

REFEREED PAPER

ROADMAP FOR SMALL-SCALE GROWER SUSTAINABILITY

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Abstract

Small-scale sugarcane growers (SSGs) form the majority of cane growers in South Africa. Their contribution to the sustainability and long-term growth of the South African sugarcane industry is invaluable and impacts on the long term viability of the whole industry. The South African sugar industry has a proud history of supporting small-scale growers indicating that the present decline in this sector may not be due to a lack of industry support, but rather to a combination of other factors. SSGs are faced with challenges such as the lack of capital or credit; low and declining productivity of crop land; lack of management capacity and regulatory systems; lack of farmer capacity (technical, business, institutional); high costs of inputs and transportation and inadequate irrigation infrastructure (International Sugar Organisation Investigation, 2008).

South African SSG development and capacity strengthening requires clear direction for action. Such guidelines need to holistically tackle the developmental and agronomic challenges facing these growers and present a roadmap for growth within the context of the sustainable livelihoods framework. This paper presents such a roadmap for SSG development and identifies important stakeholders, their roles and responsibilities and proposed initiatives and interventions. The paper also discusses the advantage of considering new approaches for the long term sustainability of the South African small-scale grower livelihood.

Keywords: smallholder, small-scale grower, sustainability, sugarcane, livelihoods

Introduction

Approximately 500 million smallholder farms worldwide with more than two billion dependents produce about 80% of the food consumed in Asia and sub-Saharan Africa (IFAD, 2011). These smallholder farmers can make an active contribution to global food security while preserving diversity (Altieri *et al.*, 2011). With the appropriate investment and environment, these farmers could move from subsistence farming to the marketplace (Poulton *et al* 2004). Agriculture For Impact (2013) showed that when managed effectively and provided with appropriate safety nets, enterprise skills and market access, smallholders can be empowered to boost production, improve nutrition and increase their incomes.

Cane growers, as with South African agriculture in its entirety, are primarily comprised of two categories, large-scale and the small-scale farmers (Kirsten and van Zyl, 1998). What sets small-scale sugarcane growers (SSGs) apart from other small-scale farmers in South Africa is

that these growers are commercial growers (opposed to subsistence farmers) due to the regulations governing the sugar industry in the country. For the purpose of this research, SSGs in South Africa are classified as growers operating in a commercial capacity and producing comparatively small quantities of cane (less than 1800 tons per season). In South Africa, the term SSG (as with other small-scale farmers) is generally associated with black farmers, operating on small plots and farming with little or no advanced or expensive technologies (South African Non-Governmental Organisation Network [SANGONet], 2012).

SSGs of South Africa are no different to other smallholders in Africa and globally, as they battle with issues like the lack of capital or credit; low and declining productivity of crop land; lack of management capacity and regulatory systems; lack of farmer capacity (technical, business, institutional); high costs of inputs and transportation and inadequate irrigation infrastructure (International Sugar Organisation Investigation, 2008). Despite all these challenges, smallholders survive mostly due to the rich diversity of livelihoods and their resilience (Aliber, 2011). The South African sugar industry, in contrast, is often used as an example of how agribusiness and the SSG can benefit from the development of SSGs (van Schalkwyk *et al.*, 2012), mainly because of the technical and financial support received from the sugar industry (Armitage *et al.*, 2009).

In South Africa, Chapter 6 of the National Planning Commission's (2011) Development Plan speaks to the inclusive rural economy where agriculture is central to rural development and rural poverty alleviation. Government has also through inclusion of sugarcane in the Agriculture Policy Action Plan, DAFF (2014) demonstrated that the small-scale sugarcane growers will play a key role in revitalising the rural economy. SSG sustainability is an issue pertinent to the South African sugar industry as the success of this sector impacts the future and developmental impact of the industry as a whole. A sustainable livelihood approach (Chambers and Conway, 1991) is envisaged by the Governments' Comprehensive Rural Development Plan (CRDP). The sustainable livelihoods framework is a holistic framework designed to look at economic, social and agronomic aspects of rural development in order to assist smallholders in realising their full potential (Carney, 1999). The sustainable livelihoods approach links the concept of sustainability to a reduction in vulnerability and an increase in resilience to stress or shocks. In essence therefore, a sustainable SSG sector is a system with the ability to maintain productivity despite disturbance, stress or disorder (Allison and Ellis, 2001).

This paper will show that improving SSG sustainability is a complex matter that starts with the demographics, livelihood decisions, aspirations and the opportunities and challenges these growers face in their respective cane supply and communal areas. Their sustainability can be enhanced by considering their environment in a holistic manner, providing choices for participation through farming models and diversification, and implementing social safety nets for the most vulnerable. Two new industry programmes aimed at contractors and youth would address the most important short and long term problems respectively. In addition, industry institutions that were set up to support SSGs within an insular industry model need to be revitalised, stakeholder interaction enhanced through multi-stakeholder processes and a multidisciplinary approach adopted to problem solving with the communities.

Theory and Method

The findings of this paper have been developed using a variety of quantitative and qualitative data sources and analysed within the context of the sustainable livelihoods approach.

Agricultural research has moved beyond merely the investigation into increasing production. It now encompasses broader aims, which includes poverty eradication and the minimisation of rural vulnerability. The use of the sustainable livelihoods framework in agricultural research has allowed for research to become more proactive and support farmers in growing their own strengths and realising their own potential. This is done through presenting dynamic and accurate pictures of rural environments, and identifying successes and constraints that exist at broader economic and social environment levels (Carney, 1999). This study takes cognisance of the complexity of the SSG situation in order to build upon past lessons learned and identify an implementable road map for SSG long term sustainability.

Industrial statistics were obtained using:

- FIRCOP 2008 industrial small-scale grower survey (Eweg et al., 2009), validated in 2011 (CANEGROWERS, 2011).
- CANEGROWERS and South African Sugar Association (SASA) industry databases. Information included was as up to date as possible at the time of completion of paper.
- Siyathuthuka, 'We Develop' 2013 small-scale grower survey, validated in 2014 (CANEGROWERS, 2014).

Insights into small-scale grower issues

To achieve a balanced understanding of the factors that impact small-scale sustainability the following sources were used:

- Rich pictures obtained during grower participation in multi-stakeholder processes in 2013 were analysed for common trends.
- Specialist input from CANEGROWERS Grower Support Officers (GSO) survey obtained in 2014.
- Views expressed by a wide range of stakeholders interviewed by the FAO during the review of the Joint Venture in 2002 were used to provide a historical perspective (FAO, 2002; Owens and Eweg, 2002).

Results

South African small-scale grower definition (FIRCOP survey (Eweg et al., 2009), Siyathuthuka, 'We Develop' survey (CANEGROWERS, 2014) and production statistics (CANEGROWERS, 2014).

SSGs comprise largely of an aging population (43% older than 60 years), poorly educated (48% having no or only primary education) and mainly female (60%) (CANEGROWERS, 2011; CANEGROWERS, 2014). Most of the farmers are women, average of 55 years old and running a household with many children (oftentimes not their own) and usually hire contractors to do the fieldwork (Food and Agriculture Organisation (FAO), 2002). The majority farm on less than two hectares of sugarcane and earn a net return that is well below the minimum wage (CANEGROWERS, 2011).

Small-scale grower production has historically been cyclical, with the 1997/98 season seen as the peak year of SSG production when 4 073 955 tons cane, 18% of the total cane supply that season, was produced. This was mainly due to the increase in finance advanced by Umthombo Agricultural Finance (UAF) in real terms which grew from R2 million/annum in the early 1990s to over R55 million in 1997/98. The opening of the Komati mill in Mpumalanga during

1993 contributed between 400 000 and 500 000 tons of cane to the SSG sector, and the definition of SSG changed during the period under the ‘free entry’ legislation whereby a grower who produced less than 225 tons RV was considered a small-scale grower. This would have also added to the tonnage, which fell within this category.

Production has declined year on year until 2013/14. Without the unsustainable set of support systems that were in place to feed the peak level of production in 1997/98, the SSG sector production levels readjusted to the potentially sustainable levels seen in the early 1990s. From 2010/11 the SSG production levels have remained relatively stable with 2013/14 showing evidence of the first increase in nearly 20 years for the SSG sector, from 1 421 459 to 1 882 943 tons cane (Figure 1). The Komati, Felixton, Umfolozi and Amatikulu cane supply areas contributed to this increase mainly as the result of a good growing season in Mpumalanga and in KwaZulu-Natal (KZN). Also contributing to this increase are development projects, such as Operation Vuselela in the Amatikulu cane supply area, which is a co-funded joint venture between Tongaat Hulett and the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA).

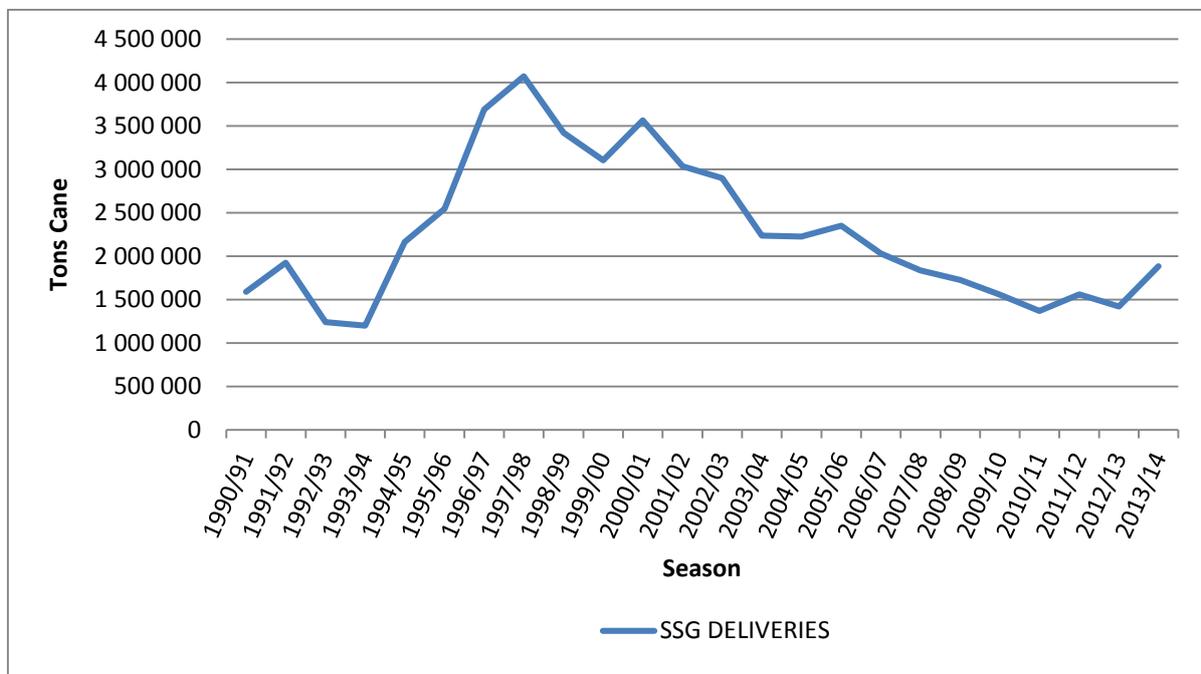


Figure 1: Small-scale grower cane production from 1990/91 to 2013/14.

Analysis of the number of growers shows that, of the 56 370 registered growers in 1996/97, 28 890 SSGs delivered cane (51.3%) (Figure 2). In 2013/14 there were 21 110 registered growers of which 12 507 delivered cane (59.2%). This number, combined with the 7 458 individual SSG members of the 114 co-operatives registered with SASA Industry Affairs, indicates that SSGs are returning to sugarcane farming through the consolidation of their small plots or of their businesses into one co-operative entity. Unofficial figures put the number of co-operatives at 186.

Figure 2 echoes the findings of Figure 1 in that SSG numbers have declined in the same manner as production since 1997/98. As with production, the number of co-operatives and SSGs has stabilised since 2010/11 to levels seen in the early 1990s. The findings of both Figure 1 and Figure 2 suggest a degree of sustainability in the levels of SSG production since 2010/11 and

in the early 1990s, predating the unsustainable set of support systems in place in 1997/98. This, however, needs to be investigated further with the potential for more research on the levels of sustainable cane production for the industry in its entirety. The question for this paper therefore remains, how does the industry work to achieve a sustainable level of SSG production and what measures need to be in place to limit SSG vulnerability and increase their resilience to system shocks and perturbation in the long run?

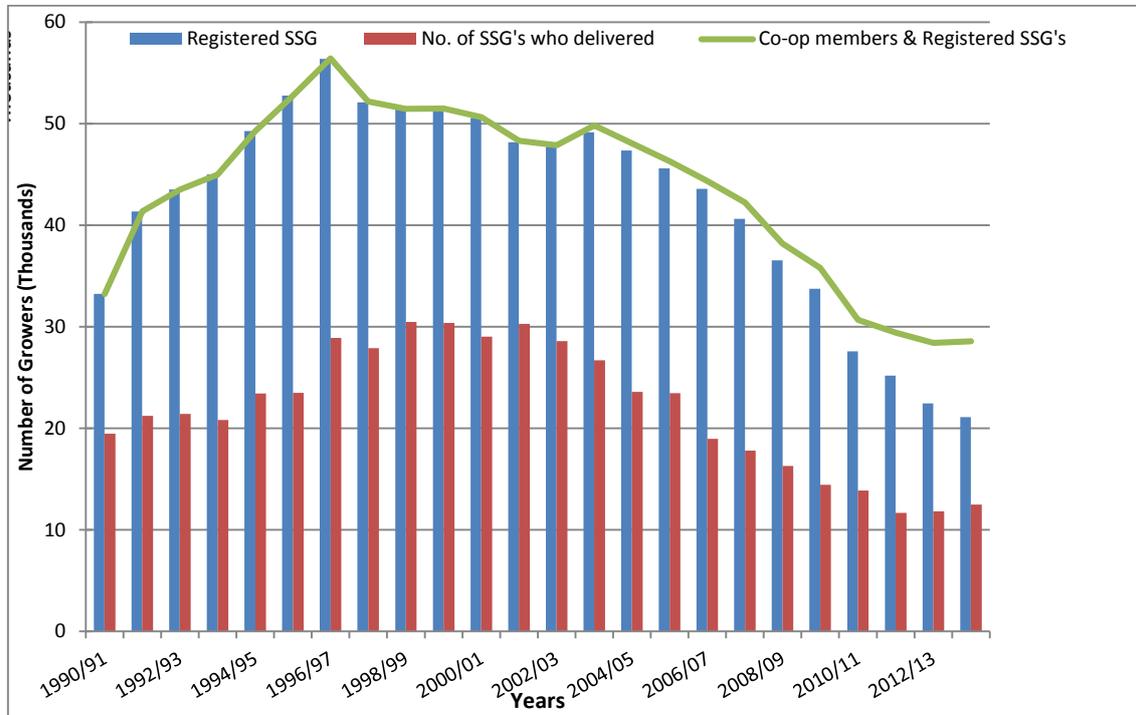


Figure 2. Small-scale grower deliveries for individual growers and growers operating in co-operatives.

Over the past ten years (2002/03 to 2012/13), average yields stayed relatively constant while tons/grower delivery increased in 2011/12 and declined again in 2012/13 (Figure 3). Yields differ markedly between the irrigated north and the rain fed KwaZulu-Natal areas. Although the total tons cane delivered rose in the 2013/14 season, which is based on the slight increase in total SSGs delivering cane, there is an increase in average yield to approximately 48 tons per hectare. Increasing yield per hectare is a promising sign for SSG growers and the South African sugar industry.

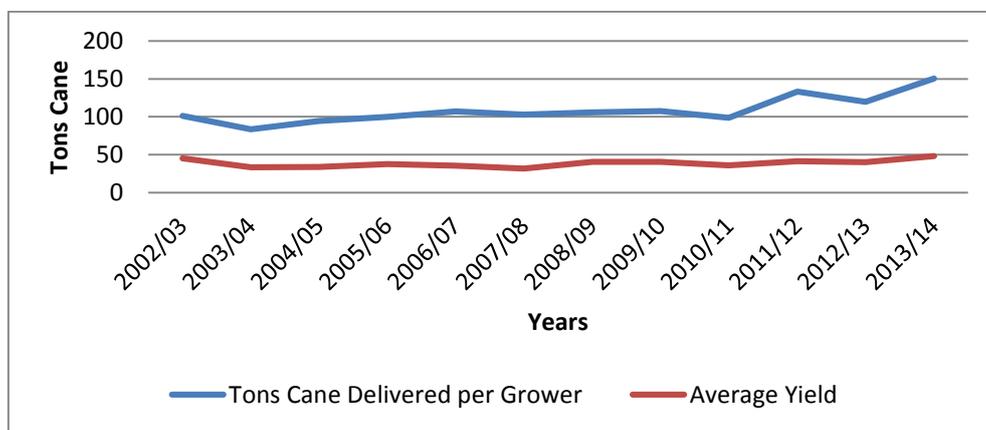


Figure 3. Average yield/ha and tons delivered per grower.

Past CANEGROWERS Cost Surveys of small-scale grower costs reveal that in real terms, costs of production per ton of cane, increased by approximately 75% from pre-2001/02 to post-2006/07. However, real revenue per ton of cane remained relatively unchanged. The pre-2001/02 period of growth in SSG numbers and cane supply was characterised by positive net returns to SSG sugarcane production, whereas the more recent decline in SSG numbers and cane supply is characterised by negative net returns to SSG sugarcane production. This analysis does not account for the opportunity costs of growers' time and capital invested in sugarcane production, hence the net returns to SSG sugarcane production are overstated. As most SSGs rely on contractors, their return is well below the minimum wage (Figure 4), many growers making a profit of between R3000 and R10 000 per annum (based on 60 tons/hectare at 12% RV and 25 km from the mill). As evident from the Grower Support Officer (GSO) responses, many SSGs survive solely on the annual sugar industry Supplementary Payment Fund (SPF) which is paid out in March each year.

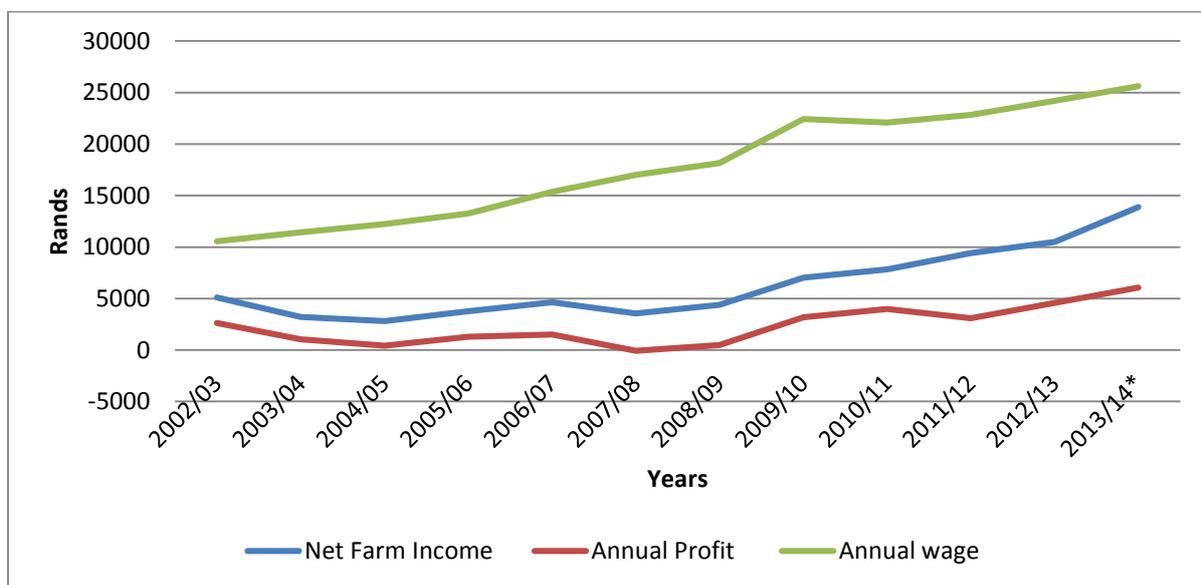


Figure 4. Net farm income and annual profit in comparison to an annual minimum wage (asterisk indicates forecast figures).

The value of financial support measures by the industry and government cannot be underestimated when many growers rely on the SPF as their sole source of income. Since 2008/09, the industry has spent R186 million on the SPF, while schemes like the VAT flat rate and diesel rebate returned R192 million and R31 million respectively back to the communities during the same period. Government supported SSGs through two fertiliser projects amounting to R117.4 million, recapitalisation and development funding of R78.8 million, Comprehensive Agriculture Support Programme of R600 000 and MAFISA loan funding of R50 million. This excludes industry funding of special projects, seedcane schemes, training and capacity building of SSGs and land reform growers from the industry Grower Development Account, subsidisation of agricultural training at the Shukela Training Centre (STC), support of SSG extension by government and the industry and, the projects and schemes financed by the milling companies in their mill areas.

The impact of the decline in production has been significant on the rural areas with turnover in real terms falling from R700 million in 2000/01 to about R450 million 2010/11 at average cane prices (SASA Industry Affairs). Over the past five years, income from sugarcane amounted to R600 million in the Nkomazi region which is not surprising given the ideal growing conditions.

Seven hundred million Rand was injected into Felixton and Amatikulu mill areas and over R200 million into the Sezela mill area (Figure 5). The increase in gross income for 2013/14 was the result of increased tons and a better cane price. This is reflecting a positive trend. Incomes are generally spent within the local area, stimulating the rural non-farm economy and creating additional jobs (Hazell et al, 2007).

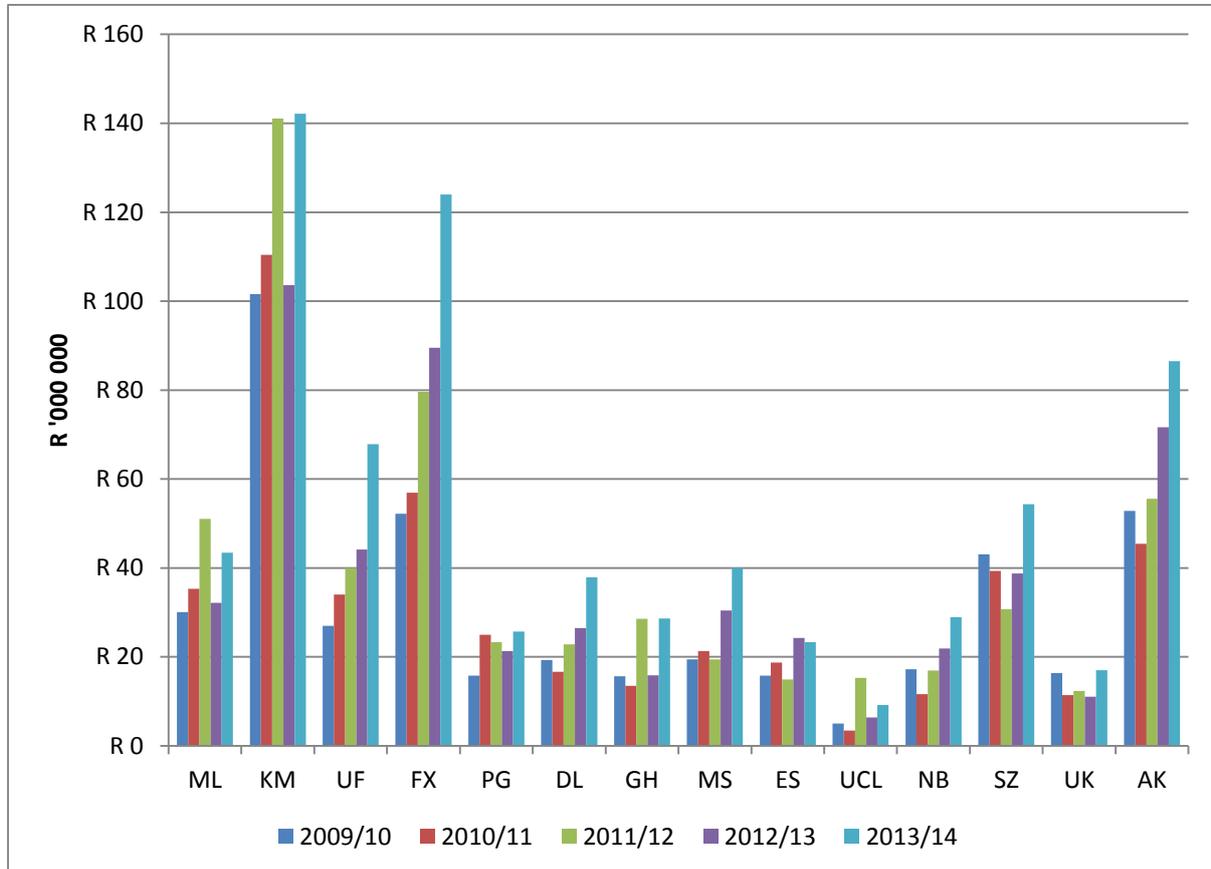


Figure 5. The flow of gross income into the respective cane supply areas over the past five years.

Cane production has not been sustainable over the years past 1997/98, impacting on the flow of revenue into the rural areas. However, a change in this trend has been noted since 2010/11 where industry level SSG production has stabilised (Figure 1) and especially for 2013/14, with R729 million gross revenue from SSG cane production in comparison to the R537 million of the previous year.

Factors that impact the SSG

Thus far, this paper addresses issues of production sustainability levels for the SSG sector. Contributing to production sustainability in the long run are a series of factors that impact SSG livelihoods both at a micro- and macro-economic level. In order to ensure the resilience of the growers, it is fundamental to understand the factors that increase SSG vulnerability to system shock and disturbance. Factors that impact SSG sustainability have been identified through the analysis of qualitative data collected from SSG participants, CANEGROWERS’ Grower Support Officers who engage with SSGs on a daily basis and specialists from the South African Sugar Research Institute (SASRI) and the KwaZulu-Natal Department of Agriculture and Rural Development (DARD).

Rich pictures have been commonly used for 30 years in group work to express visually what is unknown (Bell and Morse, 2012; Margulies and Maal, 2002) and to unravel complexity (Tufte, 1983). Rich pictures were used by CANEGROWERS during 2013 to help small-scale grower consolidated entities, mill cane committees and general grower meetings to unravel their complex problems. Table 1 below presents the key findings from the exercise. It was identified that leadership, lack of training and technical support, financing for farming activities, lack of farming equipment, poor road infrastructure, lack of money, reliance on contractors and contractor performance, were the main constraints faced by the SSG participants.

Table 1. Rich pictures and key factors affecting small-scale grower sustainability.

Rich picture	Factor	
	i)	Leadership
	ii)	Training
	iii)	Technical support (Extension)
	iv)	Finance and funding
	v)	Equipment
	vi)	Poor road infrastructure
	vii)	Net income
	viii)	Reliance on contractors
	ix)	Contractor performance

From a specialist point of view, the main problems for SSGs are age, lack of income and the use of contractors. SSGs use mitigating strategies like diversifying income source, using the industry funds for family requirements and choosing to use family as labour in field operations to increase income. Challenges identified cover the cane payment system, contractors, lack of equipment and training of labour.

A positive factor that was identified was the value of partnerships like the KwaZulu-Natal Department of Agriculture and Rural Development (KZN DARD)/SASRI Joint Extension Venture to assist in advice on intercropping and diversification strategies and the value of demonstration plots to promote new technology, using family labour to increase income by reducing dependency on contractors and, improving stakeholder relationships with traditional

leaders. Table 2 identifies key challenges and factors impacting the sustainability of SSGs in South Africa, as identified from GSOs, DARD and SASRI representatives.

Table 2. CANEGROWERS' Grower Support Officers identification of challenges and factors affecting small-scale grower sustainability.

Respondent		Challenge	Factor
CANEGROWERS' Grower Support Officers	i)	Aging population in rural cane growing regions.	Age
	ii)	Profit margins from sugarcane production is low; however, SSGs persevere despite the trying financial conditions.	Attitude and resilience
			Net income
	iii)	Diversification is a potential option for improving profitability of SSGs, however this is dependent on the skills and knowledge of the grower. Age too becomes a limiting factor in this regard.	Diversification and the spread of risk
			Education and training
			Age
	iv)	Trade-offs between crop (ratoon) maintenance and family obligations place pressure on growers. Available funds are used to service short-term family needs over long-term crop sustainability.	Net income
			Trade-offs
	v)	Importance of supplementary funding such as the SPF and Value Added Tax (VAT) and diesel rebates.	Net income
			Supplementary income
	vi)	SSGs are able to access loans, such as the Micro Agricultural Financial Institution of South Africa (MAFISA) loans. The benefits of these loans can, however, be destroyed through poor contractor performance. SSGs are left vulnerable and having to pay back loans while not meeting their margins.	Contractors
			Loans
			Net income
	vii)	Growers who are directly involved with operations and farm activities (including weeding, herbicide and fertiliser application) are likely to receive higher net incomes.	Net income
Trade-offs			
South African Sugarcane Research Institute (SASRI) and KwaZulu-Natal Department of Agriculture and Rural Development (DARD) respondents	i)	The Recoverable Value (RV) payment system is based on cane quality and not tonnage. SSGs typically have difficulty in understanding both the concept of RV and the payment system associated with it. This directly impacts on the grower's farm management practices and his/her bottom line.	RV payment system
			SSG farming practices

	ii)	SSGs regularly experience machinery breakdowns and therefore suffer reduced quality of cane. Many SSGs also cannot afford to make use of contractors and their equipment and many that do have to handle high costs. In assisting SSGs, an equipment sharing scheme should be considered.	Equipment sharing
			Contractors
	iii)	Equipment is expensive and therefore, without assistance, an SSG is unable to purchase his / her own equipment (unless as a co-operative). This places SSGs at a significant disadvantage in terms of cane quality.	Equipment
			Input costs
	iv)	There needs to be greater emphasis on training for farm labourers. This includes the individuals involved directly in the farming activities such as weeding, spraying and cane cutting. Labourers are often left out of agronomic training and skills do not always filter down.	Agronomic training
			Labour
	v)	Contractor motivation is a concern given that their payments are fixed on a tonnage and not RV basis. Quality is then often not a primary concern and growers are penalised through the RV payment system.	Contractors
			RV payment systems
	vi)	Better relationships with Tribal Authorities need to be housed.	Stakeholder relationships
	vii)	Farmers should be encouraged to manage their farms themselves and also to undertake the farm activities without the use of contractors. Contractor use in management, planting, weeding and cutting should be minimised to the greatest extent possible.	Farm management
			Contractors
			Agronomic training
			Business and management training
	viii)	SSGs need to be better aware of their finances and their financial situations. Growers need to have a handle on the extent of their debt and income. It is therefore suggested that bookkeeping and basic accounting be taught to SSGs. In growers handling their books and finances on their own (as opposed to making use of external bookkeepers and accountants), SSGs will be able to improve their net income through reducing expenditure.	Business and management training
			Education
			Net income

	ix)	The delivery of information to SSGs is best done through demonstration and application.	Extension
	x)	Inter-cropping has been researched as a means to improve the grower profitability. SSGs should be encouraged to consider inter-cropping as a means to increase the profitability of their sugarcane fields.	Inter-cropping and diversification

Discussion

The above results show that the social and economic environments in which SSGs farm are complex and a number of interlinked constraints and challenges impact the resilience and sustainability of grower livelihoods. The sustainability of SSGs has long since been linked to production levels (as presented in Figure 1). However, these results have shown that SSG livelihood sustainability does not necessarily involve an increase in industry-level cane production, but rather in addressing a complex range of factors contributing to the SSG socio-economic circumstances. Cane growing and cane income is one of the means in which SSGs can diversify their livelihoods in order to limit vulnerability to social, economic and agronomic perturbation.

The findings indicate that communal people, mainly elderly busy women continue to grow cane as part of their risk mitigation strategy. However, their income from cane alone is minimal once contractors are paid, resulting in a dependency on industry measures like the SPF and the use of Umthombo retention funds for household purposes instead of ratoon maintenance. Dubb (2012) in a study of Umfolozi SSGs indicated that the proceeds from sugarcane are a vital source of cash income for homesteads; however, the deteriorating terms of exchange and limitations to expansion in capital and land have meant that there is an increased emphasis on off-farm income for survival. This has resulted in limited re-investment in sugarcane production.

For many of these women cane farming therefore forms part of diversifying their livelihoods, but is also a way to retain their land rather than have it reallocated by the iNkosi (the Traditional Leader) for other purposes. In traditional areas each family used to be allocated sufficient land for subsistence purposes. In response to the demand for land, reallocation is becoming a more dominant trend. Although this rental market concept is supported by the sugar industry as it is a cornerstone to drive transformation to more profitable cane growing entities, its reallocation occurs at the expense of vulnerable families, who require protection either within the cane growing consolidation business model or the communal area in which they live.

The results showed that contractors continue to be driven by different incentives than their customers. Although these problems were identified by Bates (2005), Nothard *et al.* (2004) and Armitage *et al.* (2009), no sustainable industry programme has been implemented. Van Schalkwyk *et al.* (2012) also identified the lack of supporting services to sugarcane smallholders, limited investments by small-scale sugarcane contractors, lack of contractor market transparency and asymmetric bargaining power between contractors and smallholders as the main bottlenecks to SSG livelihood sustainability in the long term.

A solution for the contractor problem would be to formally bring them into the industry through an enterprise development programme. This approach is already underway through the Tongaat Hulett/KZN EDTEA Operation Vuselela development project and envisaged as part of the TsGro strategy in Mpumalanga. Institutions play an important role in hindering or promoting economic performance in general (Van Schalkwyk *et al*, 2012). An industry driven contractor programme would include access to finance through an industry rural development finance institution, support for mechanisation co-operatives if the model is appropriate, incubators/service centres to be used as business hubs, workshops and education centres. Growing these enterprises would stimulate the rural economy, providing more jobs and, through the formalisation of the programme and stakeholder interaction, rural infrastructure like roads and communication would be improved. Such initiatives would also go a long way to improving SSG bottom line and profitability.

At the same time, farm management abilities of SSGs need to be strengthened through training and mentorship and there is a need to improve contractor performance by improving business transparency and improving the bargaining power and understanding of the SSGs. Said business management training needs to be paired with agronomic training in order to ensure that growers are able to understand the long and short run costs and benefits of implementing best-practice farming initiatives in order to shift SSG focus to the long-run sustainability of their farm.

One of the key concerns for CANEGROWERS' GSOs was the aging population of SSGs. FIRCOP and Siyathuthuka survey results showed that in SSG areas the youth do not participate in cane growing (Eweg *et al.*, 2009; CANEGROWERS, 2011). Without a good generation mix in the industry which includes the youth, the industry will not be sustainable into the long term. International Food Policy Research Institute (IFPRI) believes that in Africa, "Africa's youth dividend is in the countryside, and a vibrant agricultural sector is the mechanism through which to collect it." (Brooks, 2013: 1). Brooks (2013) also believes that farming is the key to youth unemployment. Young Africans do not consider agriculture 'a job' and need to be provided with a number of options that demonstrate the potential of agriculture. In rural areas in South Africa this would mean that sugarcane is not the only option and high value horticultural crops plus livestock must be included.

Contract farming is a very popular option for young people to start in livestock farming overseas. Land needs to be provided to the youth and with the buy-in of the traditional leaders, land can be redistributed through rentals, but not at the expense of the vulnerable. Start-up capital would be provided through a blend of grants and loans through the rural development finance institution, and the necessary advice and mentoring provided through the incubator/service centre. This model then leads to enterprise development to meet the service and market requirements and in turn stimulates job creation and the rural economy.

Figure 6 shows the rapid growth in small-scale production and finance advances which took place during the peak year of SSG production (1997/98) and the decrease in cane tonnage which followed the decline in provision of real finance and withdrawal of contractor and extension services. While real finance advanced increased slightly from 2007/08 to 2010/11, the tons of cane continued its declining trend. One reason for this is presented in Figure 7 showing that the increasing cost of growing cane in real terms¹ has been greater than the level

¹ CANEGROWERS Large Scale Grower Cost Survey Data has been utilised on a cost per hectare basis due to the lack of sufficient and accurate information of SSG costs over time.

of finance advanced. In the years following on from 1997/98, the increase in finance had not competed with the increase in growing costs, therefore potentially negating the effect of access to funding. Secondly, the increasing availability of credit finance as shown from 2006/07 onwards does not necessarily equate to increase in production. Access to government funding for re-plant and consolidation of small units with the support from the mill contracting and extension services is beginning to impact positively on production. However, these trends have been observed in the past (Figure 6) and did not result in a sustainable growth of the small-scale grower sector. This may have been due to the lack of strong foundations before development began (Mathias, 2012). A new approach is required to ensure that if funding and support is again withdrawn, SSGs, their livelihoods and their communities will survive. This requires a holistic approach to addressing the sustainability of SSGs.

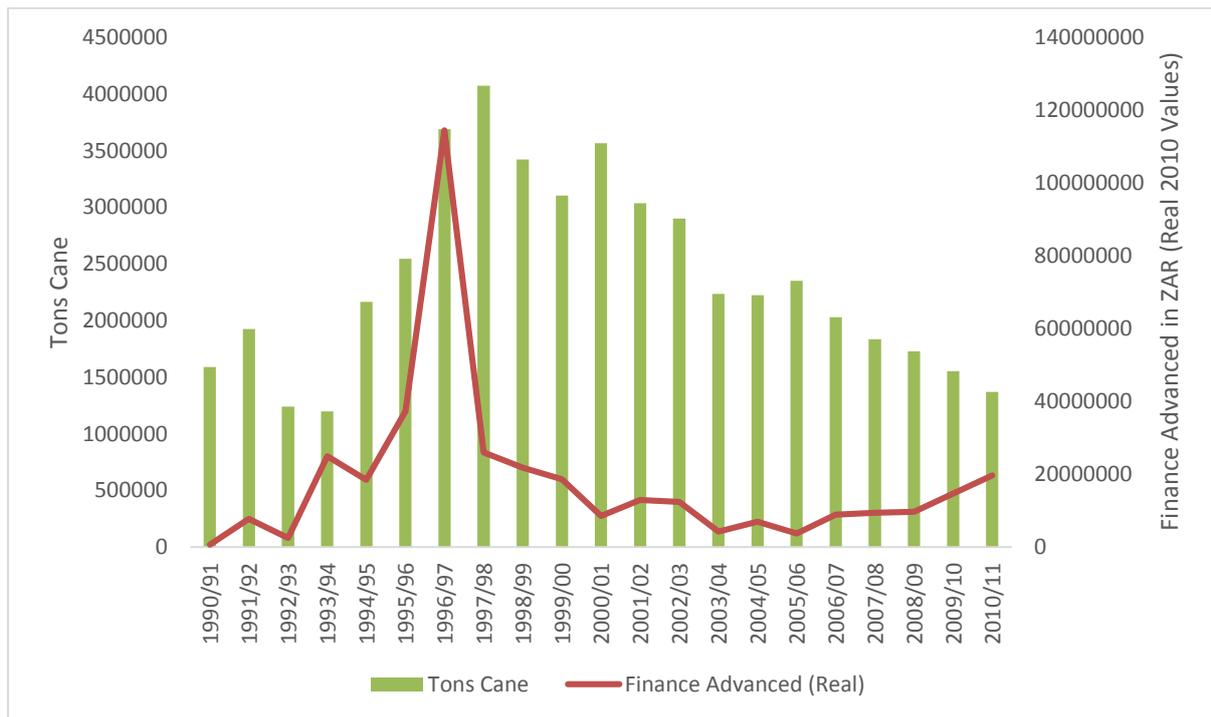


Figure 6. Growth in small-scale production and finance in real 2010 values (1990-2010).

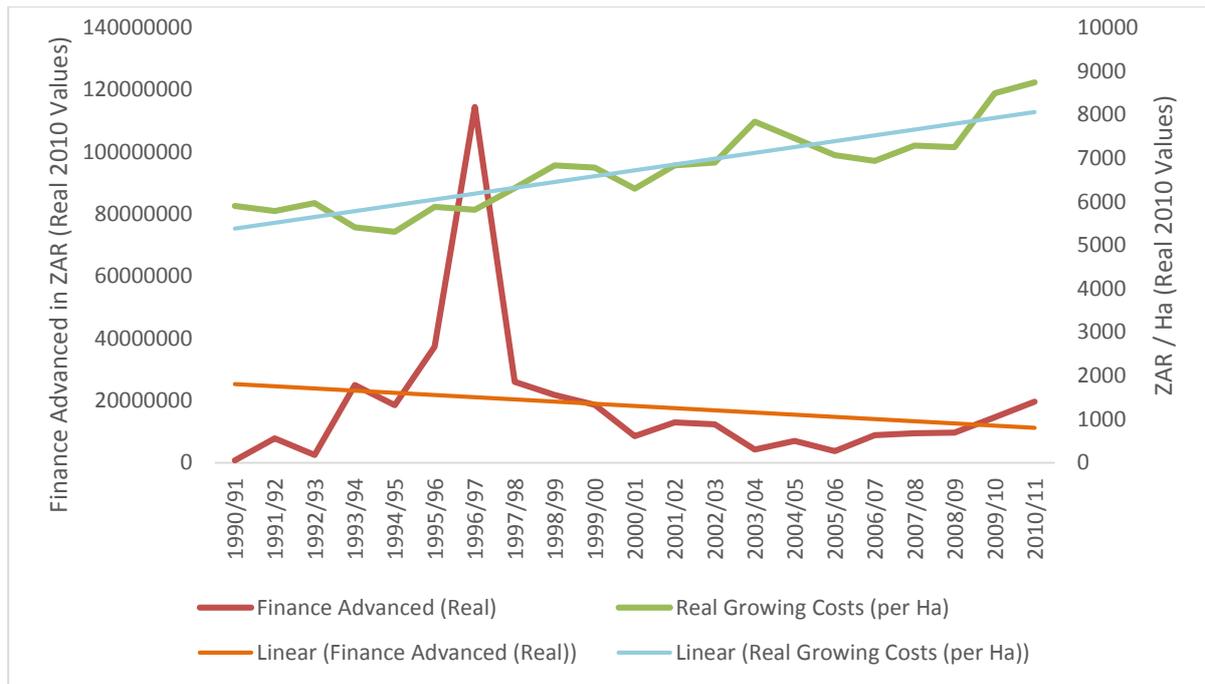


Figure 7. Linear trend in growing costs and finance advanced in real 2010 values (1990-2010).

The roadmap to livelihood sustainability of SSGs

The first step of the proposed roadmap (Table 3) would be to adopt a sustainable livelihoods approach to SSG sustainability and to acknowledge that sugarcane is an ‘enabler’ revitalising the rural economy. This is evident from the early years of the sugar industry (McCarthy, 2007). However, developing sugarcane alone will not be sufficient to achieve this goal. Crop diversification, including support for communal livestock management, needs to be embraced as part of a more holistic approach to rural development. Being an SSG within the South African sugar industry provides the growers with a degree of support, but cane growing should be viewed as one of a number of different tools by which SSGs can sustain their livelihoods.

The second step would be to encourage people with land in communal areas to participate in the sugar industry in either an active or passive manner. Fan *et al* (2013) proposed that if smallholders are to become profitable they should not be regarded as a homogenous group and should not be supported at all costs. In order to transform smallholders they should be given three options which include: becoming profitable farmers, exiting agriculture with appropriate social safety nets (access to housing, education and health services) or, engaging in non-farm employment. This approach allows for choice while taking diversity as well as the appropriate livelihood strategies/interventions into account. It considers livelihoods as a dynamic and non-static process and takes the needs of the vulnerable into account. It would allow for choices and promote transformation of the SSG sector from subsistence to commercialisation. Many sugarcane consolidation models have been developed for sub-Saharan Africa (Church *et al.*, 2008) and locally (Ntshangase, 2012) introducing mechanisms that provide multiple income streams and allow for individual choice. Many of these rely on public private partnerships. However these models need to ensure that when a choice is made by a SSG to move out of sugarcane growing it is traded with the introduction of social safety nets which can be provided

by the industry or government. At present funding such as the supplementary payment fund is regarded by many as a social safety net and the withdrawal of this type of funding would leave many SSGs more vulnerable than before.

The third step considers the ‘enabling environment’ (Poulton *et al.*, 2004) which starts at the household level and pre-supposes a stable macro economy and institutional environment. In this aspect the sugar industry operates within the Sugar Act and Sugar Industry Agreement, and all participants benefit from clear, transparent ‘rules of the game’ which are used to determine the price and the market. Through representation in CANEGROWERS, the voice of growers is strengthened and unified (Gillham and Hurly, 2009). In addition, politics and business are separated between consolidated entities and mill cane committees. Business consolidation models are governed by constitutions which promotes transparency.

In the Poulton *et al.* (2004) model an additional four key ‘basics’ must be in place, which includes access to land and water, improved and accessible rural infrastructure (communication, roads and market infrastructure), effective advisory and support services (extension, research, financial services, input supply, service co-ordination) and an empowered and enabled rural poor. To achieve the four basics, the sugar industry would need to work together actively with stakeholders in all tiers of government, traditional leaders, private sector, civil society and the SSGs themselves as envisaged in the Firetail Report (2012). Working together with the Department of Rural Development and Land Reform to implement the CRDP in cane growing areas would bring all stakeholders together to provide social safety nets and make sure the four basics were in place.

The fourth step would require a commitment by the industry to International Organisation for Standardisation (ISO) 26000 which uses stakeholder interaction to manage risk (ISO, 2008). Multi-stakeholder processes are being used to engage stakeholders in a process of dialogue and action to solve their specific problems (Hounkonnou *et al.*, 2012; Veldhuizen *et al.*, 2013; Sibiya *et al.*, 2014) and a trans disciplinary research approach is being adopted in complex situations to ensure that solutions are co-crafted with beneficiaries in order to improve adoption and implementation (Callon, 1999). All these new tools would be used in step four.

In step five, a review of the current advisory and support services would be undertaken. These services were introduced at a time when the industry operated within a cocoon, providing for all its own needs through SASA. The advantage of this approach resulted in successful issue driven solutions like the creation of the Financial Aid Fund, (later renamed as Umthombo Agricultural Finance), the Supplementary Payment Fund, the Grower Development Account, a specialised Agricultural Training Facility at Shukela Training Centre, the South African Sugarcane Research Institute offering research, innovation and extension for all growers, and many other initiatives provided by milling companies and CANEGROWERS.

However, great benefit now lies in embracing external partners and opportunities to enhance delivery. In its time the Financial Aid Fund, now Umthombo Agricultural Finance (UAF), was highly regarded for its innovative approach to SSG financing. In recent years, Akwandze Agricultural Finance which is co-owned by growers and the local milling company, has proved to be lean and agile in its approach to sourcing and providing finance for growers in Mpumalanga, while Umthombo at the industry level is regarded as sluggish and unable to respond to opportunities because of industry constraints. This approach indicates the need for localised funding initiatives which are responsive to grower’s needs. The traditional role for SSG extension would also need review as extension would be required to facilitate change not

only in production but also in diversified markets and other value adding activities. Realistically, in order to deliver sustainable livelihoods to communities in a holistic manner, a greater focus would be on farmer groups and farmer organisations and maximising the involvement of all stakeholders participating in the multi-stakeholder processes. This is where public-private partnerships like the current SASRI/KZN DAEARD Extension Venture Agreement (EVA) would be invaluable as it would play a key role in delivering change in rural areas. Industry would need to look at the resources allocated to this service.

Business management and financial training should be provided to SSGs to complement ongoing agronomic training. SSGs need to develop an understanding of their farming business in its entirety to successfully develop as growers. In addition, labourers and contractors should also be provided with specifically agronomic training in order to improve efficiencies and practices on the ground.

Although co-operatives have not been the focus of this paper, consolidation of SSG plots is taking place; these entities need specialised support in terms of compliance and social issues. It would also be important that an industry co-operatives programme be established as step six of the roadmap.

In step seven, an industry contractor and youth development programme would be implemented. All stakeholders would be required to participate in these programmes and through the co-ordination of stakeholder resources and the implementation of an industrial work programme, delivery enabled. The Mansomini project in the Glendale Valley is a good example of using cane development to target the youth. Contractors and the youth would be the focus of training.

In step eight, partnerships would be actively pursued in order to enhance the Comprehensive Rural Development Programme (CRDP). Under this umbrella, all industry partners would operate within their respective mill areas (Table 3).

Table 3. Proposed roadmap to small-scale grower livelihood sustainability.

Step	Purpose
1	Adopt a livelihoods approach to SSG sustainability in rural areas including diversification of livelihoods to spread risk and increase income sources.
2	Provide choice to SSGs to remain or exit cane growing through models and safety nets. Protect the vulnerable growers before options are agreed.
3	Create an enabling environment making sure that the basics like rural infrastructure, roads and communication, are in place.
4	Review industry support in light of changing circumstances and new focus on contractors, youth and diversification.
5	Adopt multi-stakeholder processes to guide stakeholder delivery.
6	Implement the co-operatives programme.
7	Implement an industry contractor and youth programme.
8	Actively pursue partnerships to enhance delivery of the new roadmap.

Conclusion

In recognition of the complexity of SSG livelihoods, it must be acknowledged that the sustainability of SSGs can only be achieved through the following: comprehensive

development of rural areas in partnership with all stakeholders; using a multi-stakeholder approach; embracing ISO 26000 principles; and building on the past successes of industry institutions. This needs to be undertaken with a special focus on rural communities and their dynamic livelihoods, the use of contractors and the vital role that the youth play in ensuring the long-term viability of the South African small-scale cane growing sector.

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