondly, I have largely confined the survey to conference papers, published work and higher degrees. Thirdly, such a survey must reflect the subjective impulses of its author. Thus, I reveal my biases forthrightly by naming the main personalities in this story by way of introduction. I believe that one can trace the story of this research through a few distinct phases. Phase 1 starts with the efforts of Prof. Tommy Fényes to put small farmer research onto the agenda of AEASA. Apart from the 1978 paper mentioned above, there was also his 1979 paper at the International Association of Agricultural Economists Conference in Banff, Canada (Fényes, 1979) and his 1980 paper at the International Farm Management Association Conference in Israel (Fényes et al, 1980). Prof. Fényes' participation at these two international conferences marked the beginning of South African agricultural economists' return to these international forums, an achievement whose significance in the history of our Association should not be underestimated.

I know that Prof. Fényes will not argue if I say that he was heavily influenced by Prof. Jan Groenewald, (see for example Groenewald and Du Toit, 1980; 1981, 1985) at that time still formally supervisor for his PhD (Fényes, 1982; as well as Fényes & Groenewald, 1984; 1989a and 1985b). As Head of the Department of Agricultural Economics at Pretoria University, it is therefore not difficult to trace the influence back to Prof. Tomlinson. However, I know that Prof. Fényes will also not argue if I rather trace the real influence on his thinking to Prof. Groenewald and Dr. Istvan Nemeth, possibly reflecting a more broad-minded and cosmopolitan intellectual inheritance.

A discussion of this first phase of the research agenda would not be complete without mention of the link that was forged between Prof. Fényes and Johan van Rooyen (e.g. Fényes & van Rooyen, 1985), at that time a Senior Lecturer in Agricultural Economics at Fort Hare and later Stellenbosch (Van Rooyen, 1983; 1984a; 1984b; Van Rooyen et al 1981), with some support from the ranks of the juniors. These included Charles Machethe at Fort Hare (Steyn, 1982; Machethe & Van Rooyen, 1983; Machethe, 1985 and Masora, 1986), and Nick Vink at the University of the North (Vink, 1981; 1984; 1986; Vink and Kassier 1983). At the same time Mike Lyne started his long career of small farmer-oriented research at the University of Natal in Pietermaritzburg (Lyne, 1981; 1985; Kleyhans, 1983; Kleyhans & Lyne, 1984 and Stewart, 1986).

If my view holds currency, Phase 2 would encompass the period when the Development Bank of Southern Africa started to get actively involved in small farmer research. The most important actor here was, of course, Dr. Simon Brand, both for his earlier work on the role of agriculture in economic development (Brand & Tomlinson, 1966) as well as for the active way in which he supported DBSA participation in research in this area. The key publication in Phase 2 is therefore the policy statement by DBSA wherein the institution spelled out what kind of agricultural development projects it would support (Van Rooyen et al, 1987). It is not hard to argue that this paper set the agenda for small farmer research by agricultural economists in South Africa for the next decade. I will elaborate on the research that flowed from this agenda below.

Phase 3 of small farmer research by agricultural economists in South Africa is a bit harder to define. I suppose a good departure point would be the contribution made by members of the Association to the land reform debate that started in all earnest in 1990. This was the time when the remarkable career of Prof. Johan van Zyl really took off, and the discussion of our research output from that time will necessarily be dominated by his efforts. Prof. Van Zyl's PhD thesis (Van Zyl, 1985) was multidisciplinary which, as we will see, foreshadowed his propensity for collaboration with a wide range of other scholars in his research programmes. In this, as in many other spheres, he brought new habits to the Association, and arguably also suffered some of the approbation due to all innovators. I return to Phase 3 of the story in section four below.

2. THE FARMER SUPPORT PROGRAMME (FSP) OF DBSA

The dual origin of the FSP is described in the publication of Van Rooyen et al (1987). This included a general dissatisfaction with the ruling ideology of small farmer development; and increasing empirical evidence that Schultz' 'poor but efficient' hypothesis was as true in South Africa as anywhere else in the world. What that article could not capture was the sometimes bizarre nature of the debates within DBSA, and between DBSA and different parts of the State in the period before publication of the article. Some idea of the flavour of the debate is evident in the argument (Van Rooyen et al, 1987:209):

'...(among the) reasons for the lack of acceptance of these ideas...(is that) policy makers and planners have not accepted the basic premise that farmers are rational decision makers...'

In the first instance it is important to note that, in the eyes of the State, small farmers were black, and they lived in the Bantustans, and that DBSA was an

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5 Chairman and Chief Executive of DBSA from its establishment in 1983 until his untimely death in January 1992.
instrument of the State. Thus, the institution's dissatisfaction with the ruling ideology was directed in the first instance at the State. Agricultural development at that time was envisaged as a process of setting up large-scale projects (irrigation, dairy, etc.) on a 'build, operate, transfer' basis (Van Rooyen, 1983). This approach was justified on the assumption that black farmers lacked the required capital and managerial expertise to farm efficiently as commercial farmers. Thus, these two scarce resources would be imported by means of projects, and local farmers would be trained until they had the expertise necessary to farm commercially. Capital was conventionally provided on an ad hoc basis.

With the advent of DBSA, however, the authorities (both the South African and the homeland governments) expected DBSA to provide soft loans to these projects as a means of addressing the shortage of capital. In this endeavour they had the experience of the World Bank to fall back on, as that institution had been funding such projects for decades. However, DBSA also kept the experience of the World Bank in mind, especially because there was a total lack of evidence that such projects could ever survive without subsidisation (e.g. Bembridge, 1986).

DBSA reacted to these demands in two ways, namely by spelling out the rules whereby it would get involved with such projects, and by starting the search for an alternative way of supporting agricultural development. The original debate on both these issues was crude. DBSA economists, lead by Dr. Brand, tried to convince the powers that be that economic logic dictated that one should use fewer rather than more scarce (hence expensive) resources in any production process. In other words, if capital and management expertise were scarce, then the fewer large scale, capital and management intensive projects that were built, the better (e.g. Bembridge et al, 1982 and Rossouw & Bembridge, 1993). At the same time, however, those same economists were trying to convince the authorities that small farmers were 'poor but efficient', following on the research agenda set by Prof. Fényes.

Opposition to this latter notion originally came from within the institution. The resident rural development policy specialist in DBSA at the time argued, for example, that black farmers operated according to their own unique set of laws of supply and demand (Du Preez, 1984). In his view, supply and demand in traditional societies were determined by religion, customs and rules, resulting in a limited choice and volume of consumption, as well as in limited production. 'Community development' was required to bring about the necessary change in traditional values and the development of abilities and skills. Comments and replies to this article flew thick and fast in subsequent editions of the Journal.

Arguments such as these were, nevertheless, relatively easily countered by recourse to:

- The literature on the general experience with agricultural development in Africa (e.g. Eicher & Baker, 1982);
- Experience closer to home in the form of the seminal research of Allan Low and partners in Swaziland (Doran et al, 1979; Low et al, 1980 and Low, 1982a; 1982b; 1984; 1986);
- The South African experience, where the evidence mobilised in support of the abilities of small farmers ranged from the historical (Bundy, 1979 and Matsetela, 1981) to the contemporary (Cobbett, 1982).

In operational terms these debates resulted in a reorientation of DBSA involvement in large projects, and the acceptance of the FSP paradigm as the main vehicle for DBSA funding of agricultural development.

The philosophy of the FSP was simple. People who lived in the homeland areas of South Africa faced many constraints that affected every part of their lives. One of the results was that it was almost impossible to farm successfully, as farmers did not have access to the kind of support services (infrastructure, research and extension, rural finance, farm inputs, etc.) that farmers all over the world needed. Thus, the aim of the FSP was to ensure that farmers had access to all these support services. Whether they would actually react by farming commercially was open to debate, but beside the point, which was that they couldn’t farm commercially in the absence of these support elements. Whether this would lead to 'development' in the homeland areas was also left open, as there was sufficient recognition within DBSA of how artificial the homeland boundaries were. In this latter respect the authors state (Van Rooyen et al, 1987:210):

'...Cognisance must be taken of the interrelationships existing within the economy... and especially within the agricultural economy. Given the emphasis on appropriate support structures, attention should be given to the nature and level of access of all farmers in the region to the agri-support system.'

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6 Insiders will remember the 'Amfarms telex' whereby the institution responded to a request for support to an irrigation project in Gazankulu by spelling out the terms of its involvement. Only those older than 40 will remember what a 'telex' is!
In other words there should be a common agri-support system for all farmers in South Africa, a point that was later repeated (Van Rooyen, 1995). The elements of the agri-support system that farmers required were originally identified as:

- The supply and funding of inputs and production assets;
- Mechanisation services;
- Marketing services;
- Extension services, demonstration and research;
- Training; and
- Policy formulation, including access to de facto production rights, and bulk infrastructure.

Target areas were selected on the basis of priority to areas with a proven natural resource potential, a proven demand for support services and existing support services.

In the next few years DBSA provided considerable research funding to scholars from a wide range of academic disciplines (agricultural economists, anthropologists, sociologists, etc.) for studies on various aspects of the FSP, including each of the support elements, the evaluation of the programme, and the wider environment within which the programme was being implemented. I would argue that this level of funding (the evaluation of the FSP alone cost more than R1.5m) had a material influence on the research agenda in agricultural economics in South Africa. This is not to imply that no other research was being done, or that DBSA somehow dominated the profession, as has been argued. It is merely the familiar phenomenon that research tends to follow the available funding. The breadth of research by agricultural economists over the next 10-15 years, which will be surveyed below, is testimony to both the vigour of the discipline and the influence of this funding source. In the next section the relevant research by agricultural economists under each of the support elements is surveyed.

3. AGRI-SUPPORT SERVICES

3.1 Rural finance

In the early years after World War II, the design of credit provision programmes to small farmers was traditionally based on two assumptions, namely that small farmers were too poor to pay market interest rates, and that they (and the rural poor generally) were too poor to save. The result was that credit programmes throughout the world were perpetually subsidy dependent, credit mostly landed up in the hands of larger farmers, and farmers tended to overcapitalise farming operations as a result of the capital subsidy inherent in negative real interest rates.

The Land Bank and the Agricultural Credit Board were originally established in South Africa to provide cheap credit to commercial (white) farmers, and had been doing so for generations. Even after the Land Bank lost the ability to subsidise interest rates with its own funds at the end of the 1970s, the State continued to use the institution as an instrument of subsidisation through the means of drought relief programmes. This made it particularly difficult to argue against the use of cheap credit for small farmers in South Africa. Nevertheless, agricultural economists have played a major role in arguing that other forms of subsidisation should rather be used, as cheap credit created too many distortions (an early attempt was Blihnaut, 1981, and more recently the Interim Report of the Strauss Commission, 1996a).

One of the first studies in South Africa that used the 'new paradigm' of thinking about rural finance was that of Coetzee (1988a) (see also Coetzee, 1988b) later the Standard Bank Professor in Agricultural and Rural Finance at the University of Pretoria. In this and subsequent work, (e.g. Coetzee, 1991; Coetzee et al, 1993; Coetzee, 1994; Spio et al, 1995 and Coetzee, 1998) he argued against the then existing dualism in rural financing institutions, and advocated a rural financial system that would avoid loan subsidies and targeting; include savings mobilisation as an important service to the rural poor; charge positive real rates of interest; avoid concessionary discount lines; and minimise the transaction costs of access to rural financial services for small farmers.

Subsequent research on rural finance by agricultural economists in South Africa has addressed three distinct aspects, namely empirical work on the provision of rural financial services and its impact in rural communities; research on the structuring of rural financial institutions; and rural finance as part of the land reform programme.

The provision of rural financial services

The empirical literature is rich, and a number of important propositions have been tested. Lugemwa and Darroch (1995) for example, analysed the seasonal agricultural loan book of the Agricultural Bank of Transkei. Their results indicated, predictably, that small-scale farmers with a proven credit history, higher repayment ability and collateral, and relatively more off-farm income were less likely to be default risks. Similarly, Anim and van Schalkwyk (1996)
found that stockowners that operate on communal grazing with access restrictions earned higher net farm income, invested more in watering points and were also more likely to have access to credit compared to stockowners that operated on open access. The results have some positive implications for the formation of group schemes to manage livestock production in communal grazing areas in South Africa.

Kuhn et al (1997) also investigated collateral instruments, in this case in KwaZulu-Natal. Their results showed that assets such as vehicles and equipment were not effective as collateral due to high costs in attaching the asset. Collateral substitutes such as joint liability mechanisms were less effective when lending to large farmer groups (30-60 members) compared with small groups (4-6 individuals) of micro-entrepreneurs operating in urban areas.

Another example in this genre is the study of Mokoena et al (1997), who investigated some gender aspects of access to land and credit in the Northern Province. Fenwick and Lyne (1998), on the other hand confirmed that high transaction costs faced by rural households limited their access to formal credit markets in the former KwaZulu homeland. Better access to financial markets required public investment in rural infrastructure, literacy and vocational training, and legal reform to lower transaction costs, improve income levels, and facilitate the efficient use of collateral. Savings lost their value as a source of information when lending institutions were distinct from savings institutions, and moveable assets carry high collateral-specific risk in the absence of an efficient judicial system. The same authors (Fenwick & Lyne, 1999) also examined the extent of liquidity constraints relative to other constraints inhibiting small-scale farming in KwaZulu-Natal.

Finally, Morokolo et al (1999) studied the savings motivation and behaviour of a group of resource poor farmers in the Moretele District of Northwest Province. Their study confirmed that income is a major determinant of savings behaviour. The main motivation to save was to provide for liquid funds for emergencies and to ensure the education of grandchildren.

The structuring of rural financial institutions

The second strand of the research on rural financial markets within the profession focused more on the institutions that provide the financial services. This was in keeping with the new paradigm of thinking on the role of rural financial markets in development, where the ability of rural financial institutions to operate free of subsidies is directly linked to their ability to keep on serving the needs of the rural poor. The Interim Report of the Strauss Commission (Strauss, 1996a) represented a major milestone in South African research in this area.

The Commission found that rural financial institutions in South Africa did not meet the minimum requirements of efficiency or effectiveness, as measured by their ability to survive without subsidies and their ability to reach their target market, namely the rural poor (see also Coetzee & Vink, 1996, who reviewed the various measures that have been used to assess both the efficiency and the outreach of rural financial institutions). Later assessments (Kuhn et al, 2000 who assessed three development finance institutions in KwaZulu-Natal and Coetzee and Graham, 2000, who re-examined agricultural development banks as a vehicle to expand access to financial services in rural areas) have reached the same conclusion.

Drawing on this analysis and on international experience, the Commission therefore argued that policy makers should pay more attention to factors such as access to services rather than only the cost of services; to countering the ‘urban bias’ in financial markets; to the provision of integrated financial services rather than credit only; and to the role of financial services as one element of a rural development strategy in the design of rural financial systems (Strauss, 1996a:118-120). Thus, the Commission recommended that the Land Bank be transformed into a Rural Bank and that it be charged with the overall responsibility for the provision of rural financial services.

It was at this point that Dr Helena Dolny (2001:48), a Commissioner, returned to the scene. In her recollection (Dolny, 2001:52), the Strauss Commission had reached ‘... preliminary conclusions and published an interim report to solicit public response.’ In reality, the interim report/final report format was a compromise that hid a deep rift within the Commission, and almost resulted in the publication of a minority report. The latter would at least have spared the authorities the embarrassment of being advised to privatise the Land Bank (Dolny, 2001:54), and (in the ‘final report’) to allow the Post Office to provide loans to small farmers at a time when it was obvious that that institution was already closing rural branches as fast as it could.

While it serves little purpose to rehash the arguments of that time, three things bear further mention. First, Dr. Dolny’s main argument against the creation of a Rural Bank was that the staff would not be able to deal with a dual transformation (i.e. to the ‘new South Africa’ and out of agriculture.) This

7 Why anyone would actually consider paying for the institution has never been explained.
is disingenuous, as the whole aim of transformation was to change the staff to a corps of people who would be able to manage the transition. Another question that went unanswered was why the Post Office would succeed in this transformation and not the Land Bank. Second, Dr. Dolny states that she first considered the possibility of becoming MD of the Land Bank well after the Strauss Commission had reported (Dolny, 2001:61). This may be the case, but there is a good argument to be made for the view that the postponement of the final report of the Commission and the unpleasantness that went with that process were part of an attempt at positioning for the job.

Third, it was obvious at the time that hindsight would be required to tell whether the outcome was instrumental to the fostering of rural development. I would argue that hindsight allows one to conclude that it was not. The interim report was written in the style of the new paradigm. To date implementation by the Land Bank has focused on ways of getting small farmers indebted. While it is too early to tell whether they have been ‘successful’ in this endeavour, it is clear that the institution has not learned the lessons of the new paradigm.

This story also has an interesting postscript, namely a somewhat bizarre paper (Kraft, 1996) read at the 1996 Conference of AEASA in Pretoria. Among others, the author also raises the possibility of the privatisation of the Land Bank, in this case the Land Bank’s ‘large farm’ functions. As the State supports mortgage lending to farmers even in the USA, it would be interesting to see how this could be done while following the ‘...more modest experimental/pilot oriented approach...’ called for by the author.

Rural finance and land reform

Inevitably, the research focus of agricultural economists would also turn to the role of rural financing in the land reform programme. Most of the work done in this area followed from the identification of the key financing problem facing emerging farmers, namely the cash flow constraint faced in the initial years of farming due to the high capital demands of farming and high interest rates (Nieuwoudt & Vink, 1995). Other examples include

- Simms (1996) and Lyne and Darroch (1997) who report on different methods of using a capital sacrifice and on experiments involving mortgage loans with graduated repayment schedules respectively. They recommend that the government amend or scrap the Subdivision of Agricultural Land Act;
- Coetzee et al (1999) who provide an overview of an interim evaluation of a government assisted loan scheme for small farmer production finance. The scheme mobilised R111m in small farmer finance in a three-year period, and 16849 farmers benefited from access to finance. Over time the Scheme moved to smaller loans per farmer, which may imply experience in interacting with smaller scale farmers. They concluded that the government is an inappropriate institution to directly provide financial services to agents or farmers.
- Nieuwoudt (2000) who recommended a crop insurance programme (drought) for small-scale commercial farmers, who are not yet paying tax, has been recommended to government. The purpose of this research is to study the economic viability of such a programme drawing on the US experience.
- Hedden-Dunkhorst et al (2000) who attempt to quantify the impact of credit and extension on farmer’s net income from two irrigation projects. The findings confirmed the positive impact of these institutions on farmer’s performance. They conclude by stressing the importance of institutions in small-scale irrigation farming and suggest that more emphasis should be put on institutional developments in policy, program implementation and research.

3.2 Marketing

The research accomplished under this heading has been rather eclectic, and has focused on empirical investigations of small farmer needs in the marketing of crop and livestock products (e.g. Lyster, 1990). The lack of access to market information is, for example, invariably found to be one of the major obstacles to the commercialisation of small farming systems:

- Fraser (1994) argued that an agricultural marketing system requires a communication system to provide farmers with information on marketing channels and procedures. The most appropriate means of passing this information on to farmers is through extension officers who come into direct contact with the producers.
Mdlaka and Heinsohn (1996) argued that marketing of small farmer produce has been fraught with difficulties despite the concerted efforts of government, non-government and private sector organisations and development corporations.

Madikizela and Groenewald (1998) showed that the unavailability of transport, poor infrastructure, lack of market information and to a lesser extent, dishonesty of some traders are major problems for vegetable farmers in Seymour District, Eastern Cape.

Makhura and Kirsten (2000) determined factors of market access for small-scale farmers in the Northern Province. The results suggest that ownership of cropland and a vehicle, use of hired labour and access to market information are associated with participation in the market.

The marketing of livestock products has also received attention:

Fraser (1992) shows that livestock play an important role in the rural life of Ciskei, but have not made a significant contribution to earnings. The provision of a livestock marketing system failed to increase the turnover of livestock among farmers. The major drawback is that the majority of the households have insufficient livestock to meet their needs.

Nkosinathi and Kirsten (1993) argued that there is a growing tendency amongst rural households to sell livestock. Their research investigated the reasons for selling and the marketing channels used by rural households, including a focus on the role of speculators, auctioneers and butchers. The results show that farmers do not have access to market information while auctioneers, the limited buyers at auctions and the speculators do have access.

Duvel and Stephanus (2000) analysed the perception of livestock farmers in the Northern Communal Areas of Namibia. Decision-making is influenced by socio-cultural considerations, and this is manifested in the low off-take percentage, the lack of interest in commercial production, and the fact that the sale price offered to the farmer is not the most important consideration when deciding to whom to sell. However, De Bruin et al. (2000) show the importance of transaction costs in this latter process of decision-making.

Publications such as Van Zyl et al. (1997); Van Zyl et al. (1998) and Vink et al. (1996) represent a different strand of research, as they analyse the effect of the deregulation of the marketing of output from the commercial farming sector on existing small farmers, and on farmers settled under the land reform programme.

3.3 Extension and research

Some of the work on the provision of extension services to small farmers has an empirical content, although the work of the most prolific author in this field, Prof. TJ Bembridge, has concentrated more on the design of extension systems, mostly in the former homeland areas of the eastern seaboard (e.g. Bembridge, 1987; 1988; 1991; 1997a and 1997b). Other research in this genre includes Stilwell et al. (1988); Low (1995) and Hanyani-Mlambo et al. (2000) who make recommendations for the rehabilitation of the extension service in Zimbabwe. Van Rooyen and Botha (1994) summarise much of these proposals when they argue that the extension service can play a key role in getting the community to participate throughout the whole project cycle; shifting the focus to farmer development away from farm development; rendering advice on optimal farm size and farm income; project management and the progress of project farmers; farmer selection and the choice of farming model; information supply to farmers on optimal production and marketing; and facilitating co-operative arrangements and institutionalising linkages with various agricultural development role players in the vicinity.

Work with a greater empirical content includes Kirsten et al. (1993), who look at extension from the perspective of the Farmer Support Programme; Street and Kleynhans (1996) who look at the value of mentorship and specifically to what degree it could complement extension services; and D'Haese et al. (1998) who analyse the problems of small farmers in the Venda region of the Northern Province using a 'problem-tree' framework.

Somewhat unusually, there have also been a number of publications focused specifically at the provision of extension services to livestock farmers. Steyn and Tapson (1993), for example, apply the FSR/E approach to livestock production systems among smallholder farmers. Similarly, Nell et al. (1998) and Nell et al. (2000) investigate the deleterious effects of the discontinuance of veterinary services in former homeland areas empirically. Finally, Randela et al. (2000) have analysed farmers' willingness-to-pay for dipping services, as well as their revealed preference for dipping frequency.

It is fairly safe to argue that agricultural economists have not paid sufficient attention to research on small farmer research needs in the past. Among the few exceptions are Carney and van Rooyen (1996) who investigated the role
that collective action can play in empowering farmers to use the technology development and transfer system.

3.4 Institutions and information

Agricultural economists have likewise neglected the area of research on the role of institutions in small farm development. The few extant examples include Düvel (1994); Nkosi et al (1994) who examine the appropriateness of the involvement of tribal leaders by investigating their influence on agricultural development, and Maloa and Nkosi (1993) who consider the nefarious role of contract agents on agricultural development projects. A rare examination of the role of NGOs in smallholder development is contained in Wynne and Lyne (1995). Earlier, Machete (1990) published one of the only examples of research about the role of co-operatives in small farm development, although this aspect received some attention in the evaluation of the FSP (see below). Finally van Rooyen (1999) has called for closer cooperation between the developing farming areas and the firms in the agribusiness sector.

Another aspect that has been sorely neglected is the use and usefulness of information in small farmer development. De Waal and van Zyl (1991) investigated the issue of how the fast-developing information technology could be used to assist management decision-making in developing agriculture. Given the speed at which this technology has developed, this article can have no more than historical interest!

3.5 Infrastructure

Agricultural economists have concentrated almost exclusively on irrigation infrastructure, to the detriment of research on other important aspects such as the transport and communications infrastructure required to ensure a freer flow of goods and information. Salient studies on aspects of irrigation agriculture include:

- Haasbroek et al (1988) argued that irrigation development has been identified as an appropriate development strategy to settle commercial farmers, produce large volumes and high value crops, foster the economic use of resources, create entrepreneurial opportunities, upgrade economic opportunities for existing farmers, create employment, and further technological modernisation, etc. Irrigation development, impacts on natural agricultural conditions, social relations, prevailing markets and existing institutions. In a similar, although more numerate vein, Jackson et


- Backeberg and Groenewald (1995) show that, in the case of small-scale irrigated farming, priority must be given to improved use of existing schemes, preceded by feasibility studies and accompanied by investment in human capital.

One exception to this focus on irrigation infrastructure can be found in Erasmus et al (1996), who use cost-benefit analysis to determine the viability of a programme to improve transport infrastructure for small-scale cane-growers in South Africa. The results indicate positive net present values, indicating that the benefits of the programme will outweigh the costs by a considerable margin.

3.6 Land tenure

While there has been some descriptive work on different land tenure systems by agricultural economists in South Africa (e.g. Fényes, 1979; Fényes & Groenewald, 1985a), most of the research has focused on issues of farm size, tenure form and land use regimes. The following work falls in the genre of the most desirable farm size:

- Latt and Nieuwoudt (1988) use discriminant analysis to identify differences between small and large plot households in KwaZulu. A further division was made according to whether or not a household sold agricultural produce. Of the three potential discriminant functions two explained group differences with statistical significance. The first function separated groups according to plot size, while the second function separated according to farm income production.

- Conradie et al (1996) examined the feasibility and consequences of small-scale apple production systems. An expert panel of scientists and commercial apple farmers was drawn into an interactive dialogue to design alternative apple production systems requiring significantly scaled-down investment. Within imposed capital constraints, production technologies were designed using horticultural integrity and feasibility as criteria defined within the particular constraints of small-scale farming such as available household labour and risk aversion.

- Lipton et al (1996a; 1996b) reported the results of the ‘rural livelihoods’ project, which included a number of papers by agricultural economists that
addressed the issue of how small farm systems could contribute to livelihoods creation (e.g. De Klerk, 1996; Eckert, 1996; Eckert and Kooy, 1996; Lyne and Ortmann, 1996b; Kirsten, 1996; and Ngqaleni and Makhura, 1996).

Another important strand of research that focused on prospective rather than existing small farmers was the farm size efficiency debate that picked up from the AEAAS Presidential Address of Van Zyl (1995). This work made two major contributions to the South African literature. The author was the first to explicitly correct for differences in soil quality in his calculations. Earlier work (e.g. Moll, 1988) produced questionable results because no account was taken of the natural trend towards smaller farms in higher potential areas (Van Zyl 1989). Secondly, the author was the first to use Total Factor Productivity rather than partial productivity measures such as physical yields to measure the farm size efficiency relationship. These measures were also used to analyse the farm size efficiency relationship in the wine sector (Townsend et al 1998). Other research under this heading, but using different measurement techniques, include Mbowa and Nieuwoudt (1999), who analysed the farm size efficiency relationship in the sugar industry, and Piesse et al (1996a; 1996b) who analysed the relationship in the former homeland areas using data envelopment analysis.

Most of the research of agricultural economists has, however, focused on the question of the optimal land tenure regime. In this respect, the profession, or more accurately the Department of Agricultural Economics at the University of Natal, has a proud history of rigorous, policy relevant research. While the results may not have had the desired effect to date on the planning and implementation of the land reform programme, it is hard to believe that work of this calibre will remain unnoticed. This corpus of work includes the following journal articles (in most cases backed up by a Masters’ thesis).

- One of the earlier papers in this genre came from the University of Pretoria. Pretorius and Kirsten (1994) asked households in rural Venda about their preference for an alternative land tenure system. The results showed that, although respondents mostly preferred individualised land tenure systems the implied effects of such a system were not fully understood.

- Thomson and Lyne (1995) followed a different approach to ascertain whether tenure, defined by the breadth, duration and assurance of property rights to arable land, is secure in the communal areas of the Upper Tugela region of South Africa and at the irrigation scheme at Tugela Ferry in KwaZulu-Natal. They also investigated whether new technology induced a predictable shift in tenure institutions, resulting in more exclusive property rights to land. The results suggested that households do not have secure tenure and that technical change has not induced a shift toward more exclusive land rights.

- Moor and Nieuwoudt (1996) explored the relationship between land tenure institutions and economic incentives and distortions in South Africa and Zimbabwe, and identified constraints on institutional innovation. They found that the institutions governing the use of communally held land do not provide individuals with economic incentives to invest and do not allocate scarce land efficiently. The same authors (Moor and Nieuwoudt, 1998) test the interaction between land tenure security and agricultural productivity in small-scale agriculture in Zimbabwe, and find that land tenure security has a positive and significant influence on investment and productivity. This result has two important implications for land reform. Firstly, indigenous tenure institutions are a constraint on agricultural development. Secondly, a national land redistribution policy must be accompanied by innovative tenure institutions that facilitate economic interaction and internalise externalities on land resettled by individuals and groups.

An earlier example of this research can be found in Lyne (1991) and Anim and Lyne (1992), who argued that economic theory suggests that privatisation of open access grazing land will reduce stocking rates and promote investment in pasture quality. In later work the difference between restricted access and privatisation is, nevertheless, dealt with more subtly, as was argued by Vink (1988), Vink and Kassier, (1987) and Tapson (1990). Lyne and colleagues have also published a series of papers that look specifically at the role of land rental markets:

- Lyne (1991), for example, argued that despite intense population pressure, arable land is often underused in tribal areas, and grazing resources often overused. Supply response to price incentives is inelastic, as the potential gains to farmers are limited by small farm sizes. A land rental market could improve efficiency in farming and also has equity advantages. At the same time Thomson and Lyne (1991) argued even more directly in favour of a rental market in rural KwaZulu. Evidence from their sample survey
suggested that land rental is precluded by high transaction costs, because lessors consider renting to be risky. Of those respondents renting, 84 per cent claimed they would increase production if they could access more land.

- Lyne et al (1991) investigated the current settlement models for emerging commercial farmers on ‘Trust land’. They argued that farm sizes should be determined by market forces rather than by administrators, that risk should be treated more rigorously in the farm planning process, and that land rental markets would ensure land use efficiency.

- Kille and Lyne (1993) outlined the relationships between exclusive and secure property rights to land, land transfers, farm productivity, access to credit and on-farm investment by means of a survey of freehold and Trust farmers in the Madadeni district of KwaZulu. Despite the existence of title deeds, many respondents did not have exclusive use rights to land. Non-exclusive use rights occurred where land was co-owned, mutually occupied by two or more members of a family or registered in the name of a deceased person. Results indicate that investment in on-farm improvements is higher where tenure is private and secure.

- Finally, Lyne and Ortmann (1996a) claimed that rental markets for agricultural land in communal areas of Southern Africa are often constrained, despite potential benefits for many households. Farmer support programmes are unlikely to realise their full potential unless they are accompanied by adaptive strategies to customary tenure.

There is a single example of research by agricultural economists on the best use of land resources, namely the study by Balyamujura and van Schalkwyk (1997). They compared different land use alternatives among the communal, commercial and nature conservation land uses that occur together at the perimeter of Manyeleli Game Reserve in Mhala district. Using multi criteria analysis, a combination of communal and conservation land use alternatives is found to be the best alternative, maximising the communities’ welfare and conserving the environment.

3.7 Effects of the FSP

While much of this research was published during the mid- to late-1990s, it is safe to assume that most of it was conducted in the period around 1990 – 1995. One of the few exceptions is the ongoing research into rural finance (possibly because Sartorius von Bach and Nuppenau (1996) find that of all support services only a loan facility seems to have an impact on the development process!) Thus, most of the research reported here was influenced in some way or another by DBSA, and specifically by the process of evaluation of the FSP. This was conducted during the early 1990s, and the results published in 1995 (Singini & Van Rooyen, 1995).

This evaluation report consisted of two introductory Chapters on the FSP and on the design of the evaluation research respectively (Van Rooyen, 1995; Singini & Vink, 1995). Part 2 of the book contains 6 chapters on the FSP in different regions of the country. The first four of these (Ortmann & Lyne, 1995; Kirsten et al. 1995a; 1995b; 1995c) were by economists: the only Chapter authored by a multidisciplinary team is Chapter 8 (Fischer & Vink, 1995). The title of this latter chapter refers to the different perceptions of the FSP among the ‘beneficiaries’. This is, in turn, a consequence of the way in which the officials in each area interpreted the programme.

It is also interesting to note the recommendations made in this Chapter (Fischer & Vink, 1995:139-145). The authors argue that implementing agencies need to go out of their way to promote participation by affected communities and that the attitude and approach of the implementing agents is seen as key to the success of the programme. The key phrases in this process are support, facilitation and co-ordination rather than control and implementation. These lessons are important in light of the failure of the land reform programme to deliver land at scale to new entrants to the sector.

The final set of Chapters in the evaluation book addresses the different support elements of the FSP. These aspects were also addressed in PhD theses by Naledzani (1992) with respect to the former homeland of Venda, and by Kirsten (1994) in respect of the country at large. Doni (1997) evaluated the programme in a single locality (Keiskammashoek in the Eastern Cape).

Other publications that addressed the FSP include:

- McKenzie and Coetzee (1988) argued that the prioritisation of target areas for the FSP should be based on the demand for agricultural support, as demand is dependent on the agricultural potential, existing infrastructure and markets in the area. If there is a strong demand for support services it can be assumed that there is a relatively favourable presence of these factors. Their study attempts to provide a practical means of measuring the level of demand for farmer support services based on data collected in KaNgwane.
Thomas et al (1991) summarised the experience with the FSP as a means to maximising the contribution of small farmers to increased production efficiency, employment generation, and improved conditions in rural communities. In their view an important condition for success will be the establishment of sound development policies and effective institutions at local, regional and national levels, by means of which farmer support could be directed and co-ordinated.

Sartorius von Bach et al (1992) who, by way of contrast, consider the grassroots effects of the FSP in a study that tests the hypothesis that participation in FSP and surplus production is related, and that surplus producers are engaged in higher order need hierarchies than deficit producers.

Singini et al (1992) summarised the results of their field research for the FSP evaluation. They argued that the concept of the 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. In their field research they compare farmers who use the FSP services with those who do not. They conclude that the FSP strategy has positive effects on farmers operating on small areas, but that ensuring farmers' access to more secure arable land can increase these effects.

Dankwa et al (1992) surveyed the expenditure patterns of rural households with a view to evaluating factors that make households more food secure. Expenditure patterns of households participating in the FSP were analysed and compared with non-participants in two areas, Lebowa and Venda. The results show that a high proportion of rural households in Lebowa and Venda are food insecure, but that the provision of support services to subsistence farmers would help to alleviate food insecurity.

Van Zyl et al (1992), who also analyse the effects of action aimed at narrowing the gap between South Africa's 'two agricultures', specifically the effects of the FSP on structural aspects of maize production under different marketing policies. Results show that the effects depend on the marketing policy followed, as well as on the effectiveness of the FSP.

Van Zyl (1992) also determined the effects of FSPs on consumption and investment in the Mashamba and Khakhu areas of the Venda homeland. Income elasticities indicate that the demand for goods produced by households increases less than the demand for purchased goods. The existence of soil erosion, availability of ploughing services, expenditure on transport, education, medical and personal items, and the existence of a savings account also play important roles in explaining the difference in production performance between surplus and deficit food-producing households. A similar analysis was reported in Van Zyl and Vink (1992a).

Deliwé (1995) examined the pilot project in Chatha village where implementation was affected by the politics of the coup against Sebe. The attitude of Chatha farmers' to the FSP was often unfavourable, and land conflicts within the village made implementing the FSP difficult.

Chikanda and Kirsten (1996) evaluated the impact of liquidity, input supply and distribution infrastructure, and extension and training services on the quantities of inputs purchased and used by individual small farm-households.

Van Rooyen and Nene (1996) attempted to summarise the lessons of the FSP and argued their relevance to current policy initiatives. They highlight policy constraints, insufficient participation, lack of ownership, ad hoc participant selection, lack of property rights, rigid project planning and design, incorrect choice of farming model and deficient support services as key factors.

Kirsten and van Zyl (1996a) presented the results of a survey exploring the relationship between agricultural production and socio-economic status among rural households in the former homeland of KwaZulu, with findings revealing a strong relationship, which has policy implications for reducing food insecurity.

Kirsten and van Zyl (1996b) identified the costs and benefits of improving small farmer's access to basic agricultural services. The benefits of support programmes are greater than the costs.

Piesse et al (1996c) calculated the efficiency of maize production in the former KaNgwane, Lebowa and Venda, and then the productivity losses that resulted from the 1992 drought. In Venda productivity fell by 61%, compared with 74% in Lebowa and 89% in KaNgwane. Three causes of these differences can be identified. Firstly, the improved seed and fertiliser technology that has been introduced by the Farmer Support Programmes has increased investment and hence risk. Secondly, the improved maize varieties appear to be less resistant to moisture stress than traditional seeds.
and lastly, there were unrecorded regional variations in the severity of the drought.

- Townsend and Thirtle (1997) presented an empirical investigation of the production response of small-scale producers of maize and cotton for communal agriculture in Zimbabwe.

4. SMALL FARMER RESEARCH IN THE NEW SOUTH AFRICA

4.1 Land reform models

While the preceding pages show the influence of the policy and evaluation research that went into the FSP, this was not the only research that agricultural economists were doing at the time. The survey results reported in this section show that, as far as small farmer research is concerned, the land reform programme received the most attention.

I have told the story of the research on land reform elsewhere (Vink, 2001) and will not repeat it here. One of the most important earlier references is to the work of the Development Bank on land reform (reported in Brand et al., 1992). This article, which started life as a 1990 conference paper, received wide press coverage. An interesting footnote to the controversy it raised was a letter dated 14 December 1990 by Dr Japie Jacobs, at the time a Special Economic Advisor in the Department of Finance, and a special advisor to the Managing Director of the Land Bank, a position in which Dr. Dolny retained his services after her appointment. In this letter, addressed to me at the Development Bank, he stated:

As landbou-ekonom weet ek dat Suid-Afrika se produktiwiteit in die landbou deur die betrokkenheid daarin van Swartes as boere sal daal. (As an agricultural economist I know that South Africa’s agricultural productivity will decrease as a result of the participation therein of Blacks as farmers.)

This coming from a person who was also able to state (in the same letter):

Ek was onder die indruk dat boerdery-eenhede se gemiddelde grootte in die moderne sector moet styg (vanweë stygende insektkostes) om ekonomies lewensvatbaar te wees. (I was under the impression that the average size of farming units had to increase (as a result of increasing input prices) in order to be economically viable.)

In the view of Dr Dolny (2001: 74) Dr Jacobs was a man who:

...more readily than most, accepted the political changes of the 1990s...

One wonders whether the latent(?) racism, his identification as an agricultural economist or the naivety of the newly appointed Managing Director of the Land Bank is the most offensive.

Other publications of note were the proceedings of a 1990 conference hosted by IDASA (De Klerk, 1991) and the PhD thesis of Van Schalkwyk (1995). A further milestone was the rural restructuring study of the World Bank, presented at the ‘Options for land reform’ conference of the Department of Economics and Planning of the ANC in Johannesburg in 1993.

These ‘options’ included the first of the alternative models of land reform, namely a proposal by DBSA for equity sharing projects. A wide range of these has subsequently been implemented (see Ngqangweni et al., 1995 and Nel et al., 1995), and the first of them, the DBSA-funded Whitehall Project, was formally evaluated at an early stage (Eckert et al., 1996). McKenzie (1996) provided a comparison of the fiscal impact of these schemes as opposed to large-scale irrigation schemes. Predictably, these equity schemes performed better by all measures.

Other research into alternative models of land reform include:

- **Outgrower models.** Van Zyl and Vink (1992b), for example, analysed the concept of mini-farming on tea estates in South Africa. Although financial returns are not necessarily significantly greater, the extra freedom is ample compensation. Thus, although the costs to the estate are higher, yields from mini-farmers are much higher than those from labourers, resulting in a net increase in income to the estate.

- **Urban agriculture.** Here mention can be made of publications by Van Rooyen et al (1997) and Karaan and Mohamed (1998) and more recently Baudoin and Vink (2001). This research includes also work on consumption and expenditure patterns in urban informal settlements by Davidson and Stacey (1988); Karaan and Myburgh (1992) and Myburgh (1992). This is, nevertheless, an area where agricultural economists could have been expected to contribute more.

- **Aquaculture and mariculture.** The most relevant papers include Mohamed and Dodson (1998) on small-scale aquaculture, Karaan (1999) on mussel mariculture, and Karaan (2000) on oyster production. This research has all
been conducted in the Western Cape, while there has to be considerable potential for such projects along the whole Eastern seaboard.

- **Private land transactions.** This category, where the research output has largely come from the work of Kirsten *et al.* (1996); Kirsten and van Zyl (1999); Graham and Lyne (1999a; 1999b) represents in my view arguably the most policy-relevant research in agricultural economics in South Africa today. The general lesson from the empirical research conducted in KwaZulu Natal and the Northern Province is that more land, and of a better quality is being transferred to historically disadvantaged farmers through private transactions than through the state programme. Women were, however, poorly represented in private transactions, except when land was donated or bequeathed. Here lies the empirical evidence for state-supported rather than state-implemented land reform.

### 4.2 The characteristics of successful small farmers

A land reform programme that was based on the principles of state support rather than state implementation would, of course, depend very strongly on the participation of farmers who have already made a success of the business, or who at least show the potential of being successful. Agricultural economists have some track record of researching the former (Stacey, 1988; Venter *et al*., 1993; Stacey *et al*., 1994) but should arguably do more. Members of the profession have a considerable track record concerning the latter (Kirsten & Sartorius von Bach, 1992; Eckert & Williams, 1995; Makura & Goole, 1996; Makura *et al*., 1997; 1998; Nel & Groenewald, 1998; Bester *et al*., 1998; Kirsten & Van Zyl, 1998 and Bester *et al*., 1999). They would, however, be well advised to rather look to the innovative work of Low and Kamwi (1998), Low *et al.* (1999) and Brown (2000) in future. Some of this research does little more than predict that the characteristics that make a successful farmer are the same as those that successful farmers display, i.e. if you want to predict whether a person will become a good farmer, find out if he/she is a good farmer.

A particular aspect of farmer characteristics that bears mention is the literature on the role of women farmers. Examples include Tshatsinide (1990) and Nqgaleni and Makura (1995).

### 4.3 The economics of smallholder systems

Agricultural economists have researched a number of economic aspects of small farmer production systems, obviously mostly in the former homeland areas. These include the efficiency of these production systems; the role of farm and off-farm linkages in fostering the efficiency of the rural economy; different aspects of the fit between the farm business and the household economy; and between the farm household and the broader community. Some of the research reviewed below was published by the Africa Institute for Policy Analysis and Economic Integration in the two volumes of the 'Economic Demobilisation of South Africa project' (Kirsten *et al*., 1998 and Van Rooyen *et al*., 1998).

#### Small farmer efficiency

The research under this heading has covered a number of important aspects. For example, Monde-Gweleta *et al.* (1997) analyse the present contribution of small-scale dryland and irrigated agriculture to rural livelihoods in Northwest Peddie district. Their analysis confirms that agriculture adds to rural livelihoods in a modest way only. The main source of income for most households in both the dryland and irrigated production environments consists of State transfers of which pensions are the most important. In the area, three of the four factors identified as key to agriculture’s contribution to rural livelihoods (access to agricultural land, research and development of appropriate technology, and rural infrastructure) were found to require reform for local small scale farming to become a viable livelihood option. The only factor that did not appear to present a major constraint was access to markets.

Ngqangwenti *et al.* (1999a; 1999b) take a different approach. In their view, even if agriculture only makes a small contribution to the livelihoods of rural people, small farmers are efficient, and this has major implications for broader rural growth and development. Agricultural policies aimed at promoting commodities that best make use of resources are required to exploit the potential linkages with non-agricultural sectors of the economy. Belete *et al.* (1999) apply some of these principles to their study of the efficiency of smallholder goat milk production in the Eastern Cape using a financial cost-benefit framework. D’Haese *et al.* (1998; 1999) also use the principles of financial analysis to investigate the position of mango growers. Ngqangwenti *et al.* (2000) take this a step further in assigning shadow prices to all relevant inputs and outputs, and analysing the results within the framework of the Policy Analysis Matrix.

Finally, De Klerk (1989) followed a less formal analysis in dealing with the themes of how risk, as experienced by existing white farmers, is contributing to the emergence of a body of actual and potential black, ‘coloured’ and Asian small farmers in South Africa and how risk can be expected to constrain the
rate of growth of the numbers and output of such farmers. In a study that addressed the same issue, Bullock et al. (1994) surveyed vegetable farmers in KwaZulu-Natal on their sources and managerial responses to risk. Most respondents considered themselves more willing to take risks relative to other farmers. Respondents viewed price, climate and yield variability as the most important sources of risk in vegetable production. Results show that government policies add to the level of uncertainty faced by vegetable farmers. However, large and small vegetable farmers differed in their perceptions of risk.

**Farm-non-farm linkages**

In a similar vein, there has been a growth in research on the livelihoods implications of the linkages between the farm and the non-farm economy. The main body of related work deals with the upstream and downstream linkages between the farm and agribusiness sector. The most important of these contributions include Kirsten (1995); Mokitimi and Nieuwoudt (1995), Machete et al. (1997), Makhura et al. (1999, 2000); Ngqangweni et al. (1999, 2000); Tregurtha and Vink (1999); and Le Roy et al. (2000).

A slight variant on this literature on economic linkages is a series of papers that have addressed linkages in a different way. Examples include a paper on the economics of intercropping (Spio, 1996), one by Anim (1999a) on organic farming, and Anim (1999b) on soil conservation.

**The small farmer household economy**

The seminal work of Low (1982a; 1984) referred to earlier stimulated a host of analyses of the economics of the small farmer household, many of them using formal modelling techniques. These analyses include:

- Lyne et al. (1988) who modelled household economic behaviour on a small farm in KwaZulu using mathematical programming techniques. To some extent the effects of risk, leisure and off-farm employment opportunities on resource allocation and farm output are captured in the model. The paper concludes with a discussion of the problems involving specification of income, leisure and consumption relationships in the programming approach.

9 Jack (1993) provided empirical support to Low's work from field research conducted in the Eastern Cape.
information and participation in cash markets increase the share of agriculture in household income. On the other hand, human-financial resources as well as social status negatively affected the share of agriculture in the household income.

- Mathyce et al (2000) test the effect of transaction costs on market participation using the two-stage Heckman’s procedure on a case study of banana farmers. The probit model results show the importance of transport problems and market search as determinants of participation. The results are used to make a case for government intervention to assist small-scale farmers to reduce their transaction costs.

Socio-economic aspects of poor rural households

Once again we can, as a profession, point to some important work that has been done in this field, starting with some on the food security situation in the former homeland areas (e.g. Coetzee & van Zyl, 1989; Louw, 1990; Mekuria & Moletsane, 1996 and Le Roy et al, 2001). Another example of important earlier work is the research on the determinants of human fertility by Fairlamb (1990). She found that child education, women’s opportunity cost of time and formal market participation were negatively related to fertility. As this reflects substitution from numbers of children (time intensive goods) to fewer, population programmes should therefore include improvements in women’s education and employment opportunities to raise their time costs, and time saving devices to reduce demand for child labour.

There have also been a number of studies on food consumption and levels of nutrition in rural communities. Examples of the former include Mmakola et al (1997); Belete and Van Averbeke (1999); and Matungul (2000). Two examples of research aimed at establishing a poverty profile of rural households include Kirsten et al (1998) and Rwelamira et al (2000).

5. CONCLUSIONS AND SOME SUGGESTIONS FOR THE RESEARCH AGENDA

In the introduction to this paper small farmer research by agricultural economists in South Africa was divided into three phases. The intellectual legacy of this work can also best be summarised in terms of three main components:

- Considerable research was conducted around the theme of the provision of farmer support services to small farmers during the late 1980s and up to the middle of the 1990s. This research was influenced by the DBSA, and the research funding provided by that institution. An interesting footnote to the critics of the DBSA would be a comparison of the effect (or lack thereof) of the millions of pounds and dollars of donor funding provided to the Land and Agricultural Policy Centre for the same purpose with the relatively modest amounts made available by DBSA. However, despite some good, policy-relevant earlier research in this field, it seems as if agricultural economists have neglected these important issues in the last 5 years. Now that the redesigned land reform programme has once again highlighted the importance of farmer support, we as a profession have been caught lacking.

- Nevertheless, agricultural economists have not neglected all aspects of research on farmer support services, as there has been a steady stream of work on land reform and land tenure systems and on rural finance throughout this period. The main influence on the former was the considerable funding provided for the land reform programme and on the latter the Strauss Commission. In both areas agricultural economists proactively used the resources at their disposal, whether from the state, from donors, from the development finance institutions or from the commercial banks to build a comprehensive understanding of the most important issues. Agricultural economists are thus at the forefront of policy making in these spheres.

- At the same time, there has been an on-going body of research that has focussed generally on the economics of small farmer households, starting with the earliest work, namely of Pényes. Most of the subsequent research in this field has been influenced by Allan Low’s work on the economics of small farmer households. Examples of the genre are still regularly to be found in the literature, and at our annual conferences. However, it is not clear that this research is leading anywhere in terms of its policy relevance. The reason, in my view, is that agricultural economists have failed to distinguish between small farmers in the former homeland areas and the desirability of the creation of small family farms in the commercial farming areas. More particularly, we as a profession still use the rhetoric of ‘the role of agriculture in development’ in a modernised economy. This confusion is, of course, compounded by the fact that the land reform programme has thus far succeeded only in duplicating the conditions in the former homelands, where it is still all but impossible to farm commercially.

The result is that agricultural economists stand accused, along with others, of trying to recreate a past that never existed. To put this in context, it is
necessary to revisit the consensus view on the role that the agricultural sector plays in the process of development. Adelman (2001:119) summarises by showing that agriculture had the primary task of releasing labour, of accumulating and then transferring capital to the industrial sector, of earning foreign exchange and later of supplying abundant food at low prices to the urban economy and providing a market for industrial goods. Further, owner-operated farms that are large and productive enough to generate a marketable surplus have historically provided the best domestic market for manufactured goods. Thus, the structure of the farm sector has to change over time to ensure that agriculture fulfils its role to its best potential.

Yet to argue that the small farmers in the former homeland areas can fulfill this role is to perpetuate what Seekings (2000:55) calls '...an important pillar of the policy of segregation (prior to 1948) and apartheid (thereafter)...' namely the assumption that a resilient peasant society existed (and still exists) in the former homeland areas. In mapping out the relationship between income and class in South African society, Seekings (2000) shows that, because smallholder agriculture is negligible in the contribution it makes to the incomes of poor rural households and in its contribution to the general economy, it makes no sense to categorise South Africa as a society of peasants. In his view, even a massive land reform will not transform the social structure of the country, even though there is scope for the expansion of smallholder production. Thus, while agriculture may not have contributed optimally to the growth of the South African economy in the past, the sector has undergone structural changes that have taken it beyond the point where small farmers can contribute significantly to the growth of the South African economy as a whole. Sartorius Von Bach and Nuppenau (1996) support this view with a more formal analysis whose importance has not always been recognised in our profession.

Thus we need to recognise that to argue that small farmers can no longer take the lead in the development of the South African economy, or even in the development of the rural economy, cannot mean that small farmer development is unimportant in South Africa. As a profession, we need to recognise that our research has shown that it is important, for at least two good reasons:

- First, small and emerging farmers in South Africa farm on land that has been obtained through the land reform programme, on land under the control of traditional leaders or bureaucrats in the former homeland areas, and on land purchased privately. While considerable institutional energy and funds have been expended on providing access to land over the past 7 years, less attention has been given to farmer support programmes. To date, post-settlement support to participants in the land reform programmes has been organised on an ad hoc basis, with the result that it has been partial at best. At the same time, support services to farmers in the former homeland areas have all but collapsed, although there is little evidence, of course, that these systems were ever very efficient.

- Second, the structure of the commercial farming sector is an artificial construct that resulted from the heavy intervention of the state in almost every sphere of agriculture over many decades. All our research, arguably starting with Brand et al (1992), and including Van Zyl (1995) on the farm size and efficiency relationship right up to the most recent work of Trotskie (2001) shows that a restructuring of the sector to incorporate a more diverse range of farm sizes is inevitable.

This situation provides two challenges to the authorities. First, if small and emerging farmers are to be empowered to play any constructive role in the development of agriculture, it is necessary that they get access to support services. Yet experience from the continent of Africa has shown that this should not be done on an ad hoc basis. Research in South Africa has also shown that it should not be separated from the support systems provided to commercial farmers. Thus, the first challenge is to expand the existing support services to also meet the needs of small and emerging farmers. This includes the continuation of a range of ongoing activities such as the transformation of the Agricultural Research Council and the Land Bank, the rationalisation of Provincial Departments of Agriculture, the provision of capacity to deal with land reform and farmer support at local authority level, etc.

This expansion of the farmer support system is, however, a lengthy process. This raises the second challenge, namely to provide targeted support to small and emerging farmers who have gained access to land. It is recommended that three initiatives be undertaken in this regard:

1. Provide post-settlement support to beneficiaries of the component programmes of land reform. This incorporates the current planning around better co-ordination between the Departments of Agriculture and Land Affairs, between national and provincial authorities, and with local authorities that form part of the sub-programme on Land Redistribution for Agricultural Development.
2. Identify small, emerging and commercial farmers from historically disadvantaged groups who have gained access to land by private purchase, rental, bequest, etc. Conduct a needs assessment in terms of their access to support services, and target the geographic areas and service categories where their needs are the greatest for preferential provision of support services.

3. Create a ‘small farmer miracle’ among small and emerging farmers in the former homeland areas by providing access to support services on a priority basis. The accent here should be on factors that will induce these farmers to produce in as short a time as possible, such as direct price support for marketed output, and measures to decrease their input costs, such as tractor services to plough the fields.

Our research should be aimed at supporting these policy initiatives. In this regard, I believe that the following recommendations should guide our research agenda:

- There is a need for greater integration of research on small and commercial farmer systems. This should take the form of more future-oriented research where the boundaries between these two systems become less important. An important facet of this research will be the structural effects of past deregulation, and of further policy shifts, of which the emerging trade regime and changing rules regarding employment conditions are the most important.

- There is a need for more integrated research that addresses micro-level or grass roots and macro or structural issues at the same time (i.e. we need to revive the mathematical modelling approaches pioneered by Lyne and Van Zyl). This recommendation should especially be noted by the agricultural economists involved in the modelling initiative of the Chief Directorate of Agriculture in the Western Cape.

- There is a need for more primary empirical research on the needs related to farmer support services among new entrants to agriculture. In this effort, agricultural economists need to recognise the important role of factors such as gender, the fiscal costs of providing support services, the proper role of the market and the state, the different needs of crop as compared to livestock farmers, etc.

- There is a need for more research on the linkage effects of agriculture. This should receive attention not because small farmers can lead the development of the South African economy, but because these linkages are becoming more important as the commercial farming sector experiences structural change, thus creating new livelihoods opportunities that did not exist in the past.

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