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Sugarcane Growers' Perceptions of a Graduated Mortgage Loan Repayment Scheme to Buy Farmland in KwaZulu-Natal, South Africa

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Abstract

A survey of 88 medium-scale sugarcane farmers (MSFs) using this scheme in 2001 shows that most MSFs would opt to first rent land before purchasing, and recognize that annual returns to land are low relative to land value. Most MSFs view long-term sugarcane supply agreements as a constraint on enterprise diversification, and consider that the quality of mentorship currently received was not satisfactory. Industry players could leverage international donor funding for empowerment projects to improve the quality of mentorship programs. Client service can be improved by better clarifying the structure of the graduated repayments, sending loan statements on time, and helping clients to interpret loan statements. There is also a new commercial opportunity to act as a co-ordinator to monitor and improve the MSFs' financial performance. Using an independent farm valuer would avoid perceptions of bias in the valuations of farms offered for sale in later rounds of the scheme. Options to improve client liquidity in later rounds include requiring larger equity down payments, choosing buyers with substantive off-farm income, and renting before buying. Younger potential clients with less liquidity and less farming experience are likely to choose the latter.

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1.Introduction

Improving access to land by people previously excluded from the land market can promote long-term political stability and economic growth in South Africa (SA) (Lyne and Darroch, 1997). Private sector sugar millers tried to address this major challenge by selling farmland at market-related prices during 1995-2000 to aspirant commercial farmers in KwaZulu-Natal using a graduated mortgage loan repayment scheme (GMLS) administered by Ithala Bank. These "medium-scale farmers" (MSFs) lacked equity to buy the 55-260 hectare farms on offer, and had to borrow 92-95% of the purchase price from Ithala Bank. This was likely to cause the highly leveraged MSFs liquidity problems due to differences in the compensation required by lenders and the form of returns to land that the MSFs purchased. Lenders require principal plus interest repayments in cash, of which part is a real return and part is an inflation premium to compensate them for the expected loss in purchasing power of their debt claim (Barry et al, 1995). The MSFs, however, earn part of their return as a current (cash) return, and part as capital gain on land. This causes a financing gap, as the cash from land earnings is not sufficient in the early years to meet the debt payments. The gap is expected to close over time as nominal returns to land rise in line with anticipated inflation and as the new owners adjust to operating their farms.

To help manage this gap (cash flow problem), the sugar millers invested 18% of the sales proceeds with Ithala Bank to fund a diminishing finite interest-rate subsidy. The MSFs thus pay a sliding scale of interest, starting low but gradually rising to the market interest rate after seven years as farm earnings are expected to improve and the subsidy funds are used up. The result is a graduated (increasing) schedule of mortgage principal plus interest repayments over time. Some 20% of clients are currently in arrears on these repayments, although this figure would be 30% if some loans had not been rescheduled in 2001 (van den Heever, 2002). The MSFs must annually deliver set amounts of sugarcane to the millers in terms of 20-year supply agreements, while Ithala Bank has a cession on these deliveries in order to recover loan repayments before the millers pay the MSFs for their sugarcane. The millers, Ithala Bank and the South African Cane Growers' Association (SACGA) indicate that the scheme's performance to date must be evaluated to identify how these players could better implement future rounds of the GMLS. This research could also provide guidelines for implementing private or public sector GMLSs to fund access by previously disadvantaged people to other farming/agribusiness ventures in SA.

This paper, therefore, describes a survey in 2001 of the MSFs' perceptions of the GMLS that provides information to identify what aspects could be improved. It also estimates a logit model of factors affecting the MSFs' preferences for renting farmland, as most of the MSFs would have opted to first lease land before purchasing. This model could also help to inform recommendations for improving later rounds of the GMLS and/or potential similar schemes. Section 2 describes the research methodology, the rationale for the questions used in the survey, and the data sources. Section 3 reports the MSFs' perceptions, while section 4 presents the logit model of their preferences for renting. A concluding section considers the management and policy implications of the results, and discusses some recommendations for implementing future land reform schemes in SA.

2. Research Methodology

2.1 Survey questionnaire design

The survey questions and statements were designed to elicit the MSFs' reasons for buying farmland; preferences for first renting land, for say five years, before buying; perceptions of the cash flow problem associated with land purchases; views on whether the 20-year sugarcane supply agreements constrain enterprise diversification; perceptions about the quality of mentorship received since joining the scheme; and views on information given about loan terms, and coordination and farm valuation issues. Due to space limitations, the survey questions and statements are not presented in this paper, but are available on request from the authors. Knowing why the MSFs purchased their farms helps to identify whether commercial reasons dominate, implying that market-driven land reform schemes could be viable. This requires that the growers manage their farms as businesses, and try to produce a consistent supply of sugarcane. Responses to the leasing question may show that the MSFs still experience cash flow stress and/or that renting prior to purchase could be a feasible alternative when own equity is limited.

Respondents were asked to evaluate some questions and statements on Likert-type scales from one (strongly disagree) to five (strongly agree). Such responses to the statement that "Annual profit from sugarcane farming is low relative to land value" indicate the extent to which the MSFs have experienced the low current returns usually associated with the land purchase. Scores for the question about the 20-year long-term sugarcane supply agreements would show how strongly the MSFs view them as a constraint on enterprise diversification. Perceptions about the quality of mentorship services provided by the millers may identify how to improve this means of building the MSFs' skills and ability to produce a consistent supply of sugarcane.

Customer service aspects that need attention were studied by asking whether the MSFs were clearly informed about the sugarcane cession, the structure of the graduated payments, when loan statements would be received, and how to interpret loan statements. Only one MSF had owned farmland before, so it is critical that the MSFs understand these aspects in order to repay loans on time, and to build long-term relationships with the Ithala Bank's loan officers. The MSFs' views on whether or not a co-ordinator to monitor, and advise on improving, their financial performance is needed could identify a gap in the support services currently provided by industry players. Finally, growers were asked whether there is a need for an independent valuer to conduct farm valuations – this may identify any perceived bias in the valuations of the farms offered by the millers. The survey data also included MSF characteristics such as age, education, farming experience, etc.

2.2 Data sources

By March 2001, the GMLS in KwaZulu-Natal had financed 107 MSFs, eight of whom had no repayment commitments - one had repaid his mortgage bond using mainly off-farm income, while the other seven cases related to deceased estates that had repaid their mortgage bonds from the proceeds of loan insurance policies. The remaining 99 MSFs were surveyed between June and August 2001 via personal interviews, after first testing the clarity of the questions and statements with a pilot group of four MSFs. An 89% response rate (88 questionnaires) implies that the results should adequately represent the MSFs' perceptions of these aspects of the GMLS to date. Forty-seven respondents farmed on the North Coast, 28 were from the South Coast, and 13 owned farms in the Midlands region of KwaZulu-Natal.

3.Growers' Perceptions of Key Aspects of the GMLS in Kwazulu-Natal

3.1 Farmland purchase and leasing issues

About 42% of the sample MSFs purchased a farm mainly to own land, while another 40% did so mainly to make a profit from farming. The rest bought land to either supplement their income or to run their own business. Most (68%) of the sample MSFs would opt to first lease land due to: the need to have cash reserves for a down payment on the purchase price, and for working capital; the need to gain farming experience; and uncertainty about the viability of the farms. About 18% of these growers had off-farm income or provided contracting services such as cane harvesting and land preparation. A lease with the option to purchase may be a pertinent complement to the GMLS option in future land transfers, given that 20% of clients are in arrears despite having graduated repayments and some loan rescheduling in 2001. The 32% of MSFs that preferred outright land ownership felt that they could not invest (e.g. replant old fields) in the farm if they leased because the benefits may not be fully recovered by the time the lease expires (expect no compensation from the lessor). They further maintain that funds used to pay rent should rather be used for a down payment to buy farmland. A third of these MSFs had off-farm income or had been involved in providing contractor services.

3.2 Perceptions of the cash flow problem associated with land purchase

The rate of return on commercial farmland in SA is typically relatively low, at about 5% of land value (Nieuwoudt, 1980). About 78% of the respondents felt that annual profit from sugarcane farming was low relative to land value, 7% were uncertain, and 14% did not have this perception. These results suggest that most of the respondents can identify with the pressure placed on cash flows (liquidity) in trying to repay debt in the early years after land purchase.

3.3 Long-term sugarcane supply agreements and enterprise diversification

The 20-year sugarcane supply agreements help the millers to secure a consistent supply of sugarcane to better utilize mill capacity. In return, the growers are certain that all of their cane deliveries will be accepted at the mills. About 75% of the sample MSFs felt that these agreements constrain them from diversifying into other farm enterprises. Note, however, that all of the MSFs have crop insurance that protects against crop loss due to fire, since this insurance was a condition for obtaining mortgage finance from Ithala Bank. Insurance removes a major element of business risk in sugarcane farming, but does not deal with other risks such as variable prices and crop yields. Enterprise diversification was most prevalent amongst the 28 growers on the South Coast, where 14 had diversified into producing cabbages, potatoes and chillies.

3.4 Quality of mentorship

Providing mentorship and other support services like agronomic extension, and economic and financial advice can enhance the long-term viability of the MSFs. As a source of knowledge, encouragement and guidance, properly structured mentorship could increase the likelihood that the MSFs will provide a consistent supply of sugarcane to the millers. Table 1 indicates that most of the MSFs in five of the seven home delivery mill areas felt that the quality of mentorship provided by sugar millers was not satisfactory. For reasons of confidentiality, these delivery mill areas cannot be identified by region in KwaZulu-Natal.

Table 1: MSFs' perceptions about the quality of mentorship received from sugar millers in different home delivery mill areas, 2001 (n=88)

Home delivery mill area	% of sample MSFs who agree, are uncertain, or disagree, that the quality of mentorship is satisfactory		
	Satisfactory	Uncertain	Not satisfactory
Area A (n=22)	27%	5%	68%
Area B (n=11)	18%	0%	82%
Area C (n=10)	20%	10%	70%
Area D (n=4)	0%	0%	100%
Area E (n=13)	23%	15%	62%
Area F (n=13)	46%	23%	31%
Area G (n=15)	73%	7%	20%

There are marked differences in perceptions in these five areas (A to E) compared to Areas F and G. Overall it seems that this aspect of the GMLS, in particular, needs attention. Some 54% of the sample reported that mentorship is readily available from neighbouring sugarcane growers, while 29% felt that there was no mentorship, and 17% were uncertain. Improved mentorship can enhance the success of this and future GMLSs, since 23% of the MSFs have no experience in agriculture. Mentorship must, however, be a two way process, and both the mentor and MSF must fully commit to the programme. About 86% of the respondents perceive that mentorship contributes to improved farm productivity. Mentorship alone, however, cannot make the MSFs better sugarcane farmers. Sugarcane farming experience and the skills acquired by the growers, most critically before they settle on the farms, are likely to promote grower viability. The 77% of sample MSFs with some farming experience had been estate/assistant managers (mostly with the millers), "cane contractors" or small-scale growers.

3.5 Information about Ithala Bank mortgage loan terms

Table 2 shows that most of the sample MSFs in all three regions understood that Ithala Bank has a cession on their sugarcane deliveries to the mills to recover debt repayments directly before farmers are paid. Between 54% and 62% of respondents had been clearly informed about the structure of the graduated loan repayments. Similarly, between 54% and 72% of MSFs perceived that their loan statements were sent on time. Over 30% of clients from the North Coast and South Coast regions felt that they were not clearly informed on how to interpret Ithala's loan statements. There appears to be some scope to better clarify the structure of the graduated payments, to send loan statements more timely, and to give clients more information on how to interpret loan statements.

Table 2: MSFs' perceptions about information received on Ithala Bank mortgage loan terms, 2001 (n=88)

Loan terms	Region	% of MSFs who were clearly informed, are uncertain, or were not clearly informed, about loan terms		
		Clearly informed	Uncertain	Not clearly informed
Cane cession	NC (n=47)[a]	81%	4%	15%
	SC (n=28)	82%	7%	11%
	M (n=13)	85%	0%	15%
The structure of the graduated payments	NC (n=47)	62%	6%	32%
	SC (n=28)	61%	21%	18%
	M (n=13)	54%	15%	31%
Timeliness of loan statements	NC (n=47)	72%	8%	20%
	SC (n=28)	57%	18%	25%
	M (n=13)	54%	8%	38%
How to interpret loan statements	NC (n=47)	55%	4%	41%
	SC (n=28)	57%	11%	32%
	M (n=13)	62%	15%	23%

Notes: [a] NC = North Coast, SC = South Coast, and M=Midlands.

3.6 Monitoring of MSF financial performance, and land valuation issues

Most (93%) of the sample MSFs perceived a need for a co-ordinator to monitor their financial performance, at least for the initial three to five years of the scheme, and to advise industry players on how to improve this performance. Growers mainly supported SACGA or an independent body as co-ordinator on the North Coast, and Ithala Bank and a miller on the South Coast. The Midlands respondents were evenly divided in choosing between Ithala Bank, a miller, and an independent body. All but three of the MSFs perceived that an independent valuer should conduct the valuations of farms that will be sold in the GMLS scheme. This may eliminate perceptions of bias in the valuations, and promote a good working relationship between the growers, millers and the financier.

4. Empirical Analysis of MSFs' Preferences for Renting Land before Land Purchase

In the United States (US), where over 40% of farmland was leased in 2002, lessees tend to be younger farmers with limited equity, or well-established farm owners wanting to control more land without using more debt (Barry et al., 1995; Lundeen et al., 1988; Paterson et al., 2002). In SA, lessees are also mainly farmers who already own land that want to access more land (Hattingh and Herzberg, 1980). In contrast to the US and SA rent studies, the 68% of sample MSFs who would prefer to first rent land before buying did not previously own land. It thus seems relevant to study why they opted to rent first, and whether this choice was related to their perceptions that current annual returns to farmland are relatively low.

4.1 Conceptual model of land renting

The MSFs answered either yes or no when asked if, given the choice, they would have leased first, say for five years, before purchasing the farm. Logistic regression was used to analyse these binary responses because it has a simpler mathematical functional form than the probit model (Press and Wilson, 1978; Gujarati, 1995). The analysis has 82 cases, as six of the 88 MSFs answered "uncertain" to the rental question. The ages of these 82 growers ranged from 36 to 76 years, with an average age of 47 years. About 59% of them had a matric (high school graduation) and post-matric education, and their farming experience ranged from 2 to 36 years, with an average of 13 years. Adapting the above US and SA studies, and work by Willett and Hinman (1982), and Kay and Edwards (1999), the logit model of MSF preferences for renting land was estimated by the method of maximum likelihood as:

$$\ln [P_i/(1-P_i)] = 1.6436 + 10.7081EQUITY + 2.3874PROF - 0.6412GROWATT \quad (1)$$

where:

P_i = the probability that the ith MSF would opt to first rent land before purchase,

EQUITY = 1 if the MSF chose to first rent in order to accumulate funds for a more substantial down payment to buy land, and 0 otherwise,

PROF = a continuous variable from five (strongly agree) to one (strongly disagree) showing whether the MSF perceives that annual profit from sugarcane farming was low relative to land value, and

GROWATT = an index of grower attributes derived from principal component analysis (see Manly, 1986), showing that MSFs with more formal education tend to be younger and had less sugarcane farming experience.

The estimated coefficients are all statistically significant at the 10% level or below. The probability that the ith MSF would prefer to rent before purchasing land increases if that MSF wants to build up more substantial equity before buying; perceives that annual returns are low relative to farmland value; and is younger, has less farming experience and has more formal education. These variables correctly classify 79% of all MSFs - 84% of those that prefer to first rent land, and 70% of those that prefer to buy land outright. These rates are biased upwards, as the same 82 cases were used to both estimate the logit model and to assess its classification accuracy.

Fixed debt repayments over the term of a mortgage bond during which sugarcane yields, sugar prices, and production costs vary, clearly increase financial risk. This risk can be part managed via graduated repayments and building up equity over time, but it may still be higher than the risk inherent in shorter-term rental agreements. For the highly leveraged MSFs who agree that annual returns to land are low relative to land value, cash flow will thus be a strong consideration when given the option to lease first or buy land. Since interest payments are a tax-deductible expense, and land values appreciate over the long term if the productive capacity is maintained, buying land is likely to increase profit and net worth relative to leasing. The choice between the two, may, therefore, depend upon the grower's current cash position and his/her attitude toward risk. The MSFs who agree that annual returns are low relative to land value may have relatively less liquidity and a strong aversion to increasing their financial risk by borrowing.

Growers with more formal education may understand the trade-off between improved cash flow versus less wealth associated with leasing better than do those with less education. Younger MSFs may opt to first lease because they may not have enough funds for a down payment. Growers with relatively more farming experience probably adapt more readily to the challenge of managing a commercial sugarcane farm and want to own land. Younger farmers may have less experience and so prefer to rent before purchase.

5. Discussion and Conclusion

Liquidity management skills will be critical if new MSFs, or the beneficiaries of GMLSs for other farm products, are to successfully access land when they are highly leveraged. Most MSFs preferred to first rent farmland before buying, mainly due to a need to accumulate more equity. The MSFs thus seem to still experience cash flow stress despite the interest rate subsidy and some recent loan rescheduling. To ease this stress, the loan terms in the next round of transfers, or for other GMLSs, could be changed to require more own equity, or to defer principal repayments. The pros and cons of including in these schemes the choice to lease farms with an option to buy – particularly for younger growers with less liquidity and less farming experience – also need to be considered. Another strategy to improve liquidity is to advise growers to make reasonable levels of family drawings in the early years of the GMLS. Ongoing research by the authors shows that MSFs with substantive off-farm income are more likely to make their graduated repayments on time. Access to off-farm income could, hence, be used as a criterion to select new MSFs, or the beneficiaries in other similar schemes. Further research is needed to establish whether the millers can afford to change the terms of the 20-year sugarcane supply agreements that most MSFs view as a constraint on enterprise diversification.

Improved mentorship programmes to promote MSF productivity can be provided either by the millers, neighbouring commercial growers, and/or sugar industry advisors and extension officers. These players could access international donor funds for empowerment projects to finance these programmes. Ithala Bank can improve client service if it better clarifies the structure of the graduated repayments, sends loan statements on time, and helps MSFs to interpret loan statements. The perceived need for a co-ordinator to monitor/improve MSF financial performance represents a new financial service opportunity. Using an independent valuer will help to allay perceptions of bias in the valuations of farms that are offered to new MSFs, or the beneficiaries of other GMLSs.

Further research is to needed to canvas the perceptions that staff employed by the millers, Ithala Bank and the SACGA have about how the GMLS has performed. This would help to identify any differences between their and the MSFs' perceptions about leasing, sugarcane supply agreement, mentorship, co-ordination, information and land valuation issues. Aspects of particular concern that must be addressed in the future rounds of the GMLS, or similar schemes for other farm commodities, can then be identified.

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