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REVISITING POLICY AND INSTITUTIONAL ARRANGEMENTS AFFECTING SUGARCANE OUTGROWERS AND MILLERS IN UGANDA



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Sugarcane trucks await weighing at the factory

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Trucks queue for offloading cane into a crusher

EXECUTIVE STATEMENT

Uganda has made significant strides in sugarcane production and processing following the liberalisation of the sub-sector. From 2005 to 2014, sugar processing mills increased from 4 to 12. The expansion of mills also attracted new outgrower sugarcane cultivators as mills competed to attract cane supply. With the rapid expansion of the sugarcane sub-sector, the Ministry of Trade, Industry, and Cooperatives (MTIC), and Ministry of Agriculture Animal Industries and Fisheries (MAAIF) anticipated challenges that could constrain future growth of the sectors; subsequently, the 2010 National Sugar Policy (NSP) was formulated to facilitate the long-term inclusive development of the sector. The policy was eventually followed by the 2020 Sugar Act. These two policy documents committed the government to address emerging challenges related to sector governance

and regulation. The priority policy interventions were: establishing the National Sugar Board (NSB); zoning cane marketing activities; cane pricing; promoting of R&D and sustainable land management; planning for future expansion of cane growing, and developing social responsibility projects. This paper shows that institutional and policy environment for cane production in Uganda has provided limited empowerment and protection to outgrowers – attributed to delays in the implementation of the 2010 NSP and Sugar Act, 2020 by MTIC and MAAIF. Therefore, the paper recommends re-opening of discussions on the NSB as recommended by the Sugar Act 2020, to regulate the sector and improve coordination between millers and outgrowers, as envisioned by the 2010 NSP.



Cane being offloaded for crushing at a factory

1. INTRODUCTION

The sugarcane industry is one of the critical agro-based industries in Uganda, with the potential to contribute significantly to national socio-economic development. In the past two decades, sugarcane production increased from 1.5 million MT in 2000 to 5.8 million MT in 2020, driven by an increase in land under sugarcane from approximately 20,000 ha to over 81,000 ha in those 20 years (FAOSTAT, 2021). The expansion of mill processing capacity increased the demand for sugarcane, which attracted more farmers to grow sugarcane. With the rapid growth of the sub-sector, the Government of Uganda (GoU), through the MTIC and MAAIF, formulated the 2010 National Sugar Policy (NSP), and the Sugar Act, 2020 respectively (MTIC, 2010; The Republic of Uganda, 2020). The objective was to create an enabling policy framework to facilitate inclusive and sustainable development of the sub-sector. The 2010 NSP lists 7 high-level priority intervention areas that include:

- (i) Establish a sugar sector regulatory mechanism (i.e. a Sugar Board) to oversee, monitor, and arbitrate major issues in the sugar sector;
- (ii) Establish cane growing zones for the mills to be within economic growing distances;
- (iii) Provide a framework for product pricing based on market forces;
- (iv) Promote R&D in all aspects of sustainable sugarcane growing, sugar processing and value addition to by-products;
- (v) Promote sustainable land management practices to improve the productivity of land and protect against destruction of the surface of land;
- (vi) Review the role of the sugar industry in order to formulate future plans for expansion of cane growing, sugar production and product revenue sharing; and
- (vii) Develop relevant and meaningful social responsibility development projects within sugarcane growing areas.

The 2020 Sugar Act was meant to provide for the development, regulation, and promotion of the sugar industry; and to provide for the establishment of the Uganda Sugar Board; and for related matters. However, the development outcomes in the sugarcane sector show mixed results. The volume of sugarcane produced and the value exported has increased tremendously, but poverty is still prevalent within sugarcane growing communities. In this case, two sugarcane sub-regions -Busoga and Bunyoro have been most affected. The Busoga sub-region remains a home to 1.2 million income-poor persons and nearly 0.4 million persons living in food poverty (UBoS 2020).

Against the above background, this study aimed to gather evidence on the extent to which the MTIC and MAAIF (the key sponsors of the 2010 NSP and The Sugar Act, 2020) have implemented the seven areas of strategic interventions to place the sector on an inclusive and sustainable path. Specifically, the report

- (i) Identifies areas of registered gains and the challenges faced by outgrower farmers participating in cane production and the wider sugarcane value chain activities in general;
- (ii) Evaluates the extent to which the areas of intervention earmarked in the 2010 NSP and the 2020 Sugar Act have been implemented to strengthen the operations of the outgrower scheme; and
- (iii) Suggest possible recommendations to steer sustainable growth of the sugarcane outgrower scheme.

1.1 Methodology

The study is based on primary data collected through household and community surveys from November-December 2021. A total of 1,771 households, of which 1,179 were cane growers, and 72 community interviews were conducted from 12 sugarcane-producing districts in 3 sub-regions of Busoga, Buganda and Bunyoro.¹ Besides the quantitative surveys, information was collected through Focus Group Discussions (FGDs) and key informant interviews (KIIs).² The study also used secondary data from global databases (FAOSTAT) for sugarcane production and productivity trends. We gathered additional secondary data from reviews of the published official documents from mainly the Ministry of Trade Industries and Cooperatives (MTIC) and Ministry of Agriculture Animal Industries and Fisheries (MAAIF). This abridged version, produced for the 10th National Forum on Agricultural and Food Security, 2022, summarises the working paper titled *“Revisiting policy and institutional arrangements affecting sugarcane out-growers and millers in Uganda”* to be published under the EPRC Research Series.

1 The study areas included: Busoga in Eastern region (Luuka, Mayuge, Kaliro, Kamuli, Jinja and Iganga); Buganda in Central (Buikwe, Mukono and Kayunga); and Bunyoro in Western region (Hoima, Masindi, and Kikuube). Qualitative data were collected in only 9 districts i.e. Luuka, Mayuge, Kaliro, Kamuli (in Eastern region); Buikwe and Kayunga (Central); and Hoima, Masindi, Kikuube (in Western region).

2 A total of 262 respondents (80 percent men and 20 percent women) who participated in 21 sex-disaggregated focus group discussions (FGDs) with farmers; 19 key informant interviews (KIIs), and 2 Town Halls (Barazas). The Barazas Town Halls included critical stakeholder in the sugarcane value chain i.e. farmers, leaders of farmers associations, technocrats in local government departments, private sector players i.e. contractors and the 3 small millers.



Cane crushing at a sugar factory

2. OVERVIEW OF SUGARCANE PRODUCTION IN UGANDA

2.1 National sugarcane production and productivity

Uganda's sugarcane industry has expanded cane production three-fold (over 380%) over the last two decades, from about 1.5 million tons in 2000 to 5.8 million tons in 2020 (FAOSTAT, 2021). The surge in production can be entirely explained by the expansion of land harvested (from approximately 20,000 ha in 2005 to over 81,000 ha in 2020). However, farm-level sugarcane productivity has remained static at 29 MT/acre over those 20 years. Participants from FGDs and expert KIIs revealed that the principal sources of additional land for sugarcane growing had included the conversion of forests and public land (especially ranches) to cane growing; farmers allocating more of their arable land to cane, and farmer cane acreage expansion via the land rental market.

2.2 Economic fundamentals of sugarcane outgrower schemes

Estimates from the quantitative household survey data show that between December 2000 and November 2021, outgrowers had planted about 220,000 acres of cane, and harvested area was about 75,000 acres (Panel A, Table 1). Given average productivity of 29 MT per acre, we estimate a yield of 2.2 million MT harvested cane, which accounted for approximately 37 percent³ of national cane production that year. This was an outcome of utilising inputs equivalent to Ugx 147 Billion (Panel B, Table 1), which generated a total income valued at Ugx 197 Billion (Panel A, Table 1). However, performance in terms of total gross income (a proxy for wealth created), which amounted to Ugx 50.4 billion for the country, varied dramatically across regions, with Buganda registering an estimated loss of about Ugx 3.0 Billion in gross income during the season.

³ This is derived as a proportion from the nation sugarcane production of 5.8 million tons by FAOSTAT.

Table 1: Total¹ output, input costs, income, and on-farm labour uptake on outgrower sugarcane farms in Buganda, Busoga, & Bunyoro, 2000/21)

Measured total input and output indicators	Buganda	Busoga	Bunyoro	Total
Panel A: Total production, area, productivity and income				
Quantity of Harvested cane (million) MT	0.39	1.15	0.61	2.16
Quantity of cane Sold (million) MT	0.35	1.12	0.56	2.03
Area planted ('000) acres	31.79	160.73	25.58	218.10
Area harvested ('000) acres	14.34	46.69	13.56	74.58
Yield (MT/acre)	27.52	24.63	45.15	28.91
TOTAL INCOME	34.76	107.93	54.52	197.22
Total gross income²	(2.59)	15.63	37.37	50.41
Panel B: Total input costs				
Cane Seed (Billion Ugx)	5.70	18.15	1.23	25.08
Inorganic Fertiliser (Billion Ugx)	1.31	1.95	1.17	4.43
Organic Fertiliser (Billion Ugx)	0.16	0.01	0.00	0.16
Herbicides, pesticides (Billion Ugx)	1.93	1.83	0.15	3.92
Private extension (Billion Ugx)	0.09	0.15	0.02	0.27
Rented land (Billion Ugx)	5.38	15.41	0.80	21.59
Tractor hire (Billion Ugx)	2.43	10.93	2.04	15.39
Hired labour (Billion Ugx)	20.36	43.87	11.74	75.97
TOTAL COST	37.36	92.30	17.15	146.81

Source: EPRC Sugarcane Household Survey (2021)

1 These figures are estimated aggregate across households.

2 Excludes household labour costs and transport costs.

About 29,000 farming households engage in cane production in Uganda, and these farmers employ an estimated 640,000 labourers. Table 2 shows that more households took up cane growing during the period between 2012 and 2021. And an estimated 40,000 households, at one point, took part in sugarcane growing between 2005 and 2021. But by the time data were collected in December 2021, this number had declined to about 29,000 (Panel A, Table 2). This indicates that 28 percent of outgrowers had abandoned cane growing, with the highest attrition rate (33.8 percent) occurring in the Busoga sub-region. This implies that one in every three cane farmers in Busoga have abandoned cane growing.

Table 2: Cane growing status by sub-region

	Buganda		Busoga		Bunyoro		Total	
	No.	%	No.	%	No.	%	No.	%
Panel A: Cane growing status								
Currently growing cane	4,394	42.1	20,474	39.0	3,801	49.8	28,669	40.7
Past cane grower	522	5.0	10,475	20.0	367	4.8	11,364	16.1
Non-cane growers	5,521	52.9	21,512	41.0	3,464	45.4	30,497	43.2
Total	10,437	100	52,461	100	7,632	100	70,530	100
Panel B: Entry of current outgrowers								
Before 2005	367	8.4	3,256	15.9	299	7.9	3,922	13.7
2006-2011	739	16.8	3,051	14.9	806	21.2	4,596	16.0
2012-2021	3,288	74.8	14,167	69.2	2,696	70.9	20,151	70.3
Total	4,394	100	20,474	100	3,801	100	28,669	100

Source: EPRC Sugarcane Household Survey (2021)

4 These life-cycle intervals are derived from reported cane farmers' farming experience and categorised following key policy events in the sugarcane industry. "Before 2005" depicts the period with fewer large mills and less competition. "In 2006-2011" is when MTIC and MAAIF realized the emerging challenges of having many players (millers and farmers), and need for the 2010 NSP. And "2012-2021" epitomizes the full effects of competition between large and smaller mills – yet the break-down in miller-grower coordination that appears to have begun at this time – and farmer responses.

2.3 Expansion in milling capacity

As of 2020, the MTIC had licensed 33 mills, with a combined milling capacity of 71,850 tons per day—compared to the 21,700 tons per day provided by the 4 mills before 2005. However, only 12 mills (with processing capacity of 32,525 tons per day) of the 24 licensed mills within the study sub-regions (Buganda, Busoga, and Bunyoro) were operational. Some interviewed stakeholders noted that existing millers acquired new licenses in different jurisdictions to forestall other players from establishing milling plants in the same area. This could explain why there are fewer operational mills than those licensed.

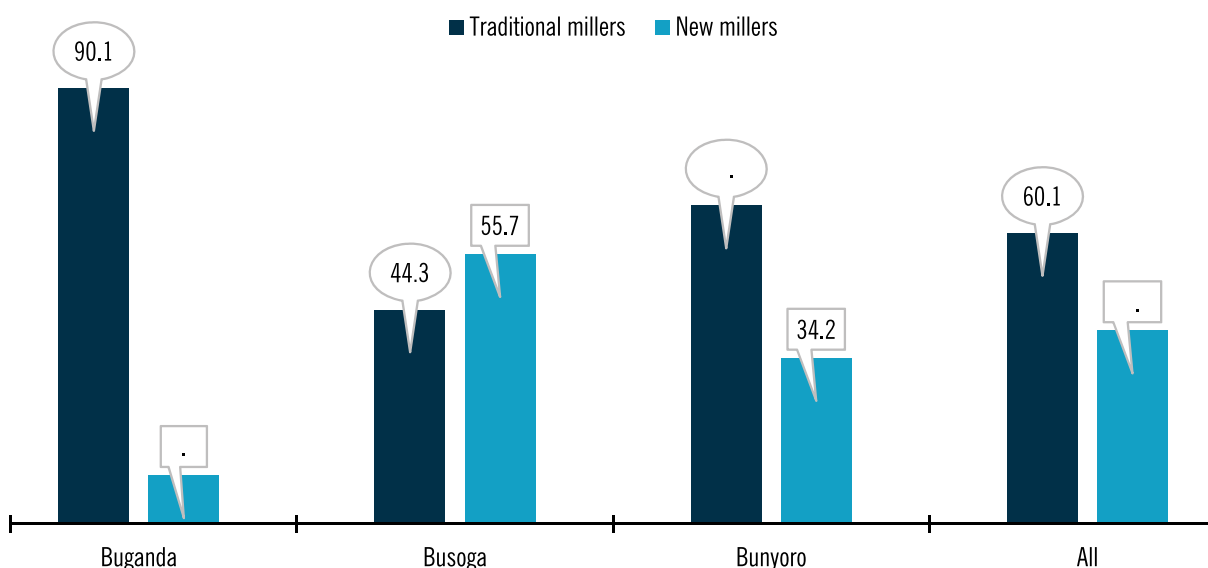
There are indications of intense competition between new smaller and traditional large mills, especially within the Busoga sub-region (Figure 1). The study indicates that there are instances where cane farmers are compelled to sell their cane to a mill in a relatively distant sub-region. This has been inevitable because, as the sector has expanded, over 50 percent of outgrowers operate

outside the 25 km ‘economic zone’ growing distances proposed in the 2010 NSP.

2.4 Changing institutional arrangements

Since 2005, the institutional arrangements within the sugarcane sub-sector have changed substantially, and these are described in Box 1. The box shows that while outgrower farming households responded to the expanding market opportunities that followed the entry of smaller mills, for some, these opportunities were short-lived. This implies that the sector’s competitive but unregulated environment fell short of delivering the benefits expected by outgrower farmers. The unregulated marketing system led to a persistent decline in cane prices in contravention of *part VII of the Sugar Act, 2020*, that recommends that a fair and transparent sugarcane pricing formula would be implemented each season with oversight from a representative Sugar Board. These unintended outcomes in Box 1 were largely driven by the failure to fully implement the 2010 NSP and the Sugar Act 2020.

Figure 1: Proportion (%) of farmers’ cane sold to new smaller and large traditional mills, by sub-region, 2020/21 (?)



Source: EPRC Sugarcane Household Survey (2021)

Box 1: Field account of sugarcane sector developments following the entry of new mills beginning in 2005

Benefits of competition:

- The sugarcane sub-sector became inclusive because the number of farmers increased, and they were able to sell to more processing mills, i.e. Mayuge Sugar, Kaliro Sugar, Kamuli Sugar, GM, Sezibwa, Victoria, Bwendero, and Hoima Sugar, in addition to Kakira and Lugazi SCOUL and Kinyara.
- Competition increased demand for sugarcane among mills leading to:
 - (i) All sugar mills (large and small) to embark on a campaign to promote sugarcane growing (at the peak of the competition) to meet the increasing demand for sugarcane as an investment in milling capacity in the country expanded;
 - (ii) In the Bunyoro sub-region, both small and large mills in 2016 committed to helping farmers start growing cane, but under unclear tenure arrangements for supplying sugarcane;
 - (iii) Millers started to pay relatively high market sugarcane prices to out-growers ranging between Ugx 136,000 -175,000 per tonne country-wide around 2016 and 2017;
 - (iv) Sugarcane farmers earned more income and better livelihoods. This attracted the attention of the wider farming community in the sub-regions of Bunyoro, Busoga and Buganda regions to venture into this *'less demanding - high income'* earner compared to other crops;
 - (v) The outgrowers started to internalise the benefits of operating in a somewhat competitive market environment (earning high prices than before). So, farmers responded by allocating more resources (land, labour and matching inputs without needing support from millers) to sugarcane production. But this was undertaken without committing to register fields to specific millers; and
 - (vi) A rise in independence and self-sufficiency in use of yield enhanced inputs among farmers. To the extent that some outgrowers opted to have loose ties with millers - without entering input contracts (the so-called registered but not aided).

Unintended Outcomes:

- The sector became competitive but weakly regulated, disrupting the fundamental processor-miller institutional arrangements (of registering cane fields). This led to three (3) negative growth impacts:
 - (i) Cut-throat competition for cane among millers located close to each other. For instance, five out of the eight operating small mills are located near the 2 large mills (Kakira and Lugazi SCOUL);
 - (ii) Less commitment from millers to guarantee secure market access and access to inputs for outgrowers;
 - (iii) Disabling the capacity of millers to have a database to efficiently monitor volumes of cane from the outgrowers; which most likely led to production of excess sugarcane beyond processing capacity in the country. Mainly driven by a new pool of *problematic* farmers, “the spot sellers”, who never registered fields with millers.



A farmer helplessly looks at his overgrown cane that no one wants to buy

3. EMERGING CHALLENGES IN THE SUGARCANE SECTOR

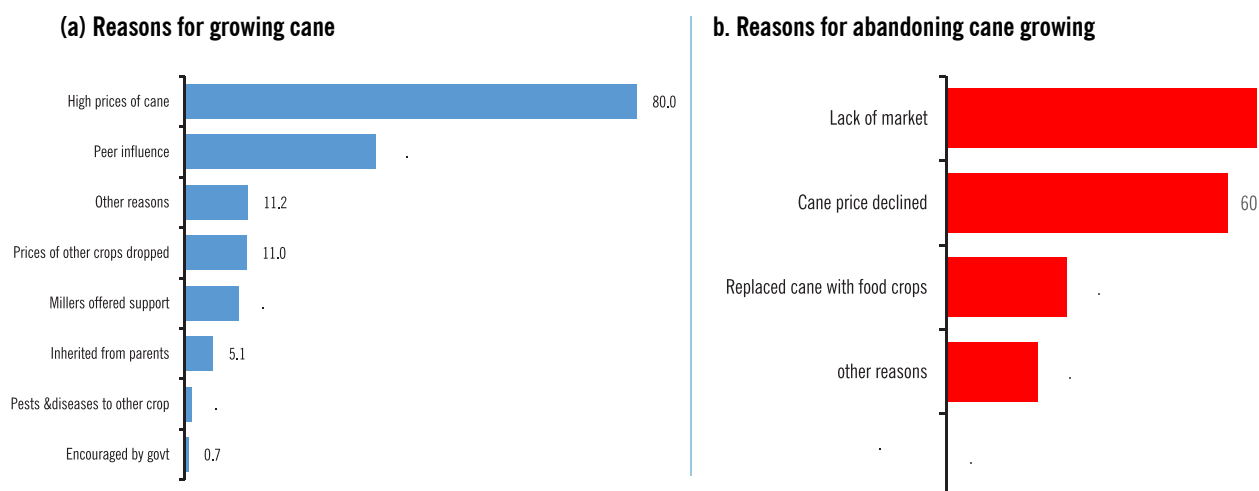
3.1 Farmers' constrained ability to harvest cane at 18 months

Over 74 percent of sugarcane farmers reported that they are currently stuck with overgrown cane that is older than 18 months (Table 3). Furthermore, 86 percent i.e. about nine out of every ten farmers stated that they could not sell cane due to failure to access a cane delivery permit to the mill as the reason for not being able to harvest cane. Table 3 shows that challenges created by permit availability seems to be more severe in Busoga and Buganda respectively than in Bunyoro. Even when permits are available, these are also rationed among the registered farmers. For instance, in Luuka district, one of the farmers in a FGD reported that *“in November 2020, he was given a permit authorising him to deliver 50 tons out of 5,000 tons that were ready to be harvested. And moreover, getting that permit involved a lot of bribery a factor he attributed to having surplus cane and low crushing capacity of mills in the district”*.

Table 3: Share of outgrowers farmers participation in sugarcane harvesting and marketing in 2020/21 (%)

Cane grower harvesting	Buganda	Busoga	Bunyoro	All
Harvested cane in 2020/21 (%)	50.1	53.0	52.4	52.6
Cane harvested at least 17 months (%)	54.3	52.5	39.8	51.7
Age of unharvested cane (among growers who have not yet harvested)				
< 18 months (%)	28.4	24.8	33.1	25.9
> = 18 months (%)	71.6	75.3	66.9	74.1
Reasons for not harvesting yet				
No permit and no market (%)	87.4	95.0	2.9	86.3

Source: EPRC Sugarcane Household Survey (2021)

Figure 2: Reasons given by farmers for entering and exiting cane growing (%)


3.2 Persistent decline in cane prices since 2018

The farm-level sugarcane prices reported by farmers indicate that since 2019, prices received by farmers have declined by 33 to 44 percent, depending on the region (Table 4, Panel A). The prices for 2020 and 2021 noted in these interviews are consistent with the figures generated from the quantitative survey information presented in Panel B, Table 5 during fieldwork in December 2021. From the five years of data available, it appears that cane prices from 2019 to 2021 were more similar across the three sub-regions than in 2017 and 2018. Cane farmers interviewed claim that the steady decline in prices beginning in 2018 is due to millers using their greater local market power relative to farmers to set cane prices lower.⁵ Some also believe that the relative uniformity of prices across regions in the past few years suggests that millers from different regions collude against farmers (Figure 2). Without a Sugar Board (as sanctioned to be established under Part II of the Sugar Act, 2020), neither millers nor growers are obligated to agree to and abide by a sugarcane pricing formula.

Table 4: Farmer-reported sugarcane prices by region (nominal Ugx/Metric Ton), 2017-2021

Source	Year	Buganda	Busoga	Bunyoro
Panel A: Qualitative Kilns & FGDs				
	2017	175,000	162,000	135,000
	2018		148,000	120,000
	2019		95,333	95,000
	2020	97,000	95,667	105,000
	2021	97,000	93,667	90,100
Panel B: Quantitative survey				
<i>Median</i>	<i>Dec 2021</i>	<i>97,000</i>	<i>95,000</i>	<i>91,000</i>
<i>Mean</i>	<i>Dec 2021</i>	<i>95,282</i>	<i>92,782</i>	<i>97,907</i>

Source: EPRC FGD Field Work (2021)

3.3 The introduction of cane delivery permits by millers

At the peak of surplus cane in 2018, millers in Eastern and Central regions started issuing permits to selected cane growers to regulate the delivery of surplus cane (over and above the mill's installed milling capacity) by farmers to the mills. The excess production of cane, amidst limited crushing capacity country-wide, is one potential reason millers opted to be issuing permits to enable outgrowers to sell harvested cane to a specific mill. While the other reasons for introducing permits seem unclear, had there been active public coordination of miller-grower relations to balance the demand and

⁵ Millers in Busoga and Buganda apply World Bank formula (with minimum of 50,000 UGX/tonne); and Kinyara has a pricing committee that sets prices every year (in July) and farmers are made aware of the new price

supply of cane, the issuance of permits would have been unnecessary. The rationing of permits has created a black market for permits, especially in Buganda. A functioning Sugar Board could have overseen or prohibited this unequal arrangement in the interests of growers.

It was reported during farmer FGDs and expert KII that the introduction of ‘permits’ by millers promoted the proliferation of unofficial costs for farmers (Table 5). The emerging unofficial costs to pay middlemen have caused a reduction in the profitability of sugarcane produced by outgrowers as price margins received by farmers have dropped due to higher operating costs. Farmers increasingly find it challenging to break even to cover the emerging costs under a weakly regulated but seemingly competitive sugarcane marketing environment.

Table 5: Outgrower cane harvesting and marketing costs (Ugx/Metric Ton) in December 2021

	Activity	Cost (Ugx/MT)
Official	Transport	30,000
	Cutting	20,000
	Loading	10,000
Unofficial	Permit Owner	30,000
	Driver	20,000
	Supervisor	10,000
	TOTAL	120,000

Source: EPRC qualitative survey - Field Work (2021)

3.4 Abandonment by millers of sugarcane field registrations

Registering cane fields by millers is a crucial pillar of coordination between millers and outgrowers of the supply and demand of cane at a local level. This is undertaken by representatives of a mill in consultation with the chairman of the local village council (LC1). Registration of cane fields takes place either before sugarcane is planted (as in the Bunyoro sub-region) or when a sugarcane field is 1 to 6 months old (as in Buganda and Bunyoro). This is when a miller compiles critical information to establish long-term assurance of their access to harvested cane and the out-grower

receives assurance by the mill to begin to buy their harvested cane at 18 months.

For the surveyed households, at least 74 percent had been registered and aided at one time, while 16 percent had been registered but not aided by mills; and 10 percent, were spot sellers. However, by the time of conducting the study in December 2021, this arrangement had ceased. Abandoning the registration of sugarcane gardens has *four* (4) major implications.

First, it significantly reduces the exchange of critical sugarcane information between outgrowers and millers, like the farmer’s potential cane supply and the mill’s potential uptake for that farmer’s cane.

Second, keeping track of cane fields through registration is vital for market assurance for outgrowers. It helps to identify farmers who can: (i) sell the most cane with effective sugar content to a mill, harvested at 18 months (not later); and (ii) efficiently deliver harvested cane within 24 hours of harvest.

Third, it inhibits millers from extending input credit to growers without fear of default. This is important in ensuring sugarcane farm-level productivity and profitability (a fundamental indicator of the sector’s performance).

Fourth, registration of cane fields is one-way millers can estimate the quantity of cane produced each year to plan appropriately for the mill’s processing capacity. Therefore, sustainable sugarcane production and processing development require that millers and growers coordinate, mainly via the registration of cane fields.



Overgrown cane being collected for use as firewood

4. CONCLUSIONS AND WAY FORWARD

In the absence of a National Sugar Board (NSB) to oversee and regulate the activities in the sugarcane sub-sector, the governance of outgrowers' affairs is primarily determined by millers. Without the NSB, miller and grower agreements are broken. Under such circumstances, the survival of the outgrower schemes is under threat due to increased market uncertainties among outgrowers. This is the reason behind the exit of outgrower farmers from sugarcane cultivation. The underlying factor under the current arrangement is to preserve the millers' disproportionate power over sugarcane price determination. This calls for enforcing the cane pricing formula and creating functioning outgrower associations stipulated in the 2020 Sugar Act. This would be necessary to prop-up the position of farmers relative to the mills in price negotiation.

In the absence of zoning, large mills are arguably resorting to expanding nucleus estates to stabilise cane supplies. However, the expansion of nucleus estates is

beginning to crowd-out outgrowers in cane production by reducing large mills' demand for outgrower cane. This could significantly reduce the sugarcane industry's ability to serve as a source of inclusive economic growth in rural areas. Likewise, about 50 percent of outgrowers are located more than 25 km from the closest mill and are, therefore, outside of the realistic zone around the nucleus estates. This creates a need to review the options for administrative zoning.

Outgrower farmer participation in this sector is the predominant way in which the cane sector can be inclusive – i.e. increase the household incomes and food security of many outgrower farmers in cane growing areas. As such, there is an urgent need to strengthen the sugarcane sector's institutional policy environment to support outgrower farmers' continued participation in the sector. The study findings imply an urgent need for discussions among government and sector stakeholders regarding the status and future of

outgrower participation in the sugarcane subsector.

In particular, the findings point to the need for the constitution of the Sugar Board, as recommended by The Sugar Act, 2020, to provide the public governance needed to improve coordination between millers and out-growers, oversee a fair and transparent process for determining cane prices over time, address new realities in the cane sector, and support the sustainable participation of outgrower farmers in sugarcane production in Uganda. The inclusion of outgrowers in the cane sector is the primary means by which it can contribute to increases in rural farm household incomes, food security, and rural employment in cane-growing areas.



A worker packaging sugar for final delivery to consumers

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