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Dynamics of decline in  
small-scale sugarcane  
production in South Africa  
Evidence from two 'rural' wards in the  
Umfolozi region

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Alex Dubb

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PLAAS Working Paper 29: Dynamics of decline in small-scale sugarcane production in South Africa: Evidence from two 'rural' wards in the Umfolozi region

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**Author:** Alex Dubb, [adubb@plaas.org.za](mailto:adubb@plaas.org.za)  
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## ABSTRACT

Using evidence from two rural wards in the Umfolozi region, this paper critically investigates the dynamics and constraints of small-scale sugarcane production under conditions of decline. The rapid decline in small-scale sugarcane production was historically underwritten by regulatory reforms that paired processes of enhanced representational inclusion with measures of rationalisation, resulting in deteriorating terms of exchange and the retraction of intensive interventions in production by sugar millers (Dubb 2013). Together with drought, these changes severely undermined the efficiency of capital services offered by local tractor-owning contractors and the productivity of small growers as a whole, while social grants have acted as a barrier to intensifying the exploitation of neighbours. The resultant cost-price squeeze has rendered cane an increasingly unattractive site of investment of labour and wages, and witnessed the severe decline or exit of most growers. For some, social grants have nonetheless provided a consumptive base from which to commit homestead labour without drawing down on cane proceeds, and hence enabled them to 'hang in' or marginally 'creep-back' into production. Only contractor-growers have managed to increase production, but this in turn is premised on the precarious cross-subsidization of their dual enterprises.

**Keywords:** sugar, sugarcane, small-scale, social differentiation, petty commodity production

## ACRONYMS

DoP	Division of Proceeds
FAF/UAF	Financial Aid Fund/Umthombo Agricultural Finance
PLAS	Proactive Land Acquisition Strategy
SACGA	South African Cane Growers Association
SASA	South African Sugar Association
SPF	Supplementary payment fund
TSB	Traansvaalse Suikerkorporasie Beperk
UCOSP	Umfolozi Co-Operative Sugar Planters Ltd.
USM	Umfolozi Sugar Mill

## 1. INTRODUCTION

In KwaZulu-Natal province, South Africa, the number of small-scale sugarcane producers has staggeringly declined from a peak of 50 000 in the early 2000s to about 25 200 in 2012, of whom fewer than 13 044 actually submitted cane (SASA 2012: 17). Although widely attributed to a longstanding drought, the rapid decline was underwritten by regulatory reforms that paired processes of enhanced representational inclusion with measures of rationalisation, resulting in deteriorating terms of exchange and the retraction of intensive interventions in production by sugar millers (Dubb 2013). While small-scale production has clearly suffered as a result of these reforms, a more thorough understanding of why decline has been so severe under conditions of relative 'autonomy' requires interrogation.

This paper seeks to provide deeper insights into the underlying constraints facing small-scale sugarcane production and the contours of their uneven impact, using evidence from two adjacent rural wards of Madwaleni and Shikishela in the Umfolozi region. As in the wider industry, Madwaleni and Shikishela's small growers farm on rain-fed plots under customary tenure. But it is the two wards' distinguishing features that position them as an illuminating case. In addition to Madwaleni and Shikishela being characterised by relatively good soils and close proximity to the local mill, the Umfolozi region is generally considered to carry the social hallmarks of comparative 'rurality', such as larger average plots, larger homestead sizes and fewer employment opportunities. Because of these characteristics, the Umfolozi region was considered particularly favourable for small-scale dryland production, and its small growers themselves more inclined towards 'independent' production. Colloquial understandings of the substantial decline at Umfolozi tend to be based on stylised idiosyncrasies of small-scale production, such as a lack of 'interest in agriculture', supposed disincentives to investment posed by customary tenure, or simply the happenstance of reduced rainfall.

Although poor rainfall and limited prospects for the expansion of landholdings are significant constraints, this analysis proposes that a more robust explanation can be found within the contradictions arising in the relations of small-scale sugarcane production itself, in turn heavily accentuated by shifting terms of exchange with milling capital. This paper starts by locating historically the shifting terms of small grower participation in the broader industry and linking these to the rise and fall of small-scale sugarcane production at Umfolozi in particular. It then argues that small growers' experience of a generalised cost-price squeeze, and hence the relatively marginal income relevance of cane production itself, is premised on the reduced productivity of grower capital services and the difficulties faced by growers in commensurately intensifying the exploitation of labour. Finally, an examination of significant socio-economic inequality is followed by an interrogation of differential productive trajectories to assess the relative impact of cane on ongoing processes of social reproduction and differentiation.

## 2. BRIEF HISTORY OF SMALL-SCALE SUGARCANE PRODUCTION AT THE UMFOLOZI SUGAR MILL

The Umfolozi Sugar Mill (USM) and its supply area are somewhat unique, both in relation to the wider history of sugar production in South Africa, and in terms of its contemporary position in the industry. Perhaps most distinctively, USM is not currently owned by any of South Africa's 'big three' sugar producers (Illovo, Tongaat-Hulett's and Traansvaalse Suikerkorporasie Beperk (TSB)), nor has it been, for the bulk of its history. Incorporated in London, on the strength of a government concessionaire as the St Lucia Sugar Company, the first Umfolozi mill was erected in 1916, but was ultimately relocated after being twice devastated by floods, in 1918 and 1925. From its initial establishment the mill was distinguished by its own rail cane-supply system, utilised by white planters cultivating largely in the Monzi wetlands. But its most notable

precedent was its ultimate purchase in 1923 by Umfolozi Co-Operative Sugar Planters Ltd. (UCOSP), spear-headed by planter and parliamentarian Sir Heaton-Nicholls. As a consequence, the UCOSP mill was considered largely an agent of its supplier-planters, with planters thus receiving the price of sugar sold from their cane less the cost of manufacture, interest and redemption charges, and operationally distinguished as the first mill to adopt a sucrose-based system of payment. The cooperative mill grew steadily after being rebuilt in 1925; expanding its capacity from 7 000 tons of sugar to 30 000 in 1937, purchasing a refinery in 1959, and reaching a capacity of 138 350 tons of sugar in 1988 (Minaar 1992: 40–46).

The history of small-scale sugar production in Umfolozi is similarly distinctive. More generally, while black small-scale producers had always provided relatively marginal supplies of sugarcane, a renewed drive to aggressively extend small-scale production into the Bantustans can be traced to 1973, with the launch of the Financial Aid Fund (FAF)<sup>1</sup>. The industry's new interest in extending small-scale production was initiated during a brief expansionary impulse predicated on an unprecedented peak in export prices and supply threats posed by Bantustan consolidation, but it was the instrumental role small growers played in helping millers to navigate pressures to rationalisation that sustained their early growth. In addition to receiving effective state subsidies from the Bantustan development agencies to establish necessary infrastructure, millers also launched 'development companies' to develop small-scale production. Critically, the costs of these companies were directly claimed from total industry proceeds, and, hence, at the expense of large-scale white planters nationally. From this complex of state and capital, early small-scale production systems tended to be highly integrated, with millers themselves taking a strong interventionist role in the coordination, management and logistics of production. As such, small-scale growers often bore closer resemblance to effective lessors or extensions of millers' own-estate production than independent suppliers (Dubb 2013: 5–10; Rahman 1997: 23; Vaughan 1992a: 13; Vaughan 1992b: 428, 440–1).

Unlike Tongaat-Hulett's and CG Smith, however, the Umfolozi Sugar Mill never established a subsidiary 'development company' to encourage small-scale production (although it indirectly benefitted from including such costs in the division of proceeds). With the cooperative mill relying on its large-scale white planter-owners for the bulk of its supply, the early uptake of small-scale production in the adjacent Mpukunyoni Tribal Authority lagged far behind the dominant South African milling companies as well as the smaller independent mills, such as Ntumeni, which lacked a similar large-scale grower supply base, as illustrated in *Table 1*.

**Table 1: Comparison of historically registered small-scale growers in Umfolozi, Amatikulu and Ntumeni**

	1978	1989	2010
Umfolozi	4	186	7,494
Amatikulu	491	3,697	8,357
Ntumeni	1,622	1,300	N/A

Sources: Minaar 1992: 162; SACGA Manager of Economic Research, personal communication, 13 July 2010.

Oral testimonies in my own field sites suggest that Umfolozi's earliest instance of small-scale production began in 1978/9 by the self-titled 'Group of Seven'. At the centre of the group was a relatively large land owner, MPB (with more than twenty hectares) and a former cane-labour supervisor, Mr S, whose early experiments in cane production were indirectly submitted to USM via a white commercial grower.<sup>2</sup> Despite early apprehensiveness, USM ultimately decided to

<sup>1</sup> Most basically FAF (later renamed Umthombo Agricultural Finance) was a revolving credit scheme that provided for a small-scale sugarcane grower's potential crop to be used as collateral, and offered low interest rates over a ten-year period (SASA 1981/2: 48; SASA, 1984/5: 157). Although the widespread increase in small grower production is generally accredited to FAF, its function was intimately tied to the complex effective subsidies afforded by KwaZulu-Natal and the wider industry.

<sup>2</sup> Full names have been omitted to protect respondents' identities.

accept their cane directly on condition that they formed a registered cooperative through which to funnel payment, and provided assistance in procuring fertiliser and transport. Within five years of this pioneering venture, the mill began offering FAF credit services, and loading zones were constructed to accommodate cane from other small growers.

Despite this relatively slow initial growth, from the 1990s to early 2000s Umfolozi would come to experience some of the greatest growth in small grower production in the whole country. The new-found interest in small grower production was critically underwritten by subtle regulatory reforms that shifted the organising terms of small grower incorporation in the broader industry. Two of the more notable changes included the removal of restrictions on small grower registration (and hence entry) in 1989 and the introduction of a 'two-pools' system of cane and sugar pricing in 1990, which categorically stipulated that all small grower production would receive higher domestic market prices (Jordan 1992: 215; Rahman: 1997: 24). But, perhaps most fundamentally, a 1994 reform of the Division of Proceeds (DoP) eliminated the basis upon which miller development companies could claim their costs from total industry proceeds. Therefore, while the new system provided both new premiums to small grower production and removed limits to their expansion, the reform of the DoP also removed the basis for development companies' 'costless' operations. This was particularly worrying for mills in peri-urban areas where productive interventions had been particularly intensive, owing largely to the greater number of economic opportunities available to grower homesteads, their smaller resident family membership, and generally smaller available land sizes (Rahman 1997: 9).

In 'more rural' areas, such as Umfolozi, however, growers were anticipated to be capable of reliably adopting greater direct responsibility over production, and mills situated in such contexts were expected to be far more likely to emerge as 'winners' in this new economic calculus (Rahman 1997: 23). Furthermore, with South Africa on the verge of its democratic transition, small growers also represented an important 'feather in the cap' for the industry. In particular, the income benefits accruing to the industry's uncharacteristically large number of small black sugarcane growers, together with efforts to 'democratise' their representational structures, were important points of political leverage as part of a wider strategy to resist the sort of wholesale government deregulation and liberalisation that had proceeded in other agricultural subsectors.

In light of these tilting economic and political circumstances, it is perhaps unsurprising that both CG Smith's and Tongaat-Hulett's bid for the 'more rural' Umfolozi Sugar Mill, with the former securing its ultimate purchase in 1992. Located in a 'more rural' supply area and without a subsidiary 'development company', USM had, indeed, already made significant efforts to embed sugarcane production supply systems locally, most notably by establishing local black tractor-owning 'contractors' hired to perform short-haul and ploughing. As recalled by USM's cane procurement officer:

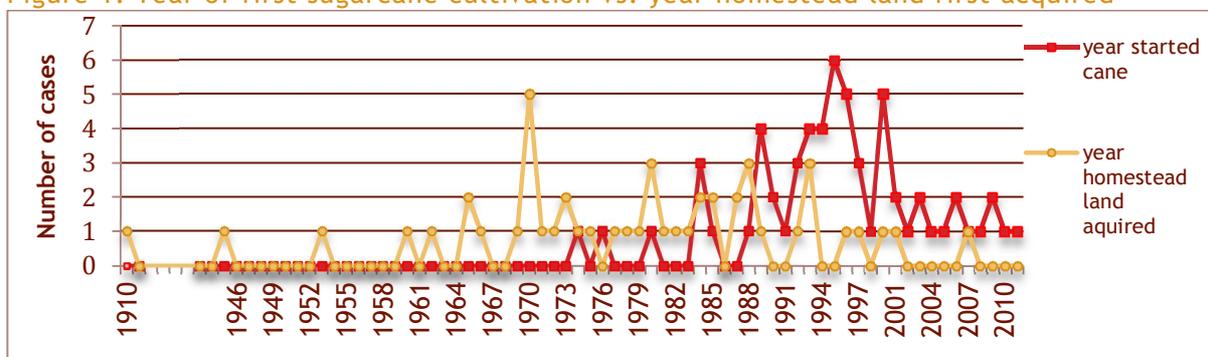
*You see the industry was very clever. They could see the writing on the wall with this whole apartheid thing, [asking] 'what is being done to assist the rural people out there?' and then they said 'okay, we can make money out there'. And each mill started saying, 'hey, we have to start changing our attitude, this isn't just a white man's business.' Around 1985-6 they started with extension out there. I'll be honest with you, at one stage the mill actually did the work with a team of tractors and trailers, at Umfolozi too, though I think some other mills still operate like this. They charged the grower, but they did the ploughing, sent out teams of labourers to plant. And the grower just sat and watched, came into the office and said, 'where is my money?' ... So the mill then thought 'hey, we are force-feeding you guys, you don't even care about the cane there.'*

*This was from around 1980, and so they then stopped around 1986. They turned around and said ‘right, who wants to buy these tractors?’ Guys put their hands up, sold them the tractors, and said ‘there’. And a lot of the guys I’m talking about took those tractors and worked out there, and they made some money, but they are all gone now.*

*USM cane procurement officer, personal communication, 20 April 2012.*

The ultimate expansion of small grower production was certainly substantial. In the wider industry, grower registration hit a peak of around 50 000 by the early 2000s, and their share of national production doubled from 7% in 1992 to 14% in 2002 (Bates & Sokhela 2003: 107). In my own sample, the vast majority of growers indeed claimed to have initiated cane production in the 1990s, following the removal of restrictions on registration, as illustrated in *Figure 1* below, and by 2000 were annually producing around 400 000 tons of cane to account for almost a third of the Umfolozi Sugar Mill’s total cane supply. Though the ‘two-pools’ system of cane pricing had been removed by 1998, cane production had apparently become an entrenched feature of small grower supply areas.

**Figure 1: Year of first sugarcane cultivation vs. year homestead land first acquired**



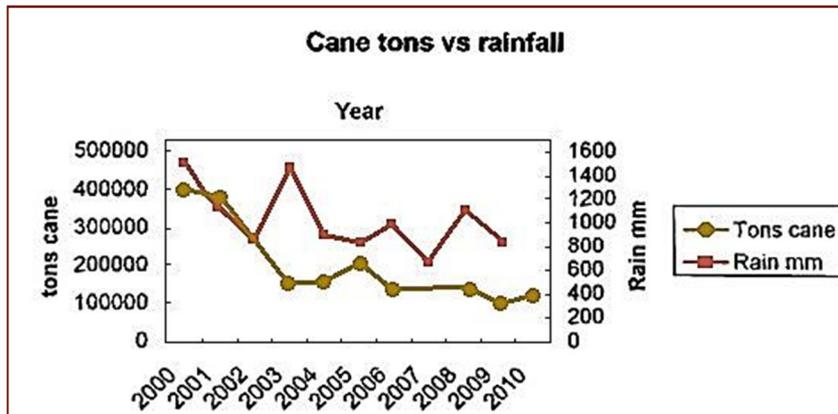
While the incredible aggregate boom in small grower production certainly seemed to vindicate the new regime, a worrying sign was its uneven character. More broadly, by 1997 only around 8 000 small growers were estimated to survive solely from cane production and Bates and Sokhela (2003: 109) estimated that more than 50% of total production originated from only about 20% of growers. Although disaggregated data is not available for Umfolozi, aggregate figures provide some clues as to its particular unevenness. One discrepancy is that while Minaar’s (1992) statistics indicate that in 1989, 186 registered growers accounted for 53 682 tons of cane, mill officials estimate that by 1992 around 1 300 small growers accounted for 80 000 tons. In accounting for the vast proportional incongruity between the numbers of registered growers and approximate production, several points are worth observing.

Firstly, despite the sensitivity of the question, 27% (n=20) of growers in my sample admitted to submitting unregistered sugarcane on a neighbour’s production code prior to the removal of restrictions on registration, and 19% (n=14) had allowed others to submit on theirs. It is thus likely that official numbers of registered growers in Umfolozi, as in other areas, severely underrepresented the number of homesteads actually growing cane but submitting via a registered neighbour. A second, related, point is that local contractors responsible for haulage and ploughing duties were instrumental in encouraging the uptake of sugarcane cultivation, and thereby expanding their client base. In addition to many new entrants first ‘hearing’ about the lucrative benefits of sugarcane production from black contractors, for some particularly small land-holders, sugarcane cultivation was first initiated by way of land-lease arrangements with better-resourced neighbours. In such cases, increases in grower numbers may simply reflect the discreet registration of those whose land was already under production by other registered growers and entrepreneurial tractor owners.

Finally, however, most growers interviewed reported pursuing conservative planting strategies; planting a small amount of land to cane and slowly expanding by reserving portions of each cutting for new plantings. Notably, very few growers claimed to have ever sought assistance from FAF — which was renamed Umthombo Agricultural Finance (UAF) — preferring to use returns from cane to fund expansion rather than risk indebtedness. USM officials themselves estimate that credit was never extended to more than 25% of growers, and, of my own sample, only 28.7% (n=19) claimed to have ever used FAF/UAF. Those interviewed who did ultimately undertake credit assistance only did so after already establishing substantial plantings of four or more hectares. Such conservative strategies may have also contributed to a ‘lag’ in production behind numbers of growers actually registered.

Looming instability intimated by the uneven spread of smallholder production came to a head in the early 2000s. Most proximally, lower and more variable rainfall patterns heralded a tremendous decline in small grower production. Umfolozi’s drop was particularly staggering. As shown by Figure 2, it amounted to about 75% of its 2000 peak – down to about 100 000 tons. Together with chronic default, widespread fraud compelled FAF/UAF to close its credit facilities.

Figure 2: Annual cane production of Umfolozi small-scale growers against annual rainfall, 2000–2010



Source: USM former CEO, personal communication, 2 September 2010.

Moreover, although more broadly the demise of the development companies signalled the end of the particularly intensive productive interventions by millers, the rapid growth of small grower cane in the 1990s had incentivised millers into maintaining slimmed-down but, nonetheless, significant support services, particularly in transport and extension. But with small grower production falling into decline and no longer attracting domestic market premiums, these services were gradually retracted. As recalled by the USM’s procurement officer:

*They took that teaching away from me and told me to just go back and run my section. I had three guys underneath me. As the crop has gone down, they were pulled out from me, one by one. Eventually I was running the area on my own. As the [crop] estimate went down, they said it doesn't pay us to keep these guys on.*

USM cane procurement officer, personal communication, 20 April 2012.

As I have argued elsewhere in terms of the industry more broadly, the rapid and uneven growth of smallholder production at Umfolozi hence represented something of a ‘bubble’, insofar as it was enabled by the removal of restrictions on registration but, nonetheless, rendered structurally fragile by growers’ shifting terms of incorporation. In a manner not altogether different from capital movements in financial markets, this ‘bubble’ was ultimately ‘popped’ by the ‘needle’ of drought. Indeed, insofar as 1 000–1 500mm of rain is considered adequate for

sugarcane production (Food and Agriculture Organisation), reference to *Figure 2* suggests that although post-2000 rainfall levels in Umfolozi are fairly low, pre-2000 levels were possibly abnormally high for the area. Variable rainfall may be better understood less as a reason for growers' decline, so much as significant factor in sustaining their rapid expansion, despite poorer capital services.

But in tandem with small growers' generalised decline, broader changes in the composition of the industry have further undermined their significance to it. In the first instance, small growers' singular political importance as black economic beneficiaries has been progressively eroded by parallel initiatives to facilitate land reform in the sugar industry. With government's vision of land reform shifting to establishing medium- to large-scale commercial black farmers, the industry has been particularly proactive in facilitating black land acquisition of former white-owned sugarcane farms and in transferring former estate lands (Armitage, Hurley & Gillit 2009: 355–7; Kleinbooie 2009: 197–8). At Umfolozi in 2008, government purchased twelve farms comprising some 1 945ha for lease to ten land reform beneficiaries under the Proactive Land Acquisition Strategy (PLAS) and approved R35 million in grant funding under the Recapitalisation and Development Support Programme. The ten farmers have comprised about 11% of USM's supply, and though variable, the lower average levels of production they exhibit compared to its other commercial suppliers may mean they demand greater attention from USM's limited staff compliment (Madiba 2011: 3; USM 2012: 36–7).

Secondly, millers have aggressively pursued new investment opportunities in Southern Africa more broadly, heralding a dramatic proportional decline in South Africa's contribution to company production and operating profit. In pursuit of this unfolding regional investment strategy, in 2005 Illovo Sugar Ltd. (formerly CG Smith Sugar) sold the Umfolozi Sugar Mill in a black economic empowerment deal to Ushukela Milling (under the Sokhela family trust); close on the heels of their purchase of the Gledhow Mill from Illovo one year earlier. Illovo, however, unwillingly reacquired the mill in 2009, the precise reasons for which remain unclear, although mill officials typically invoke 'mismanagement' and suggestions that the Sokhelas had been unable to fulfil the terms of the original sale. Nonetheless, in 2010 Illovo shed the asset (sans refinery) once more, this time to a consortium of cane interests and the mill's current owners. Of this group, the most dominant share block at 75% is held by GrowerCo, equally owned by the local large-scale growers of UCOSP, the Umhlathuzi Valley Sugar Company (UVS)<sup>3</sup> and Charl Senekal, the single largest cane grower in the country.<sup>4</sup> The final 25% is held by NCP Alcohols,<sup>5</sup> who also form the sole purchaser of USM's molasses by-product. As for the bulk of its history, USM is, thus, again predominately owned by cane interests responsible for 90% of its supply.<sup>6</sup> While shifts in the organising terms of the industry's regulatory structure undermined the original basis of millers' interests in small grower production, the advance of land reform growers and opportunities for regional expansion have also eliminated larger millers' particular

<sup>3</sup> UVS core sugarcane interests include 3 100ha of irrigated and dryland sugarcane lands in Empangeni, KwaZulu-Natal, and 1 000ha of irrigated sugarcane in Komatipoort, Mpumalanga (*Farmers' Weekly*, 15 August 2011).

<sup>4</sup> Charl Senekal's holdings include 3 500ha of irrigated sugarcane land and a further 16 500ha farm in Mkuze in Northern KwaZulu-Natal (*Farmer's Weekly*, 15 August 2011). He also is notably an associate of President Jacob Zuma, was able to quell a 20 000ha restitution claim with the aid of hired ethnologists, and has since facilitated a deal to acquire one million hectares of land for South African farmers in Mozambique (*Mail & Guardian*, 2 November 2010; *Mail & Guardian*, 3 May 2011).

<sup>5</sup> NCP Alcohols produces a range of products, including ethanol from maize and fertiliser from molasses. Its holdings notably include what was formerly Umgeni Distilleries Ltd., one of South Africa's first rum distilleries, acquired by National Chemical Products in 1944. NCP Alcohols was acquired by Alcofinance SA in 2001, a Belgian company part of the AlcoGroup, one of the largest alcohol trading and distribution organisations in the global ethanol market (NCP Alcohols, 2012).

<sup>6</sup> Although not systematically reviewed, casual conversations with growers on their perception of these ownership changes were somewhat equivocal. On the one hand, small-scale growers felt something of a social affinity to Sokhela as a black South African, a feeling encouraged by gestures of inclusivity, such as offering tours of the mill's factory to small grower representatives who had never witnessed the mill's operations. Though Sokhela thus somewhat represented a narrowing of the social divide between black small-scale growers and previously white owners, the acute increase in mill breakdowns that occurred during his tenure raised doubt as to his capacity and willingness to run the mill, and growers certainly have welcomed the reduction in breakdowns since.

interest in maintaining such rules in the first place. Similarly, USM's large-scale grower owners, now white and black, could hardly be expected to show interest in promoting systemic transfers to small growers, which would come directly at their expense. Instead, the existing support regimen has adapted to this new, lower, 'equilibrium' of small growers incorporated as 'independent' producers, focused largely on administrative support, discretionary transfers and various 'projects' over a wider number of growers, in lieu of more generalised interventions in production and logistics. The basis of 'vertical' transfers between 'horizontal' segments (that is, between 'millers' and 'growers' as a whole, nationally) is moreover likely to be unwound with new regulatory reforms seeking to structure the industry on a more 'decentralised' basis of vertically aligned fractions of millers, growers, and other value-adding processing.<sup>7</sup>

### 3. UNPACKING THE COST-PRICE SQUEEZE

While, as I have argued, small growers' chronic decline was prefigured by their spectral shift from 'landed proletarians' or effective lessors to 'independent' farmers, understanding why they have fared so precipitously under conditions of relative autonomy requires critical examination. This section takes a 'vertical' frame to interrogate the generalised 'cost-price squeeze' faced by Umfolozi's small growers as a group and observed so often of small enterprises more broadly. But, rather than providing a rarefied understanding of small farmers as 'peasants' falling victim to 'commercialisation' or as 'entrepreneurs' inhibited by market 'failures', I deploy a conceptualisation of small growers as 'petty commodity producers', i.e. persons or enterprises combining the contradictory positions of capital and labour (Bernstein 1988). I contend that this analytic provides a more robust guide to unpacking the material dynamics underlying this 'squeeze' and directly links them to the shifting structural conditions of small-scale sugarcane production reviewed thus far.

#### Below the productivity threshold: Constrained capital services

In addition to undermining the basis for bolstering the prices received by small growers' for their cane, regulatory reform has also critically undermined their productive efficiency. For those Umfolozi growers who have lived through such different institutional relations of production, the pairing of obscure processes of rationalisation with representational incorporation has, somewhat perversely, been causally interpreted as a direct by-product of South Africa's national democratic transition and the decline of the KwaZulu 'state'. As Mr G — a farmer from the original 'Group of Seven' and father of a substantial local contractor — elaborated at a local association meeting:

*When myself, [MPB] and [Mr S] first got involved in the business of farming sugar it was under the apartheid government. I want to request, once again, that we go back to where we started under the apartheid regime ... It was in 1979 that the first sugarcane farming business was established in Mpukunyoni. Just after we started, in 1980, there was a major drought which destroyed almost everything, including many cattle ... Some compensation funds were made available. We benefitted. I was*

<sup>7</sup> Some smallholders aligned to more profitable mills may, indeed, differentially benefit from the new regime, or at the very least have the possibility of doing so, economically speaking, even if their bargaining position is effectively weakened. More pertinent to USM's smallholders, however, is the question of the mill's economic feasibility under the new regime. In addition to lacking a refinery or potential to invest in biofuel processing, the mill has historically exported nearly all of its production, and recouped higher domestic market proceeds through an inter-mill transfer system. Although the mill has managed to begin diversifying its marketing via a business alliance with Sunshine Sugar, it is not clear to what extent, and whether they will be able to claim sufficient domestic market share at the expense of Illovo, Tongaat-Hulett's and (increasingly) TSB, or whether some vestige of inter-mill transfers will remain. While large-scale suppliers would certainly be hit hard if compelled to divert their cane to a more distant mill, for Umfolozi's small growers, the potential closure of USM would be terminal.

*given R15 000 cash from the two hectares destroyed by the drought. This was not a loan. All one had to do was to go to the office, sign some documents and the money would be put into your bank account. I took the cash and used it for cultivation, buying grain. This was 1981, then it was '82, '83 and in '84 drought came and, once again, destroyed all our crops. For this, there was, once again a compensation fund that was made available [by the KwaZulu government].*

*This time around I was given R7 800. I took the amount, fixed my sugarcane and used the rest for my family. Now that was a government which, I say, was sympathetic to the aspirations and plight of farmers ... I am sorry if there are some here who belong to political organisations. Then came 1994. The election came and we were made to believe the country was back to its rightful owners. We were told that the days of hunger and suffering for the black people were over. The years went by, and it seems as if they have forgotten about us as sugarcane farmers ... This contrasts sharply with 1981 and 1984. Ministers of agriculture have come and gone and not a single one of them has been prepared to listen to the views and concerns of sugarcane farmers in this area.*

*Mr G, local association meeting, 18 April 2012.*

Certainly, the extent of service retraction has been severe, relative to pre-2000s levels. One enduring feature is a general shortage of available extension personnel. With extension services largely confined to a joint venture between the South African Sugar Research Institute and the Department of Agriculture, only two extension officers were deployed for the entire USM supply region, compared to a previous staff complement of ten (extension officer, personal communication, 2 September 2010; USM cane procurement officer, personal communication, 20 April 2012). In the midst of this general shortage SACGA's local grower support officer was often compelled to undertake agronomic support outside her job description. As shown in *Table 2*, within my own sample few growers could recall the last time they had met with an extension officer and fewer had ever received any kind of training in cane production.

**Table 2: Availability and evaluation of extension, financial and transport services**

		Yes	No	Don't know	N/a or missing
Extension support	Could name extension officer	7	59	0	0
	Could cite last visit	14	52	0	0
	EO advice suited to particular situation	12	54	0	0
	EO visits particular field	12	54	0	0
	Able to implement advice	12	54	0	0
	EO provides affordable services	4	62	0	0
	Ever received training	6	60	0	0
Financial services	Former member of FAF/UAF credit	19	47	0	0
	End of FAF/UAF hurt production	12	7	0	47
	Access to credit for cane	0	57	0	9
	Access to clear financial statements	43	20	0	3
	Member of UAF retention scheme	38	28	0	0
	Retention covers recurring costs	6	27	5	28
Transport	Delay in contractor tractor-transport to loading zone	20	38	0	8
	Delay in haulier truck-transport to mill	51	6	0	17

In addition to a dearth in extension services, the retraction of FAF/UAF's credit facilities has similarly confined individualised financial assistance to access to statements and a limited rotating savings scheme. While providing some assistance, for most growers the savings/retention scheme is both insufficient to cover recurrent costs and difficult to access timeously.

Notably, the table further shows that few growers claimed to have ever taken out credit from FAF/UAF. Although the retraction of extension and credit services certainly has had a deleterious impact on some, the fact that the bulk of growers had initiated production after the 'rationalisation' of these services was well under way limits its explanatory power in accounting for the persistently low levels of small grower production.

Perhaps the most critical service retraction, however, regards transport. Indeed, though the 'more rural' Umfolozi mill always tended to extend less intensive productive interventions than other mill areas, much of the mill staff's time was spent coordinating transport, delays in which can have a devastating impact on sucrose quality:

*Though we were employed as extension officers, 80% of our time was spent chasing contractors, hauliers and labourers, to make sure the cane is in the mill within three or four days. The tickets, that's a full time job. And then the mill comes along says that's not what you are employed to do.*

*USM cane procurement officer, personal communication, 20 April 2012.*

Without the coordinating oversight of the mill, small growers and their representative structures now carry the full administrative responsibility for the collection of cane estimates, and ensuring timeous harvest and transport. In one sense, this responsibility is treated as a parallel of small growers' greater 'independence' or 'flexibility', particularly in their 'freedom' to choose among both long-haul service providers and local black contractors offering short-haul and ploughing services. However, the supposed openness of the system is controverted by the stipulation of 'rateable deliveries', a system of sectional delivery quotas distributed to growers, based on local estimates and the mill's throughput capacity. Small growers' 'freedom' to make their own arrangements is, thus, ultimately conditioned by adaptation to these rhythms, which, in practice, are far from seamless.

Most foundationally, as small growers are unable to coordinate harvest (and hence production) as a group, estimates and quota tickets are issued on a piecemeal basis to growers in often disparate areas, often cutting only a portion of their fields. For local black tractor owners, short-haul contracting is a highly volatile commercial operation, demanding the extension of often dilapidated machinery over poorly serviced roads for variable grower client bases; constraints which are well known to the wider industry (Le Gal & Requis 2002: 90; Nothard, Ortmann & Meyer 2005: 406). Together with growers' own difficulties in timeously sourcing labour for harvesting, such delays compound further in coordination with long-haul services provided by private truck companies. As shown in *Table 2* above, 52% of growers asked (n=20) experienced delay from local contractors, while 89% (n=51) experienced delay from truck hauliers. Though not shown here, for 25% (n=12) of growers, delay lasted for longer than a fortnight.

The dysfunction of small grower transport systems speaks directly to the contradictions underlying small growers' so-called 'independence'. Sugarcane cultivation and sugar milling are, of course, mutually necessitated by one another in the overall process of sugar production. To the extent that sugar production is a technically integrated process, the division between sugar milling and sugarcane cultivation enterprises is, therefore, intrinsically *social* in character. In transport, this is reflected in the fact that, whatever small growers' 'independence' in productive decision-making, they are bound by the industrial rhythms of the mill and the logic of its competitive compulsion to maximise throughput. Historically, strong productive interventions and logistical oversight by millers helped to bridge this division and streamline small growers' supply as a unified 'section'. The devolvement of capital services previously run at scale to relatively inefficient local contractors has, hence, reduced small growers' productivity as a group. Indeed, insofar as the imperative of 'rateable' delivery remains, regardless of growers'

actual capability to meet it, what appears at first glance as greater 'autonomy' in decision-making in fact represents deteriorating terms of exchange with the mill.

A further corollary is that such underlying faults are, nonetheless, decentred from the mill itself, appearing most directly in tensions between small growers and contractor/haulier agents. In Umfolozi, as in KwaZulu more broadly, contractors have been observed engaging in collusive price-fixing, both by agreeing to never apply the lowest rate for short distances, and by misrepresenting to growers the actual distance travelled to the loading zone (Cobbett 1984: 13; Nothard, Ortmann & Meyer 2004: 235; Grower Support Officer, personal communication, 21 April 2012). Secondly, while nominal rates in transport are set by SACGA, rates in ploughing services are determined by contractors themselves. Unsurprisingly, contractors tend to prefer this less onerous service, and may to some extent effectively offset lower margins in transport with higher net gains in ploughing. Thirdly, however, a general dearth in contractual services for both ploughing and transport shifts the balance of market power in favour of contractors. Typically, both growers and local contractors tend to be publically muted about such tensions, preferring to emphasise their mutual interests and reserve criticism for the more socially distant millers and hauliers. Nonetheless, for many growers, the day-to-day tensions and contradictions of their relationship with local contractors are palpable. As acutely observed by one grower, Mr ZM:

*Contractors and hauliers are expensive, and often provide substandard services. For instance, when they crack the soil they plough very shallow rows, which reduces the number of ratoons you can get from one planting, say eight instead of fifteen. Also, they do not pack the rows tightly enough, say doing 60 lines instead of 100 per hectare, which means you plant less cane and get more weeds. A further problem is that growers must pay for transport in tonnage of cane, but only get paid for sucrose content. So if the grower's sucrose value drops from drought or transport delays, the grower gets paid less, but the contractor gets paid the same amount, even if they are late.*

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*Mr ZM, personal communication, 21 February 2012.*

Available production data summarised in *Table 3* below suggest that the impact of deteriorating productive conditions has indeed been severe. Most striking is the low sucrose content of small growers' cane, standing at a maximum of 8.55% and a mean of 7.37% against an industry average of 14.14% (SACGA 2011: 7).<sup>8</sup> Such a low and flat quality range suggests a universal factor suppressing small growers' sucrose values apart from idiosyncratic differences in farming ability and resources. While drought presents itself as the most obvious factor, the substantial transport delays already reviewed are another likely candidate. But, regardless of which of these is more prominent, the upshot is that differences in revenue among small growers are thus almost completely based on *scale* i.e the gross tonnage of cane submitted and hence the total land area under production. Consequently, gross revenue exhibits a very large range, both for the year 2010 and a preceding five year average, reflecting substantial differences in hectares under cane, and to some extent, in land ownership. Yet perhaps most significant are the low measures of average revenue, which in both mean and median terms fall significantly below the annual income of R14 400 received from a government old-age grant (Republic of South Africa 2013). Finally, in addition to their indirect impact on sucrose quality,

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<sup>8</sup> Sucrose percentages were established by dividing annual 'tons sucrose' over 'tons cane' from data provided by SACGA for growers agreeing to provide their production codes. Notably however, these figures conflict with USM's own data, which indicates the highest small grower sucrose value to stand at 16.83% and the lowest at 8.49% for October 2011 (Mathaba 2011). It is not clear what the basis of this discrepancy might be.

the direct cost of transportation is substantive, accounting on average for a third of growers' gross revenue.<sup>9</sup>

**Table 3: Average annual production and revenue data for small-scale growers**

	Average sucrose (%)	Tons of cane submitted		Revenue from cane		Proportion of revenue deducted for transport from last submission
		2010	5-year mean	2010	5-year mean	
Mean	7.37	34.28	38.32	11 358.57	9 192.40	0.35
Median	7.27	20.61	27.18	6 548.76	5 997.35	0.33
Maximum	8.55	157.43	161.41	57 314.19	42 695.98	0.66
Minimum	6.72	4.90	4.90	1 418.46	1 212.32	0.02
Valid N	40	34	40	34	40	27

## Above the threshold of desperation: Social grants and limits to exploitation

Insofar that small growers face severe structural constraints to both expanding of their land-holdings and/or improving the efficiency of capital services, one of the few remaining productive responses left open is to commensurately intensify labour. In a context of low levels of adult employment and relatively large homestead sizes,<sup>10</sup> a common accompanying presumption is that more 'independent' small growers farming in former labour reserves have access to both the unpaid labour of family members and to a 'reserve army' of cheap labour.

In reality, however, small growers face considerable constraints in mobilising labour. In their own assessments, almost two-thirds of growers claimed to experience labour shortages from both homestead and casual labour for six conventional tasks of cane cultivation. Unsurprisingly, growers' own understandings of the reasons behind these shortages tended to be pejorative. When asked to speculate as to the reason for labour shortages, social grants<sup>11</sup> were most commonly cited (42%, n=21) as constituting a disincentive to work in one way or another, with some believing that 'youth' (often but not exclusively referring to children within the homestead) simply aren't interested in agricultural activities (16%, n=8), and others claiming that workers' wage demands were too high (26%, n=13). Often these explanations were given in terms of moral failure, i.e. characterising labour as lazy and overly demanding. The irony of such

<sup>9</sup> Since 2006, SASA has instituted a Supplementary Payment Fund (SPF) subsidising small growers delivering less than 200 tons of cane at a rate of R13.30 per ton. Taken from the division of proceeds, the fund is effectively contributed in the proportion of 64% by large-scale growers delivering more than 5 000 tons cane and 36% by the milling companies. Small growers further qualify for flat VAT rate and diesel rebate payments calculated by SACGA to be R15.38 and R2.74 per ton cane, respectively (Armitage, Hurley & Gillit 2009).

<sup>10</sup> In my own sample, homesteads exhibited a mean of 10.39 members present most or all nights. Limited 'formal' employment comprising permanent and temporary jobs was found to stand at 12.5%, but if including 'informal' non-grant income sources – including sugarcane – it expanded to 40.1%. These are substantial figures compared to wider Census data at ward and municipal levels, which show limited formal employment of 6.8% and 14.4%, respectively, and expanded employment of 11.7% and 21.7%, respectively. Some qualifications are, however, necessary. Firstly, data from my survey presented here simply represents calculated instances of economic activity against numbers of individuals and adults. Though no individual had more than one 'permanent' form of employment, some individuals claimed more than one type of non-grant income, and it is thus likely that the incidence of individuals claiming 'informal employment' is inflated. Secondly, the Statistics South Africa (StatsSA) database appears to have categorically labelled individuals aged 65 years and older as beyond the age of economic activity, though in reality many such older individuals are involved in economic activities, including but not limited to planting sugarcane (accounting for 37.8% of growers in my own sample). As such, it is likely that StatsSA's own register of economic activity also under-represents the extent of 'informal' economic activity. Nonetheless, even if 'formal' employment is taken by itself, the data is striking: though my sample accounts for only 11.2% of Ward 12's adult population of 4 483, it alone accounts for 20.7% of formal jobs.

<sup>11</sup> 'Social grants' here refer to non-contributory monthly state cash transfers, which constitute the prime foundation of South Africa's welfare system, and, in the context of pervasive structural unemployment, form the main or only consumptive foundation for much of the population. Old-age grants, or 'pensions', for those aged 65 years or older afford the most income, at around R1 200 a month. The Child Support Grant provides much less, around R350, but is just as critical, particularly in its accrual to mothers. Other important grants include the Disability Grant and Foster Care Grant, but are found far less frequently.

statements, of course, is that many homesteads and, indeed, small growers themselves are dependent on social grants for basic food purchases and for labour and inputs. As exemplified in the testimony of NS, a widow from a polygamous marriage:

*Now, however, [NS] only has 23 lines on about one eighth hectare (down from three hectares of cane), and in 2011 only cut a half a hectare. She says that the main reason for her drop in production was drought: as she received less money, she was unable to purchase enough fertiliser or hire enough labour for weeding. She doesn't know if things got more expensive because she would just buy things as they were needed, but she suspects that the tractors got more expensive, perhaps due to increased diesel costs. However, because she doesn't know how to use the cow for ploughing, she is dependent on the tractors, and because of decreased returns she couldn't afford to replant. Previously, she would use money from her Child Support Grant and Disability Grant to pay [for] the tractor, while using the money from cane to cover other farming and consumption costs, but now she needs to use the grant for consumption. She said she would not take a loan for fear of debt, but still needs money to purchase fertiliser and to pay for labour, which she cannot get for free, even from her children. It is the same situation with her husband's other wives. Nonetheless, she hopes to slowly expand by using her current crop as seed cane.*

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*Mrs NS, personal communication, 20 February 2012<sup>12</sup>.*

This moral ambiguity is ultimately underpinned by the material contradiction of small growers' position. Small growers, of course, have no control over the vagaries of climate and little influence on the inefficiencies of 'sectional' services provided by contractors. Compensating for the consequent difference in 'socially average' levels of productivity therefore rests in selectively investing in inputs and managing and committing labour. But, to the extent that drought and delays seem to *ensure* low quality, returns to scale become paramount, and the economic rationality of pursuing or financing intensive labour practices for quality premiums inverts. As such, in addition to the bare structural disadvantage of being 'small', both in terms of land ownership and capitalisation, the final refuge of productive 'control', in labour and husbandry, is systemically undercut.

The role of social grants in mediating this contradiction is pivotal. On the one hand, social grants provide a consistent and reliable foundation for consumption within homesteads, and some cash on hand to pay labour. Indeed, as cane generally provides far too paltry an income off which to survive, social grants have been central to the very persistence of small-scale production at all. But the reverse of the coin is that, by stabilising homestead consumption, social grants simultaneously problematise the naked exploitation of family members thus able to count on reliable food purchases and relatively empowered to legitimately resist arduous cane labour, particularly in favour of school or seeking work.

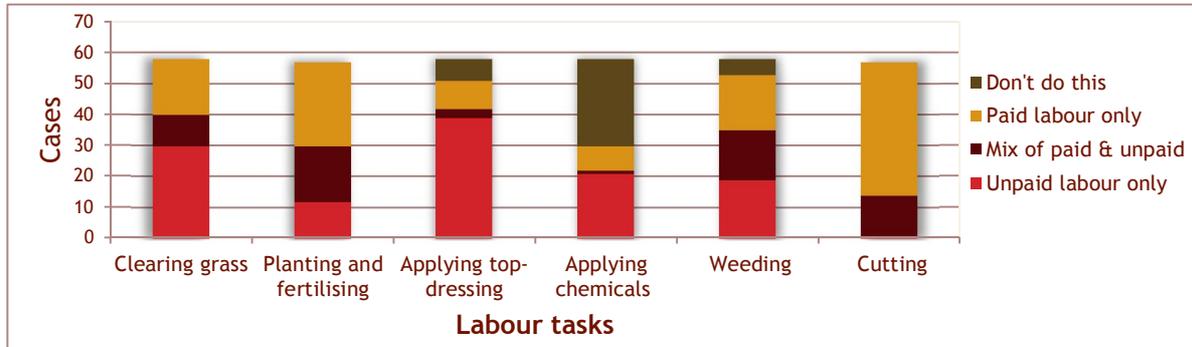
Grower labour regimes consequently tend to be fairly heterogeneous, combining both paid and unpaid labour from within the homestead with casual labour from neighbours for different tasks. Although precise combinations are highly variable, disaggregation by task reveals that intensity of work nonetheless plays a strong conditioning role on the type of labour employed. As shown in *Figure 3*, homesteads tended to rely only on unpaid homestead labour for the least strenuous tasks of clearing grass, applying top-dressing and applying chemicals (by knap-sack

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<sup>12</sup> Where testimonies are provided in third person this is because it is an excerpt from notes made during an interview which was directly mediated by the translation services of a research assistant. Where in first person, testimonies were translated ex-post from digital recordings of meetings, where real-time translation services would have been unwieldy or disruptive.

sprayer), to the extent that this is done at all. By contrast, the more difficult tasks of weeding and planting tended to be accomplished by paid labour (family and/or casual), whether exclusively or mixed with unpaid homestead labour. Cutting was almost universally accomplished by casual paid labour, being both the most physically demanding task and most imperative for timeous transport.

Figure 3: Type of labour used by task



Moreover, in effectively mitigating the 'dull economic compulsion' to cane labour from *within* the homestead, social grants have similarly pulled *other* homesteads above the threshold of desperation at which casual wages from cane form a principal component of consumption. This is most evident in the fact that only homesteads who did not qualify for the higher income old-age grant ever claimed to engage in casual cane labour for survival. Despite the lack of a reservoir of easily exploitable neighbours, the necessity of timeous harvest for transport makes calling upon supplementary labour necessary for all homesteads. For a few with sufficient resources, more readily exploitable labour can be sought further afield. In the case of Mr Z, casual labour is contracted from other areas from those 'who do not have cane, and who survive principally off of him'. Similarly, in the homestead of IM, a desperate 44-year-old man of the same clan name was subsumed into the homestead as a permanent supplement to domestic and agricultural labour. But for many homesteads, engaging in cane labour for neighbours is thus driven less by low wages and more by promise of reciprocation. Such is the case for Ma K:

*When Ma K started growing in 1999, she also began working on neighbour's cane fields so that they would help her when it was time to cut. In those times it was about R20–R30 per stack, which she would spend on small things. The white man's cane farm used to pay a lot more.*

*Ma K, personal communication, 16 April 2012.*

Perhaps as a consequence of combined imperative to source paid labour and the difficulty of affording it, methods of payment tend towards a social standard, but with some deviations, and wages themselves tended to be small but variable. Generally, wages were provided on a piece-work basis, particularly for the more intensive tasks of weeding and cutting, though per-day estimates were also frequently employed for planting and chemical application. The lack of wage compression in particular tasks thus suggests that wage agreements between growers and paid labour, whether from within or without the homestead, are fairly contingent on their interpersonal relations of relative bargaining position, social authority and reciprocity.

Table 4: Method and amount of payment per labour task

		Per line (R)	Per ha (R)	Per day (R)	Per stack (R)	Per field(R)	Per person
Clearing grass	N	16	2	7	0	1	1
	Mean	15	250	30		200	25
	Range	10-20	200-300	10-100		200	25
Planting	N	9	1	33			
	Mean	12	120	21			
	Range	8-20	120	10-35			
Applying top-dressing	N	2	1	7			
	Mean	10	200	15			
	Range	10	200	5-30			
Applying chemicals	N			6			
	Mean			53			
	Range			20-100			
Weeding	N	24	2	5			
	Mean	14	450	24			
	Range	10-20	300-600	15-35			
Cutting	N			1	55		
	Mean			50	46		
	Range			50	20-55		

While variable wages remain too low to be a significant basis of savings for homesteads without old-age grants or substantial employment, wages nonetheless stand as a considerable cost to growers. Indeed, despite dismissing the wages she received in cutting, like many other growers, Ma K also cited the high cost of labour as a chief constraint. Rough calculations from survey data and secondary sources show overall per-hectare costs between R5 852 and R6 352, comparing well with SACGA's own calculation of around R7 148 (Armitage, Hurley & Gillit 2009: 362). The total was accounted for almost evenly by paid labour and inputs, respectively at 35%–39% and 31%–37% of the total, with ploughing the single greatest cost at R1 758 (28%–30%). Arranged slightly differently in *Table 5* below, average annual per hectare input and labour costs amounted to between R2 578 and R3 078 (or 44%–48% of the total), with cane establishment costs by themselves amounting to R3 274 (or 52%–56% of the total).

Table 5: Estimate of per hectare ratoon and establishment costs

Annual ('ratoon')		Mean (R/ha)	Total (%)
Input	Applying top-dressing	691	12%-11%
	Applying chemicals	417	7%
Labour	Clearing	267	5%-4%
	Applying top-dressing	189	3%
	Weeding	613	10%
	Applying chemicals	201	3%
	Cutting	200-700	3%-11%
Sub total		2 578-3 078	44%-48%
Semi-Variable ('establishment')			
Input	Preparing fertiliser	626	11%-10%
	Seedcane	531	9%-8%
Labour	Tractor tilling	1 758	30%-28%
	Planting	359	6%
Sub total		3 274	56%-52%
Total		5 852-6 352	100%

Although not strictly comparable with annual revenue, these per-hectare cost projections nonetheless shed some light on the tight margins small growers face and a rough guide to the relative income contribution of sugarcane production. If the mean proportional transport cost is applied to the higher 2010 mean of R11 358.57 from *Table 3*, the resultant deduction of R3 975.30 would leave only R7 383.27; a sum itself insufficient to push a single individual out of

'poverty' in terms of governments' rough R524 per capita per month poverty line (National Planning Commission 2013). Finally, this remaining average *annual* revenue is almost eclipsed by the average costs of establishing and producing *a single hectare*; leaving just R1 531–R1 031 by my own calculations and an even more pitiful R235 if SACGA's figures are used.

While even such rough figures indicate that sugarcane does not afford most small growers a sufficient income to survive, several qualifications are worth noting. Perhaps most obviously, not all costs are indeed borne by growers all the time. Any unpaid labour that might be extracted from small growers themselves or from family members, or in reserving inputs, is thus something of a net 'savings'. While skimping on tasks or inputs negatively impacts on cane quality, as already noted, any relative gains from more intensive labour practices are all but categorically offset by the devastating impact of drought and sizable harvest-to-crush delays.

Finally, establishing cane accounts for a high proportion of overall costs. Indeed, if only annual ratoon management costs are borne, per hectare returns are increased by R2 700–R4 000, highlighting the critical significance of the number of ratoons received for each planting to small grower income. Indeed, as has already been noted in passing, for many poorer small growers in particular, involvement in sugarcane was foremost premised on it being established by another party, whether by the mill or, more commonly, by lease arrangement with a neighbour. Faced with sometimes insurmountable establishment costs promising to reduce grower margins to negligible levels (if not outright loss) on the first cutting; poor prospects for subsequent ratoon cuttings thus further tilt the intuited calculus of cane's income relevance.

#### 4. PATTERNS OF SOCIAL DIFFERENTIATION

Thus far, analysis and discussion has focused on small-scale growers as a group to critically explore shifting relations of a largely 'vertical' nature; i.e. between growers, contractors, millers and the wider industry. While the influence of these 'vertical' shifts on the cost-price 'squeeze' discussed thus far have had a generalised impact, they have not been felt evenly. This section thus seeks to switch to a more 'horizontal' frame to examine current patterns of material inequality, interrogate the differential impact of sugarcane cultivation on growers' overall 'livelihood' or accumulation trajectories, and to explore the different strategies being pursued in order to further elucidate the particular tensions and contradictions of small-scale production under conditions of relative decline.

##### Small but unequal: Asset, land, and job distribution among small growers

As has already been intimated, despite satisfying the categorical conditions of being 'small' farmers growing crops under customary tenure in rain-fed conditions, growers are, of course, not homogenous. In order to yield some insight into the scope of material inequality in Madwaleni/ Shikishela, I used an asset ranking procedure to divide respondent homesteads into asset quartiles as 'wealth groups', with '1' representing the lowest or 'poorest' homesteads and '4' representing the highest or 'richest'. Though a statistical construct, the distributional impacts of this procedure do provide an important guide to the terrain of social difference.

Amongst the starkest distributional patterns emerging from the grouping procedure concerned the number and types of income sources found within each grower homestead, summarised in *Table 6*. It is, firstly, notable that despite the substantive importance of social grants in forming a consumptive baseline, they are not statistically significant differentiators of wealth, except in graduation from the poorest to second-poorest quartile. Non-grant income sources, by contrast, feature an unambiguous ascent from the poorest to richest quartiles. In addition to the positive impact of the sheer number of income sources on homestead asset wealth, the quality of income sources is also clearly influential. While instances of all kinds of employment were too low to

make any impact on the median, there is a clear correspondence between asset ranking and absolute concentrations of ascending grades of employment. The richest quartile notably claimed 50% of all permanent jobs in the sample, with the second-richest quartile claiming 34.6% of all temporary jobs, and the second-poorest quartile claiming 44.4% of all 'non-agricultural income activities without employees' (typically the sale of handicrafts). The poorest quartile, meanwhile, displayed low concentrations in this type of income activity as well as permanent jobs, though it also displayed a significant number of temporary jobs.

**Table 6: Distributions of income sources by asset group**

Asset group	Number of non-grant income sources	Number of social grants	Number of homestead members earning income from			
			Permanent job	Temporary job	Non-agri income activity without employees	
1	Median	1	2	0	0	0
	Sum		69	2	6	1
	Column Sum %		27.3%	6.3%	23.1%	5.6%
2	Median	2	3	0	0	0
	Sum		61	5	5	8
	Column Sum %		24.1%	15.6%	19.2%	44.4%
3	Median	3	3	0	0	0
	Sum		58	9	9	4
	Column Sum %		22.9%	28.1%	34.6%	22.2%
4	Median	4	3	0	0	0
	Sum		65	16	6	5
	Column Sum %		25.7%	50.0%	23.1%	27.8%

The ranking procedure similarly reveals a substantial correspondence between homestead asset wealth and land, tractor and cattle holdings, as summarised in *Table 7*. Tractor ownership features the most direct ascension, with more than half of all tractors further concentrated in the richest quartile. Similarly, only the richest quartile claimed enough cattle to make an impact on the average, with a median of eleven. Although absolute numbers of cattle tend to rise directly with asset wealth, the poorest quartile shows greater concentrations of cattle than either quartile two or three. This may indicate that using asset groups is disguising the wealth of some homesteads who choose to invest in cattle rather than 'assets', but who are not numerically significant enough to make an impact on the average.

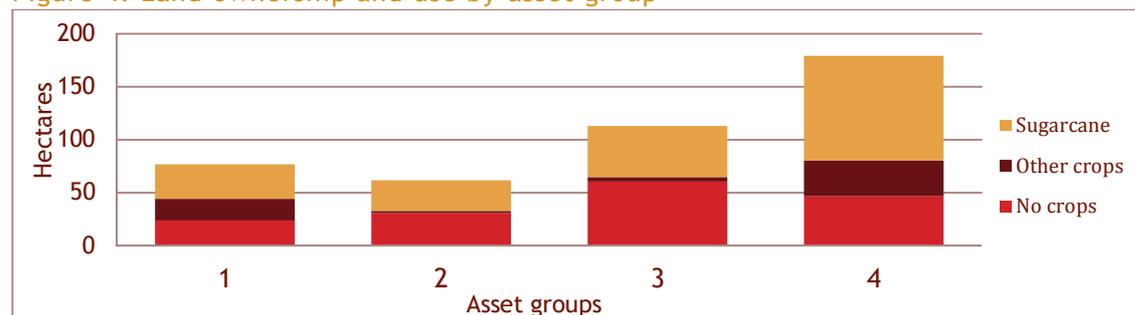
**Table 7: Land ownership and use by asset group**

Asset group	Total homestead land (ha)	Land in use	Area under cane	Homestead cattle	Tractor ownership	
1	Count	21	21	21	21	0
	Median	3.00	1.50	1.00	0	
	Sum	77.13	53.13	32.83	70	
	Column Sum %	17.9%	19.8%	15.7%	20.8%	
2	Count	19	19	19	19	3
	Median	2.50	1.50	1.00	0	
	Sum	62.00	30.75	29.25	34	
	Column Sum %	14.4%	11.5%	14.0%	10.1%	
3	Count	17	17	17	17	4
	Median	5.00	3.00	2.50	0	
	Sum	112.75	52.00	48.00	52	
	Column Sum %	26.1%	19.4%	23.0%	15.5%	
4	Count	17	17	17	17	11
	Median	9.50	7.00	3.50	11	
	Sum	179.50	132.50	99.00	180	
	Column Sum %	41.6%	49.4%	47.4%	53.6%	

In terms of land, *Table 7* shows that median ownership of land, land in use, and area under cane all ascend directly from poorest to richest, except for a small dip in median land ownership

between quartiles 1 (3ha) and 2 (2.5ha). *Figure 4* further graphically illustrates that the two richer quartiles claim more than double the amount of land than the poorer two.

Figure 4: Land ownership and use by asset group



Though the richest quartile exhibits by far the highest absolute concentrations of land, land in use and area under cane, it is further notable that cane accounted for almost all cropping in the middle quartiles, with only the poorest and richest quartiles holding significant amounts of land under non-cane crops.<sup>13</sup> As the group with the largest area under cane, average production and revenue from cane is far more significant for the top quartiles, despite similarly yielding stubbornly low sucrose content (as shown in *Table 8*).

Table 8: Annual production data by asset group

Asset group	Mean sucrose (%)	Mean tons of cane submitted 2010	Tons of cane 5-year mean	Mean revenue from cane 2010 (R)	Revenue from cane 5-year mean (R)
1	7.45	21.33	34.38	6 860.05	7 843.00
2	7.43	19.38	23.56	6 002.48	5 337.78
3	7.22	36.03	37.29	12 389.11	9 854.45
4	7.35	46.77	67.04	15 899.89	16 084.95

The grouping procedure also revealed significant impacts on the demographic composition of homesteads, as shown in *Table 9*. It is perhaps most notable that median homestead size increases from the second quartile (8) to the fourth (13), though the poorest indicated more members than the second (9). There is a clear gendered dimension to the trend, with median numbers of men increasing with asset wealth, while numbers of adult women remain stable. If these median figures are expressed as a ratio, poor homesteads are hence revealed to include higher proportions of women. Similarly relative homestead asset wealth also has an impact on gendered distributions of registered growers and homestead heads, with females in both groups disproportionately concentrated in the lowest asset groups. While this is perhaps unsurprising, given the stylised tendency of customary structures to afford lower or more circumscribed social status to women, it is still significant that two female-headed homesteads are indeed in the richest quartile, and seven in the second.

Table 9: Homestead demographics, gendered distribution of growers, and homestead heads by asset group

Asset group	Sugarcane grower's gender		Homestead head's gender		Homestead size	Adult men in homestead	Adult women in homestead	Median ratio of women to men	Children (<18) in homestead
	Male	Female	Male	Female					
1	7	14	9	12	9	2	4	66.66%	3
2	5	14	15	4	8	2	3	60.00%	3
3	8	9	10	7	10	3	3	50.00%	3
4	13	4	15	2	13	5	4	44.44%	6

<sup>13</sup> Non-cane cropping, however, only refers to relatively substantial field cropping, and did not include homestead 'gardens' of <0.5 ha, which were far more pervasive.

Gendered demographic impacts notwithstanding, the relation between asset wealth and homestead size tends to also be mediated by the number of homestead members earning an income against the number of 'dependants', defined here as children under 18 years old and adults without any kind of income. As shown in *Table 10*, the median number of both 'dependants' and adults earning an income tends to gradually rise with asset wealth, though in terms of 'dependants' this would appear to be related largely to greater median numbers of children in the richest quartile. Perhaps for this reason, median ratio of income earners to 'dependants' tends to rise to the third wealth quartile until dropping off in the fourth.

**Table 10: Adults earning income, adults not earning an income, and dependants by asset group**

Asset group	Adults earning an income	Adults not earning an income	Dependants	Dependency ratio
1	2	3	5	0.33
2	3	2	5	0.45
3	3	3	6	0.73
4	4	3	9	0.44

As is clear from the ranking procedure, inequality in Madwaleni/ Shikishela is distributionally marked by a convergence of measures of material 'wealth'. Relatively 'rich' homesteads tend not only to have access to greater labour endowments and access to more income sources of better quality, but also account for the bulk of means of production, i.e. in land, tractors and, to some extent cattle. There is, further, a clear gender dimension to wealth, as poorer homesteads not only tend to feature a high proportion of female heads, but are also composed by higher proportions of women. To some extent, these variables appear as self-explanatory in a fairly stylised way: employment for instance yields higher incomes to purchase consumptive and productive goods; gender imbalances reflect the customary location of authority in men, etc. But while being strongly suggestive, these static patterns cannot illuminate the underlying dynamic processes.

### **Convergent pressures, divergent paths: Exploring the uneven impact of cane production**

To interrogate more substantive causal relations, 22 growers were subjectively selected for interview based on different material and socio-economic configurations. Following Oya's (2007) variant employ of 'accumulation histories', the interview focus was on tracing the shifting material circumstances of growers' lives, with particular attention given to the role of cane production. By this method, some sense of longitudinal trajectory can be fathomed, yielding significant patterns across cases and a more informed vantage from which to analyse the impact of cane production on dynamics of social differentiation.

The emphasis here on dynamic factors in cane production, rather than a static typography, has led me to group these histories in terms of their current productive trajectory. The precise categorical groupings are drawn from Scoones et al (2011), who more recently employed the typology formulated by Dorward et al (2009), supplemented by my own addition of two categories relevant to the context. Hence, growers are grouped according to whether they are:

- 'stepping up' – growers who are expanding production/re-investing in sugarcane;
- 'hanging in' – growers who have managed to maintain a relatively stable level of production, despite exacerbating constraints;
- 'stepping down/out' – growers who are maintaining production but have been compelled to reduce the scale of their operations; and growers who are advantageously diversifying out of sugarcane production;

- ‘dropping out/dropped out’ – growers whose production is in terminal decline or who have abandoned production;
- ‘creeping back?’ – growers who had dropped out or faced severe reductions but are attempting to incrementally re-start or expand production.

### Stepping up: Contractors with cane

In the face of arguments that locate small growers’ decline purely on agronomic grounds, these four growers have been expanding their sugarcane enterprises year-on-year. Of all the growers grouped in terms of ‘trajectory’, they are further marked by significantly consistent basic descriptive characteristics. The most obvious common feature is that all four are local contractors with significant landholdings of between 6 ha and 25 ha, high proportions of which are under cane production. All growers/ contractors are male, but two were notably younger, unmarried and did not consider themselves ‘heads’ of the homestead. Three homesteads were also notably in the ‘richest’ asset quartile, with one in the second-richest quartile. Three also similarly had above-average homestead sizes, and three had more than ten cattle; though one, notably, had none. Only one homestead had access to any kind of ‘formal’ employment other than contracting and sugarcane; however, it is clear that in all other respects these homesteads show a striking confluence in all of the signals of ‘wealth’ outlined earlier.

Despite the current lack of jobs, historical wages nonetheless played a critical role in providing savings for investment in cane. Indeed, for Mr Z, SZ and UM, initial investments were premised almost entirely on savings garnered from wage employment, which for the latter two constituted relatively skilled or supervisory roles. For UM in particular, historical wages also formed the main fund for the original purchase of his tractor. Only in TN’s family (case three) was the original investment for cane premised on non-wage sources, specifically from the prior sale of cabbage and cotton on his family’s significant land endowments.

Perhaps more fundamentally, access to substantial swathes of land further formed a necessary pre-condition for substantial sugarcane production. In all four cases, original settlement in Madwaleni/ Shikishela was notably impelled by the hallmarks of apartheid-era dispossession (from St Lucia) and eviction (from labour tenancy), and, perhaps unsurprisingly, allocations seem to have been premised on lineal links to existing residents or state officials. However, customary allocations were not the only means by which land was acquired; while customary tenure is often portrayed as being constituted ‘outside’ of market relations, in three out of four cases more land was at some point acquired in a ‘vernacular’ (Chimhowu & Woodhouse 2006) cash exchange legitimated by the *induna*, all of which were further motivated by a desire and capability to extend sugarcane cultivation.

While in some cases initial expansion was predicated on particularly good harvests or sustained wage investments, in nearly all cases contractors observed that the cross-subsidisation of their contracting and sugarcane operations was key to their persistence under prevailing drought conditions. Most pertinently, the perpetual cash-flow generated by contracting has provided sufficient cash on hand to afford sustained input and labour purchases. But, while contracting has been essential to providing cash for cane, likewise bulk proceeds from cane have been essential to sustaining costly tractor repairs and maintenance. Indeed, perhaps most revealing is that just as the only small growers who appear to have ‘stepped-up’ sugarcane production are contractors, the only contractors who have survived are substantial sugarcane growers.

Thus, although in one sense sugarcane and contracting operations have *enabled* one another, it seems equally true to say that they have *compelled* one another. Indeed, while it has been noted that contractors who have survived the generalised decline in grower client-base have organised cartel-like institutions, this is not to suggest that contractors are free from competitive market pressures, even in regards to ploughing services. Rather, such pressures

seem simply to be premised less on direct competition for clientele so much as meeting 'socially average' levels of productivity. Clearly, contracting has been rendered unsustainable as a stand-alone enterprise by high diesel costs and relatively high rates of depreciation encountered in servicing disparate growers on poor-quality roads; a reality exacerbated by the poor state of used tractors at the time of purchase. Hence, where extending (an already diminished) small-scale grower client bases cannot be accomplished without further extending their machinery, cross-subsidisation with cane is necessary to cover these costs.

Certainly, the tractor can be used to lower own-ploughing and transport costs in cane production, and revenue from contracting also enables the timely purchase of inputs. This, indeed, is what allows the contractor-grower to garner a *surplus from cane*, such that cross-subsidisation is possible. But, to paraphrase Marx, it is this surplus extracted from the 'living labour' of cane production that is subordinated or 'sucked' by the 'dead labour' of contracting; inefficiencies in which make its 'vampire-like' thirst all the greater.<sup>14, 15</sup> Moreover, with high average levels of productivity in the industry more broadly devaluing labour power, and labourers themselves resistant to intensified exploitation by the generalised presence of social grants, the scale of the contractor's sugarcane operations remain central to generating enough surplus for cross-subsidisation to proceed.

Yet, while constituting a differentiated segment of small growers, contractor-growers are also significantly differentiated from one another and have managed these tensions in somewhat different ways. TN perhaps most evidently claimed to have particularly substantial landholdings and area under cane. In the case of the nominally 'distinct' enterprises of Mr Z and SZ, lineal relations would certainly seem to imply a subtext of familial cooperation beyond the historical inheritance of land, particularly in SZ 'passing on' grower-clients to his grandfather, though the extent of cooperation is not clear. UM, meanwhile, represents the newest and smallest entrant in both capital intensity (having only one tractor) and landholdings (with four hectares under cane, and a further two hectares recently purchased). His survival has, to some extent, been premised on self-exploitation and the successful mobilisation of family labour in both his sugarcane and ploughing operations, in addition to his private pension and the wage employment of other homestead members.

### **Hanging in: By discipline and debt**

Unlike the homesteads 'stepping up', the two homesteads 'hanging in' are markedly different in their basic socio-economic profile. In the first instance, Mr M is the son of the homestead head and a contractor owning three tractors. His family homestead sits within the richest asset group, claims twelve hectares under cane, and has no cattle. Among its seventeen homestead members, four sometimes work on neighbours' cane fields, and his family owns a tuck-shop on their premises. In the second instance, AZ is a widow and homestead head of a family of ten within the second-richest quartile. She has six hectares under cane and a garden plot, and her only non-grant form of income other than cane comes from making and selling reed mats.

<sup>14</sup> The vampire metaphor is drawn from Marx's section in Chapter 10 ('The Working Day'), Section 4 of *Capital* Vol. I: 'Constant capital, the means of production, considered from the standpoint of the creation of surplus-value, only exist to absorb labour, and with every drop of labour a proportional quantity of surplus-labour. While they fail to do this, their mere existence causes a relative loss to the capitalist, for they represent during the time they lie fallow, a useless advance of capital. And this loss becomes positive and absolute as soon as the intermission of their employment necessitates additional outlay at the recommencement of work. The prolongation of the working-day beyond the limits of the natural day, into the night, only acts as a palliative. It quenches only in a slight degree the vampire thirst for the living blood of labour.' (Marx 1976: 367)

<sup>15</sup> Of course, there is also labour inherent to contracting, i.e. workers paid to operate tractors and cane loaders. Although not systematically investigated, casual conversations held that such jobs were generally preferred to field labour, both because they attracted higher wages, and because the work was less physically taxing. It is quite likely that such wages exceed the 'desperation threshold' as raised by social grants, and mask higher than socially average levels of exploitation, particularly when such exploitation is of the self or family, such as in the case of UM. However, the very low efficiency of capital utilisation posed by the various aforementioned constraints faced by contractors undermines the competitive edge of such heightened exploitation, which is why I have placed the emphasis on appropriation from field labour.

Nonetheless, despite drought and high costs, both of these growers have been able to sustain full or close to full production.

The case of Mr M serves to emphasise the intimate relationship between cane and contracting operations. In addition to the similarities in basic profiles, in many ways Mr M's broad trajectory resembles those of his peers 'stepping up': dispossession was the initial impetus to his family's arrival in Madwaleni, investment in cane was premised first on savings garnered from wages in relatively skilled employment, his first tractor was purchased with proceeds from a bulk cane submission, and he services a similar number of growers. A notable silence in Mr M's own testimony was his engagement in plough-lease agreements with neighbouring growers, and it is unclear whether or to what extent the other contractors interviewed similarly engaged in such arrangements. But despite these similarities, Mr M admitted considerable difficulty in maintaining his tractors. At the time of interview all three were out of service, and to finance their repair at the beginning of each season he is compelled to take usurious loans from local money lenders charging 30% interest. Apparently key to Mr M's relative struggle is that, though his homestead claims twelve hectares of cane, Mr M controls only four hectares directly; a central constraint to enjoying the extent of cross-subsidisation with cane enjoyed by other contractors. That Mr M's four hectares are insufficient to meet his tractors' replacement costs further exposes the dependence of contracting enterprise on the scale of sugarcane operations.

By contrast, at first glance the trajectory of AZ appears to presuppose an entirely different set of dynamics. Settlement in Madwaleni was made as a refuge following several moments of severe familial fragmentation and displacement from her first conjugal homestead, rather than as a result of direct dispossession by the state or white landed property. From the early days of settlement, however, the 'classic' combination of wages from farm labour and subsistence production was strongly bolstered by crop sales. Following a disappointing experiment with cotton production and the death of her husband, AZ invested her husband's savings in both the education of her children at University of Zululand and sugarcane production. Sugarcane has thus acted as something of a multiplier for historical wages.

That AZ has been able to sustain full production without further investments from outside employment (let alone contracting) is somewhat curious. One pertinent distinguishing factor would certainly seem to be the unusual extent to which AZ has been able to mobilise homestead labour, insofar that she claims to never hire labour from without. Though the family labour remains paid, as the cash remains within the homestead it is to some extent 'recaptured' to contribute to the family's own consumptive fund. Similarly, AZ notably limits her own consumption exclusively to income from social grants and reed mat sales to ensure consistent re-investment in fertiliser and chemicals.

The apparent vast differences in the dynamics facing Mr M and AZ thus ultimately have some similarity. While the combined 'organic composition'<sup>16</sup> of Mr M's dual contracting-sugarcane operations veers precipitously high, AZ has diligently resisted drawing down on proceeds beyond the capital requirements of her operation. By limiting the family's subsistence requirements to the provisions of social grants, selling of reed mats and indeed wages paid to her children, AZ has thus managed to somewhat invert the logic of social grants as a barrier in the exploitation of others, to facilitate the intensified exploitation of herself and her family.

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<sup>16</sup> The 'organic composition' of an enterprise essentially refers to the proportion of constant capital (means of production, tools, equipment etc. - 'c') to variable capital advanced (labour costs, 'v'). Although the concept has many nuances, a key point is that as competitive pressures compel greater intensity of 'dead' constant capital, it is increasingly difficult to appropriate surplus ('s') from 'living' labour. As summarised by Harvey (2010: 265): 'it is the internal dynamics of technological change within capitalism, the search for relative surplus-value, that increases the organic (value?) composition of capital, c/v, which in the long run will lead to a falling rate of profit (s/[c+v]) under the assumption of a limit on the rate of exploitation (s/v). Put differently, labour-saving innovations remove the active value producer from the labour process and so make it more difficult (other things being equal) to produce surplus value.' (Harvey 2010: 265)

### Stepping down/out: Wages for exit, but not for investment

The five growers in this category all retain land under cane, but in all cases production has substantially receded. While nearly all growers attribute decline to the myriad pressures of drought, high labour and input costs and transport delays, the severity of 'stepping down' is closely linked to relative availability of equally or more remunerative income sources. While homesteads with access to substantial employment vacillate as to whether or not to invest wages in cane production, those without have been unable to sustain the input and labour purchases necessary to maintain peak levels of production. A central tension here is that, while employment may provide cash on hand for input purchases, it also presents both a significant claim on homestead labour and an opportunity to exit from sugarcane production.

The homesteads of LG and IM have had perhaps the most painless experience of 'stepping down' out of the entire group and now veer close to stepping out altogether. The two homesteads are descriptively similar. Both homesteads are male-headed, sit within the wealthiest asset quartile, comprise ten members, have 6 ha to 8 ha (one to two hectares of which are under cane) and ten to eleven cattle. As in some of the cases already reviewed, access to such relatively large swathes of land was premised on longstanding residence (in the case of IM's husband) and social proximity to the *induna* (in the case of LG's grandmother). But most pertinently, both homesteads depend on access to relatively substantial jobs, with IM's husband and two brothers-in-law claiming access to permanent gainful employment and LG standing out as the single highest-paid person in the sample. Sugarcane production endures in both homesteads by dint of the input and labour purchases of these employed homestead members, though reduced returns to cane have prompted the question of whether investment in cane is worthwhile.

Nonetheless, the two homesteads also have some subtle differences in the experience of how they came to this position. For IM's homestead, relatively slight family involvement in production meant decline was experienced in terms of lower returns to *capital*, as cane revenue failed to cover the replacement costs of their tractor and sustain 'full' input and labour purchases. By contrast, LG's employment is relatively recent, and his family previously sustained much higher levels of direct involvement in production. For LG's homestead, intensifying *labour* conditions have come to be too severe, with family labour no longer able or willing to 'fill' the 'productivity gap' conditioned by drought and less efficient 'sectional' capital. This is further accentuated by the fact that, while both homesteads' fields have dwindled, IM's homestead continue to rent out their tractor, while LG's younger siblings engage in wage labour on neighbours' cane fields for personal 'pocket money', but not on their parents' fields.

In contrast to both LG and IM, relative decline has indeed been more protracted for MMk, JMk and VM, all of whom have less substantial non-cane income sources. While all sit in the lowest two asset quartiles, at first glance MMk and VM feature perhaps the greatest basic descriptive similarity, being both male heads of homesteads with sixteen members, and holding substantial swathes of land. JMk, by contrast, is the third wife in a polygamous marriage, claiming only two hectares. Nonetheless, such descriptions veil far more substantive proximity between MMk and JMk. Most importantly JMk's husband is a direct relative of MMk, who is also Madwaleni's *induna*. Although MMk claimed to have only 8 ha for himself, his family homestead's claim of around 30 hectares is very close to the 32–42 ha claimed by JMk's husband, and their respective testimonies suggest that JMk's husband is MMk's brother or cousin, indicating that they each have claims on more-or-less the same disproportionately large amount of land.

If both narratives are taken together, it is clear that the core focus of the Mk family was on accumulating cattle, supplemented by food cropping (on smaller, though still substantial swathes of land) and wages earned by the homestead's young men. Clearly a strong motivating reason for initial experiments with sugarcane came with the death of a substantial portion of the family's herd in the 1980s, by which time MMk and most of his brothers had ceased wage

labour. Savings from wages would form the initial basis of cane investment in both cases, and while JMk's husband would initiate production about ten years after MMk began experimenting with cane, his capital investments were far more substantial. For JMk, however, the benefits of cane largely came at the expense of wives' land and labour previously devoted to food crops for subsistence and limited sales. Indeed, while the relative decline of cane has been followed by a renewed emphasis on cattle production for both patriarchs, waning production has been more severe for JMk, due to her husband's co-incident decision to terminate financial support to his wives and permanently devolve small portions of two hectares to each of them. While she has maintained one hectare under cane, survival is now premised primarily on her old-age grant, selling reed mats with her daughter, and supplementary contributions by her employed son.

The extent to which declining terms of exchange and deteriorating rainfall have precluded survival from sugarcane alone, however, is probably best encapsulated by VM. After decades of ascending wage employment, VM and his three wives consolidated their conjugal home in Madwaleni in the 1970s on a substantial 15 ha of land. After a brief but fruitful period growing cotton yielded sufficient funds to purchase a tractor in 1988, he began experimenting with sugarcane and reached full production by 1991. VM's experience is particularly notable in his close resemblance to the 'ideal' image of a small-scale commercial farmer: he is knowledgeable about the agronomics of cane, after being trained in addition to his prior experience as a sugarcane farmworker, he consistently invested in chemical and fertiliser inputs, he purchased his own tractor and he survived almost exclusively off cane. No doubt due to his close resemblance to a 'progressive' farmer, it is perhaps unsurprising that VM was successful in applying for FAF loan assistance. However, the termination of FAF, concurrent with the onset of drought proved devastating: unable to afford tractor maintenance and sustained input purchases, production has been scaled back to four hectares, and has necessitated him applying for an old-age pension. Nonetheless, it is notable that VM has been able to maintain a level of production comparable to that of AZ with similar reinvestment, commitment of homestead labour and limitation of consumption to recently received social grants. His tractor, meanwhile, remains in a state of disrepair and it is unlikely that the savings it would provide through own-use in cane would be greater than the costs of maintaining it.

### **Dropping out/dropped out: Women without wages or labour**

Throwing into greater relief the importance of non-cane sources of income to sustained production are growers who have found themselves either in a terminal rate of decline, or who have already dropped out of production altogether. Notably, all of these growers are women, six of whom are also the head of their respective homesteads, and two with incapacitated husbands. While in each case patrilocal custom played a strong role in conditioning differential access to land by marriage, the rapid decline faced by these women is most distinguished by the loss or lack of non-cane income (both of jobs and social grants) and labour in the face of deteriorating agronomic conditions.

The centrality of wage investment is probably best exemplified by Ma M. Despite a fairly small initial land allocation, her husband's reliable wages provided a strong basis upon which to borrow land for non-subsistence agricultural production. It is further notable that, in her assessment, marginal profit was too small to provide a significant contribution to basic homestead consumption until they had reached four hectares. Following the death of her husband, his lesser private pension was insufficient to provide both basic food purchases and sustained input purchases, even with a brief dint of FAF financing. Though one son has since been employed (and left home), it is clear that cane is seen to be an inferior investment option compared to job training.

Cane's increasingly less attractive income potential is similarly evident in the testimonies of T, NB, and MZ. For T, though her husband claims over twenty hectares of land and a substantive

permanent job, in their nine years of production T's homestead never expanded production beyond two hectares. Indeed, despite one child's employment and sustained labour relations with neighbours, T and her family see little motivation to re-embark on cane production, at least under present conditions. For NB and MZ, the incapacitation and death of a husband would further be exacerbated by the redirection of children's labour towards wage work. For MZ, who also suffered the death of a son, the combination of her pension and daughter's wages is enough to provide a consumptive base for the homestead, but insufficient to spare substantial investment. In the case of NB, sugarcane cultivation was only initiated in 2007, and she cultivates largely independently of her two school-going grandchildren and incapacitated husband. Though her children have gained decent salaried positions, they have concentrated their earnings in sustaining new independent homesteads and, thus, simultaneously also represent a loss of labour.

Indeed, an enduring subtext in all of these testimonies is that sugarcane cultivation represented something of an experimental 'moment', no doubt closely tied to the de-regulation of registration in the 1990s. The decade-long gestation of this experiment is likely due to the long lifecycle of the cane itself and the necessity to cover recurrent costs to maximise this initial sunk investment. Moreover, for these homesteads, the original appeal of the 'lump' returns offered by cane seems to have been based in the prospect of *freeing* child labour from agricultural production, i.e. as a medium by which to transmit historical wages into enhanced employment prospects by investment in school or training. The requirement of higher investment and intensified exploitation to persevere with cane production under less climatically favourable conditions is, thus, something of an inversion of this original logic.

While open-registration during a sustained period of good rainfall was a strong impetus to invest in cane production for those with sufficient savings to do so, it also created a social basis of entry for those who did not. For SN and Ma K in particular, the initiation of cane production was premised almost entirely upon an establishment-rental arrangement with more substantially landed neighbours. For SN, an unmarried mother, self-exploitation on her own cane provided a welcome consumptive supplement to the wages she received in exploitation by others. That she is one of the few growers who depend on casual agricultural labour for survival, is of course not coincidentally due to her homestead's lack of either an old-age grant or other substantial employment. Indeed, having never had the financial resources to invest in cane production herself, it is highly unlikely that she will be able to resume planting so long as agronomic conditions remain severe. Moreover, though Ma K's homestead had embarked in cane production before, by the time she initiated a similar agreement she and her children were the only members of the homestead who had not died or left. Although contributing to ceremonial expenses, Ma K was overall unimpressed by the returns she received from cane under drought conditions. And while her employed children would contribute to recurrent input and labour costs, it is clear that Ma K is not interested in drawing further on wage resources to invest in onerous establishment costs.

In the case of NS and NtS, a vicious cycle of declining returns following the end of 'boom' conditions has further fractured lineal relations of production within and between homesteads. NtS has been perhaps hit the hardest by the decline: following the death of her husband, a local contractor, she has been unable to sustain his operations. With their two tractors now broken, her cane fields reduced to two hectares, and in the absence of a social grant, NtS is now largely dependent on a combination of her son's wages as a taxi driver and her own earnings from casual labour. Moreover, NtS' husband had played an instrumental role in establishing cane on the land of his mother and her sister-wives, of which NS is one. For NS, cane production was defined by reciprocal relations of labour with her husband's other wives, and cane labour for her son-in-law, with some additional wage support from her husband. The confluence of declining returns and the death of her own husband, however, has prompted the fragmentation of such reciprocal relations, not only between NtS and NS, but also with the other wives. This

has been further exacerbated by NS' own relative incapacitation from a chronic swelling in her leg, which has prevented her from pursuing relations of mutual labour, and by the fact that she is unable to discipline her children into unpaid labour. With no jobs in the homestead, NS is, thus, all but completely dependent on her Disability Grant and Child Support Grant.

### Creeping back? 'Eating' grants and investing cane

While the bulk of growers reviewed so far have largely been caught in a dynamic of 'dropping' or 'stepping' out of cane production, this section seeks to examine growers who have embarked on a strategy of re-expansion after sustaining near or total falls in production. In some ways, each of the following three growers has followed distinctive but now somewhat familiar trajectories: Ma Z, who invested in sugarcane with wage savings from farm labour and her husband's pension and currently receives some remittances from her son; TS, who is a cane labourer without a pension and who first got involved in cane by way of an establishment-land lease arrangement; and ZMk (the *induna's* cousin), who followed a path of gradually ascending wage labour until investing in cane and expanding to full production with FAF. For TS, cane similarly provided enough funding to improve his homestead home, while for ZMk and Ma Z, at its peak cane was the homestead's chief source of revenue. For ZMk and MZ in particular, the decline of agronomic conditions eventually saw consumption eclipse proceeds for re-investment, a reality accentuated for ZMk by burdensome interest charges.

Nonetheless, despite their differences, each grower's strategy for re-expansion is remarkably similar. ZMk's plan perhaps most clearly illustrates the core thrust of the strategy, entailing a conservative incremental expansion by using some portions of a field as seedcane (and hence saving on seedcane purchases), using revenue garnered from the submission of other portions to cover recurrent/annual ratoon costs, and reinvesting all profit in marginal expansion. Key to the strategy is to refrain from drawing down on *any* cane revenue for consumptive purposes until scale is achieved, such that proportionately low per-hectare profit margins are consolidated. Fundamental to this strategy is, hence the *limitation of consumption within the bounds of grant income* for day-to-day survival.

Ma Z and TS similarly seek to pursue slight variations on this basic plan. To some extent, TS has already proceeded with it, though in the absence of an old-age grant he has relied primarily on wages in casual agricultural labour to survive. Nonetheless, he has observed that his standing cane's growth remains somewhat stunted, and may require switching to another, more heat resistant variety. For MZ, re-expansion is being premised on borrowing land from a niece and borrowing input money from a neighbour to augment free fertiliser received by the mill (originally sourced from the Department of Agriculture). Though carrying an additional burden of debt, grant-based consumption limits will be supplemented somewhat by remittances sent by her son in Durban. Nonetheless, limits to self-exploitation by her old age and a reluctance to impinge on her children's education also means she may be compelled to commit more funds to herbicide and a knap-sack sprayer as a labour-saving alternative.

## 5. CONCLUSION

Though neither representative of greater South Africa, nor even to some extent the broader Umfolozi supply region, the circumstances of growers in Madwaleni/ Shikishela provide important insights into the underlying dynamics of small-scale sugarcane production. In terms of its relation to the wider South African industry, the importance of this evidence from Madwaleni/ Shikishela is due both to its more formal and generalisable features (dryland cultivation under customary tenure) as well as its specificities — as an area that is not prejudiced by particularly egregious technical/agronomic deficits in infrastructure, large transport distances or poor soils, and figures closer to a conceptual ideal of small farmers

operating in a context of 'rurality', where landed production is generally expected to play a more prominent role in local livelihoods than in urban or peri-urban contexts.

The analysis presented here also carries implications that extend beyond the specificity of small-scale sugarcane production, mainly because of the relative empirical extremity of the relations themselves. Sugar production is, of course, a highly *technically* integrated process, with sugar requiring large volumes of cane to be swiftly transported as raw material, and sugarcane itself all but worthless as a stand-alone commodity. Hence the formal division between cane and sugar production exists as a fundamentally *social* partition, cleaving a distance between what Bravermann (1974) has referred to as the 'conception' from the 'execution' of production. This places sugar production as a sort of 'relief' case of a broader logic of capitalist agro-industrialisation.

Perhaps most critical here is the subtle but substantial impact that changing terms of exchange have had on relations between these social fractions of a technically unified capital. Despite being couched in rhetoric of more 'democratic' terms of incorporation, the evidence provided here strongly suggest that the conditions of relative productive 'autonomy' impelled by shifting relations of exchange in the broader industry have been severely detrimental to the majority of growers. In the first instance, shifting regulatory conditions have removed the pricing premium small grower cane once carried. But, in addition to the direct decrease on grower income this implied, arguably as important have been the indirect consequences on small growers' productivity coming as a result of the restructuring of 'sectional' capital services. While less costly for the miller, as the structural imperatives of timeous delivery remain unchanged, the severe and chronic inefficiencies resulting from the devolvement of transport and ploughing services, administration and coordination are for the account of the grower. But, insofar as they are structurally inhibited from intensifying their capital investments or expanding the scale of their landholdings, the only remaining site for growers to absorb this productive deficit is from the bodies of the self, family or neighbours, either directly through reduced consumption and/or intensified work in the cane fields, or indirectly through the investment of wages.

Indeed, spatiality and inequality figure prominently in historically locating Umfolozi, in particular, in the wider political economy of regulatory restructuring. The importance of Umfolozi's relative 'rurality' lay precisely in its small growers' relative capacity to weather the deterioration of their structural position by dint of better rainfall and larger average landholdings, and their willingness to do so in the absence of other income prospects. While better-resourced growers were better positioned to respond to such opportunities, land-leasing arrangements also provided a social basis for both expansion and entry for smaller landholders. But since the abatement of the 'free gift' of good rainfall conditions, Umfolozi no longer stands as a strong 'resource frontier'. Similarly, however, while social grants have played a critical role in stabilising grower homesteads, their widespread (if not quite generalised) dissemination have provided a stronger basis for labour from both within and without the homestead to resist the intensified exploitation growers require to maintain productivity. Furthermore, in the broader context of an ongoing aggressive shift northward by formerly 'South African' sugar capital, this interplay of socio-economic inequality and unstable agronomic 'gifts' raises further questions as to the social and agronomic basis and durability of relatively successful and expanding sugarcane outgrower programs in Southern Africa more broadly.

Comparative analysis of growers' productive trajectories helps triangulate the relative severity of these constraints at both poles of capital and labour and provide insight into the influence of sugarcane production on ongoing processes of social differentiation. It is perhaps an obvious point that sugarcane production has played a relatively marginal role in conditioning grower homestead's material position against the historical processes of dispossession, relocation and migrant labour which characterised the colonial and then apartheid eras, and persisting

structural inequality and unemployment today. But it is the shifting intersection between cane and these broader historical processes that are perhaps most illuminating.

One of the starkest patterns is the critical but shifting role of non-cane income sources to the social reproduction of grower homesteads. Even under conditions of considerable socio-economic inequality, particularly in landholdings, returns from cane are far too low to form even a modest consumptive baseline for the vast majority. Social grants have consequently played the most pivotal role in sustaining day-to-day survival, with expanded consumption premised largely on access to varying levels of employment.

Nonetheless, the widespread absence of other field crops stands, in the first instance, as a testament to its relative accessibility as a site of potential investment. Although less important for recurrent consumption, there is evidence from grower testimonies that returns from cane have been useful for some 'big ticket' purchases such as furniture, domestic appliances, water tanks, etc., or as a medium to access employment by financing training or education.

Indeed, much of the more general significance of sugarcane production is closely related to its dynamic interaction with employment as a site of investment for the 'multiplication' of current and historical wages. In the period of 'boom' when terms of exchange and production were more favourable, cane represented a far more attractive opportunity for a larger number of growers. In the current context of generalised decline under harsher conditions, wages remain central, but largely in mediating severity of exit. The difference between homesteads 'stepping out' or 'stepping down' and those 'dropping out' altogether is largely a combination of the relative availability of wages and a subjective assessment of whether such investment remains attractive at all. This is most evident in the preponderance of female growers dropping out following the death or incapacitation of wage-earning partners, and in the relative ambivalence of homesteads with substantial wage employment toward reinvesting in cane. Indeed, with the premiums afforded to better husbandry all but negated by capital inefficiencies and poor climatic conditions, wages committed to cane stand a good chance of not being recovered at all.

In contrast, a notable pattern for the homesteads of AZ 'hanging in', VM 'stepping down' and those 'creeping back' into production is their reliance on homestead labour to absorb the 'gap' in productivity afforded by capital inefficiencies and 'poor' rainfall conditions. Key to this strategy has been limiting consumption to the boundaries provided by social grants and/or casual labour while relying on chiefly on homestead labour, largely in the absence of more substantial employment opportunities. In refraining from drawing down on cane proceeds for consumption, these growers have hence inverted the logic of social grants as a barrier to the exploitation of neighbours to enabling the intensified exploitation of the self and family. While perhaps experienced as prudence in the use of profit, it is equally true to view it as an acceptance of effectively marginal wages.

Finally, tractor-owning contractors are the only growers who exhibit clear signs of substantial accumulation from cane production. While for persisting growers maintaining cane production has been largely contingent on extending family labour, contractors are capable of raising productivity with their considerable capital, particularly tractors, and sustaining consistent input and labour purchases from the contracting enterprise. However, while the capital in contracting enables relatively efficient cane production, the valorisation of the contracting enterprise is also dependant on cross-subsidisation from cane itself. Hence, contractors are faced with the perpetual necessity to extend the scale of their more profitable sugarcane operations, lest their tractors fall into disrepair, and are the only growers who had notably purchased land from neighbours at some point. Indeed, not only are there no growers with functioning tractors who are not contractors, but similarly there are no contractors without substantial cane operations.

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