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Sugarcane Commercialisation and Gender Experiences in the Zambian 'Sweetest Town'

Abstract

This paper explores how sugarcane commercialisation impacts gender relations, and processes that shape them, using two differently structured outgrower schemes – a settlement scheme, and an EU driven block farm in southern Zambia. Results show gendered impacts across the schemes are complex and are shaped by diverse cultural arrangements as micro-processes. Intra-household patterns of decision-making, land and labor dynamics reveal changing the structure, organisation, and integration of outgrower schemes does not necessarily make them responsive to strategic gender needs. And that these processes are insufficient in altering pre-existing socio-cultural imbalances. Consequently, even where schemes are intentional about being inclusive, they are likely to replicate structural inequalities and fail to engender transformational changes among participants. This paper raises the need to address the politics of land and labor relations, and their implications for different social groups within their cultural-historical context.

Key Words: agricultural commercialisation; contract farming; gender relations; outgrower schemes; land-grabbing; sugarcane value-chain; Zambia.

1 Introduction

The scale and intensity of agricultural commercialisation as large-scale land acquisitions (LaSLAs) witnessed in the past decade is historically unprecedented. Dubbed as land-grabs, financial resources have occasioned investments in approximately 45 – 200 million hectares of land primarily in poor countries, including those in sub-Saharan Africa (Deininger 2011). The introduction of new capital, and promotion of new crops and technologies, proponents argue, will intensify the use of marginal and previously 'under-utilised' land in subsistence agricultural contexts (Hajjar et al. 2019). New capital investments in agriculture induced a belief among national policymakers about increasing risks in global food systems, and the need for strategies that could guarantee global commodity supplies, enhance agricultural outputs, promote exports, and agricultural trade, thereby contributing

to economic growth (World Bank 2011; Deininger 2011; Borras and Franco 2012). Whilst LaSLAs have made visible both the role of the state and its relationship to investors and the local population, investments arguably bond land, labor and capital in contexts where capital investments are scarce and are constraint to agrarian transformation and economic growth (Hajjar et al. 2019). The commercialisation of agriculture thus unfolds in outgrower schemes – occasionally as the development of processing facilities with a core commercially operated estate, “through which small producers are incorporated into commercial value-chains” (Hall et al. 2017, p5). Here, optimism of outgrower schemes points to the integration of poor and marginalised producers in commercial value-chains under promises of job creation and market opportunities which arguably present men and women pathways for improved incomes and food security. They have been framed as sites for redressing historical imbalances (Behrman 2012). Outgrower schemes are also framed as conduits for input supply, technology transfer, including extension services (Matenga and Hichaambwa 2017), driving a national policy on agriculture (Manda et al. 2019).

However, for the global majority smallholders whose commercial viability and orientation is selling surplus produce in local geographies, schemes as channels of commercialisation, critics argue, can be exclusionary (Spann 2017; Peters 2013). Investors and national governments arguably ignore the presence and interest of local populations affected by LaSLAs, thereby leading to displacements (Feldman and Geiser 2012); food insecurity and declines in incomes (Shete and Rutten 2015; D’Odorico and Rulli 2013), and social disturbances and violence (Grajales 2011). Cases where governments and investors pledge to commit to international guidelines on land acquisition exist but these are rare, and with little explicit engagement of women such as in discussions around free prior and informed (Hajjar et al. 2019; Salverda 2018). Recent reports show LaSLAs involve expropriation and enclosure of land and resources, driving semi-subsistence farmers into labor markets (Regassa et al. 2018). Yet, where companies push down the price of labor, this has increased rather than address the problems of unemployment (Baird 2011). Case studies variously report changes in land tenures due to LaSLAs have increased the labor burden of women, reduced incomes, and contributed to their exclusion from spaces of consultation and decision making (Hajjar et al. 2019). Several reports reveal LaSLAs can reduce women’s land and resource access and tenure security, producing negative effects on women’s livelihoods and well-being (Tsikata and Yaro 2014;

Verma 2014; and Chung 2016; Hajjar et al. 2019). The commercialisation of agriculture associates with changes in land use, access, and control over natural resources. This limits livelihood improvement and diversification (Nordic African Institute 2015), especially when production arrangements fail to recognise land as a right, a productive, and rights fulfilling asset with the potential to unlock other rights for improving rural wellbeing (Manda et al. 2018a). Consequently, land-use dynamics consolidate men's control of land (Doss et al. 2014), whilst the centrality of cash crops as part of household livelihood diversification impact negatively on women's land access, incomes, and food security (Mariwah et al. 2019).

Previous studies have looked at how changes in land and labor (agrarian capitalism) produce local inequalities (Phillips 2014) and lead to differentiated outcomes for men and women in contract farming (Hall et al. 2018) with others focusing on political reactions from below (Xu 2018; Borras et al. 2011). Empirical efforts have explored the impacts of outgrower schemes across changing customary institutions, communal property systems (or kinship relations), and emerging class, gender and inter-generational inequalities. This includes rural dispossession, differentiation and shifting labor relations (Tsikata 2015; Verma 2014; Lang et al. 2018). Many of these adverse effects are mediated by changes brought about by the integration of women and men in outgrower schemes, and the way natural resources are implicated. They are also mediated by employment avenues, labor allocation, income, and related intra-household expenditure decision making, and cultural practices and norms. International development efforts acknowledge secure ownership, access, and use of land is a prerequisite to the protection of the rights of women and vulnerable groups (UNDP 2012). However, diversity in outgrower schemes means that how micro-level processes, socio-economic, and cultural micro-processes impact gender relations and implications for gender relations remains an interesting area of research.

This study focuses on how differently structured outgrower schemes generate gendered outcomes, and the micro-processes underpinning them. Specific objectives include 1) to examine how outgrower schemes influence community availability, access and control of resources (use rights) in relation to gender; 2) to explore and understand how outgrower schemes shape intra-household and extra-household labor engagement of men and women; and 3) to explore how

women participate in outgrower schemes and how their participation influences negotiations and changes their positions within households and the community. Ultimately, this study responds to calls for more work on the gendered impacts of LaSLAs (Rocca 2014; Hall et al. 2018). I hope to encourage reflections on a particular issue – that is local-level outcomes of LaSLAs and related small-holder coordination arrangements, which remain important if not urgent in driving rural and national development initiatives.

2 Background: Sugarcane Commercialisation, land tenure, and gendered relations in Zambia

A focus on gender and power relations in this paper raises the need for frameworks that interrogate how resource access is defined, negotiated, and contested in commercialised production systems. This study integrates the political economy perspective of agrarian change and the feminist political ecology. Political ecology highlights how outgrower schemes impact local level human-environment interactions (Adams et al. 2019; Robbins 2012). How gendered micro-politics affects control of resources is central to feminist political ecology perspectives. Combined, the agrarian political economy and feminist political ecology advance gender as social differentiation (e.g. class, race, caste, age) in changing ecologies (Nyantakyi-Frimpong and Kerr 2017; Mollett and Faria 2013; Rocheleau et al. 1996).

From a political economy perspective, capitalism is a system of production/reproduction that incorporates social relations between capital and labor. In the works of Marx, Polanyi, or Schumacher, struggles over land, and fragmented classes of rural labor are central. Capital exploits labor for profit and accumulation. Labor works for capital for a means of subsistence, shaping social relations and dynamics of production and reproduction. This includes property, and power in agrarian formations and their processes of change (Bernstein 2010, p.1). In this case, outgrower schemes produce struggles over land, including processes of class differentiation and their reproduction. This points to social relations of property (who gets what?) and social divisions/organisation of labor/work (who does what?). It also points to the social distribution of the product of labor (or income) (who gets what?), and reproduction of producers and non-producers (social relations of consumption, reproduction and accumulation) (what do they do with it?) (Scoones 2015). Gender relations are socially constructed but not necessarily anchored on

domination, hierarchy, or exploitation between genders (Ferber and Nelson 2009). There are gendered outcomes of exposure to changing relations of production in relation to gender participation in particular modes of production. Diverse practices can reinforce (or undermine) specific institutions, customs, traditions, and value systems that shape men and women's access to resources (Adams et al. 2019, p.283).

Power relations between men and women in resource access, production, exchange, and consumption are complex (Hwg 2005; Dancer and Tsikata 2015). The complexity relates to gender relations in the division of labor, resource access between women and men, as well as in ideas and representations – the ascribing to women and men of different abilities, attitudes, desires, personality traits, behaviour patterns, and so on (Argawal 1994, p.1). The assessment of gender in schemes thus fits within the broader context of complex agrarian relations that includes institutions and regulatory frameworks (formal/informal arrangements, norms, etc.) (Adams et al. 2019).

Outgrower schemes arguably allow farmers to challenge and contest pre-existing gender inequalities in access to and control over resources and opportunities (Behrman et al. 2012). Here gender arrangements can be (re)negotiated and contested to address inadequacies in ideologies and/or material orders. Bargaining processes are defined by dynamic social norms but *“[t]he extent one deviate from exercising social norms shaping gender relations depends partly on one's intra-household and extra-household (community) bargaining power”* (Adams et al. 2019, p.283). Power shapes individual interests and utilisation of resources and labor opportunities brought by LaSLAs. Men and women are driven by varying (if not conflicting) interests and preferences, as well as abilities to pursue these opportunities and outgrower schemes, which are sites on which these dynamics play out (Adams et al. 2019).

This study considers households as spaces for decision-making about labor and resource allocation (Agarwal 1997; Guyer and Peters 1987). Institutions shaping ownership of and control over resources are crucial in one's bargaining power, and in negotiating their position. Some of these relate to access to employment and community resources such as grazing land, and forests. Others include traditional social support systems (e.g. patronage, kinship), etc), social perceptions about needs, contributions, and other determinants of deservedness (e.g. labor provisions), as well

as state support (Agarwal 1997). Unequal access to these in a household and community can weaken bargaining power for some members relative to others. Thus *“contract farming may be analyzed as a medium for men and women to bargain for different gendered positions or control resources for constructing new gendered roles or new masculinities or demasculinize roles taken up by women as new forms of feminization”*¹ (Adams et al. 2019, p.284). Schemes are spaces within which men and women bargain for different gendered positions or control resources for constructing new gendered roles or new masculinities or demasculinise roles taken up by women as new forms of feminisation.

Zambia is well suited to interrogate these issues. Dubbed land and resource-abundant (Deininger et al. 2011), the country is one of the frequent sites of LaSLAs in sub-Saharan Africa (Land Matrix 2016). Almost 90% of smallholders work customary land and are without title, a majority of whom cultivate less than 2ha (70%) (Hichaambwa and Jayne 2014). Legal provisions such as the Land Conversion of Titles Act of 1975 vests all land in the power of the President. Paired with the Lands Act of 1995 which allows conversion of customary land to leasehold, this has made it easier for foreign investors to acquire land which also allows political leverage in land deals (GRZ 2017; Nolte 2014). Weak governance systems shaping LaSAs means related processes may threaten rather than protect local land rights (Nolte 2014; Golay and Biglino 2013). Prevalence of customary land in Zambia has led to unclear bearers of rights with over-lapping claims, affecting women (Toulmin 2008). How local institutions adapt and deliver equitable land access and distribution between men and women (agency) (Mariwah et al. 2019; Evans 2016; Peters 2009), including how gender is *“continually being forged, contested, re-worked and reaffirmed”* (Jackson 1991, p.210) is key to this study.

The spatial focus of the research is the Southern Province of Zambia, the country’s ‘sweetest town’ which has witnessed increased financial investments and land transactions since 2000.

¹ Feminization is the process of enforcing the idea that anything is naturally aligned with women or girls or so-called qualities of femininity. Masculinity is the same but for men. However, in a patriarchal society or organisation, masculinized things can be de-masculinized, and, in most cases, de-masculinizing process results in the role losing its former prestige and political influence. So, one can imagine the sources of gendered discrimination (e.g. employment and salaries, political positions, and influence etc.) and what that may mean for women taking up certain roles, which are de-masculinized (Adams et al. 2019, p.284).

Government policy promotes domestic and international investments in agriculture to boost output and productivity in non-traditional agricultural exports such as sugar (GRZ 2013; 2016; 2017). This uses a model that combines large-scale estates with processing mills, with independent outgrowers supplying their cane to the estate mills under pre-negotiated contracts. This model is considered effective in balancing trade-offs between the interest of outgrower farmers, investors, and national development. This centralised management system is seen by Zambia Sugar Plc (ZaSPIC) as favouring smallholders in conducting joint activities (e.g. procuring inputs), whilst guaranteeing capital investments (Manda et al. 2018). However, poor contractual arrangements alongside weak national policy and legal frameworks make outgrower farmers weaker partners in the coordination arrangement, more so for women.

3 Methods

3.1 Researching Outgrower Schemes in Zambia's 'Sweetest Town'

This study was conducted in the district of Mazabuka in the Southern province of Zambia (Figure 1). The district is located about 135 km from the capital city Lusaka and has a population of about 261,907 (CSO 2010), 67% of which live in rural areas (CSO, 2014). Government reports show poverty rates stand at 74%, making Mazabuka one of the poorest districts in Zambia. Subsistence agriculture dominates, but agribusiness expansion enables wage labor engagements. Land and water availability have driven a clear regional dominance of sugar production in Zambia in Mazabuka.

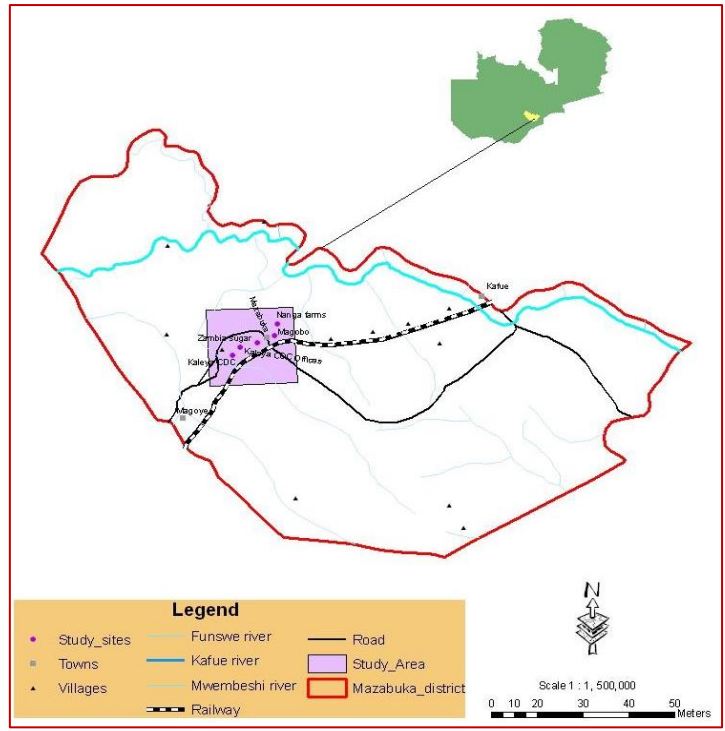


Figure 1: Study area and the case study communities (ArcMap).

In Zambia, Zambia Sugar Plc (ZaSPIC) is a former parastatal and largest sugar producer in the country. The entry of the South African based Illovo Sugar Plc which invested in ZaSPIC in 2001 led to an intensified financialisation and expansion in sugarcane production (Manda et al. 2018b). Since 2001, Mazabuka witnessed a rapid sugarcane expansion, which not only expanded smallholder outgrower arrangements but also stimulated political and economic interest in sugarcane (Manda et al. 2018b). Thus, the town of Mazabuka has been dubbed the ‘sweetest town’ for its dominance in sugarcane production. The sub-sector contributes about 3-4% to GDP, 6% to total national exports and employs over 11,000. Commanding about 92% of Zambia’s market share, ZaSPIC’s production arrangements in Mazabuka mixes corporate production by ZaSPIC (60%, on over 18,000ha), independent commercial farmers (28%, on over 12,000ha); outgrower companies who also act as intermediaries and service providers to small-scale farmers outgrower schemes (12%, on over 2000 ha) (ZaSPIC 2019). By 2020, ZaSPIC produced over 420,000 tons of sugar, commanding 92% market share. One consequence has been that smallholders have had to contend with increasing integration of their land into schemes, raising implications of who does what and how.

Smallholder rain-fed production in staple maize is dominant, but recent investment by Illovo catalysed local sugarcane uptake by adding 225 smallholders as growers (141% increase) between 2009 and 2018 predominantly male (ZaSPlc, 2016). However, smallholder sugarcane production remains low (12%) compared to commercial farmers (28%) and the ZaSPlc's in-house production (60%). Thus, whilst outgrower schemes present opportunities for women to participate in emerging value-chains, such coordination arrangements heighten claims to land, implying gender and class differentiation (Hall et al. 2019). 385 small-scale farmers are currently participating in three outgrower schemes (Table 1). However, two radically different schemes were selected: a settlement scheme (Kaleya Smallholder Company Limited) (Kaleya) and an EU driven block farm (Magobbo Sugarcane Scheme) (Magobbo). Selection considered different periods, and variations in the structure and organisation of the schemes, intensity of investments and differences in production arrangements.

Manyonyo scheme was excluded based on the short history of sugarcane production, and similarities in institutional and production arrangements with Magobbo. Thus, the selection of the two out of three schemes addressed representation issues.

Table 1: Outgrower schemes in Mazabuka linked to ZaSPic.

Scheme: Start date/hectares	Outgrower arrangements	Farming history/Previous land- use	Sugarcane smallholders	Average hectares per household
Kaleya 1983/1040ha	Operates via an integrated limited company (KASCOL), which provides extension services to smallholders (e.g. inputs, managerial, marketing, commercial services etc). Farmers directly cultivate sugarcane on household plots whilst using an additional half-hectare for subsistence crop production. Farmers focus on land preparation, irrigation, weeding, fertiliser application, etc. All land belongs to KaSCOL, and as tenants, farmers run a 14-year renewable lease.	State acquires to settle farmers as tenants	160	6.5
Magobbo 2009/380ha	Operating as Trust, Magobbo is a block-farm which amalgamates individual farmer plots of land. Magobbo leases the block-farm to ZaSPic's subsidiary Nanga Farms Plc. Nanga Farms runs a centralised system that allows parties to conduct joint activities such as bulk supply of production materials. Production and commercial aspects are all controlled by Nanga Farms and farmers receive a share of profits made on their plots as dividends.	Private ranch area acquired by the state and settled mostly previous workers on the land – a settlement of previous ranch workers, with communal grazing areas	80	7
Manyonyo 2014/555	A state project co-funded by the Finnish government and the African Development Bank. A clustered scheme with multiple crops under consideration for the future such as maize, bananas and other horticultural crops, but only sugarcane is currently grown. Farmers formed a farmer-based company (Manyonyo Irrigation Company), but all production/management operations fall directly under ZaSPic. Smallholders receive a share of the profits.	State settlement area	164	4

Kaleya scheme was formed in 1980 and has 160 smallholders. Farmers cultivate sugarcane on 1,100ha of land leased from the management company Kaleya Smallholders Company Limited (KASCOL) which also produces its sugarcane (Figure 2). Farmers own a 19.5% stake in KASCOL. Each household cultivates an average of 7.5ha sugarcane and holds an additional 0.5ha as dwelling land. Kaleya does not have a clear gender policy focus. This means scheme dynamics continue to be influenced by cultural practices such as inheritance practices. Kaleya has ten (10) ‘original female’ farmers and 44 female successors translating to 34% ($n=54$) of female participants compared to 66% ($n=106$) male farmers. During data collection, only one female belonged to the farmer association KASFA as the second secretary.

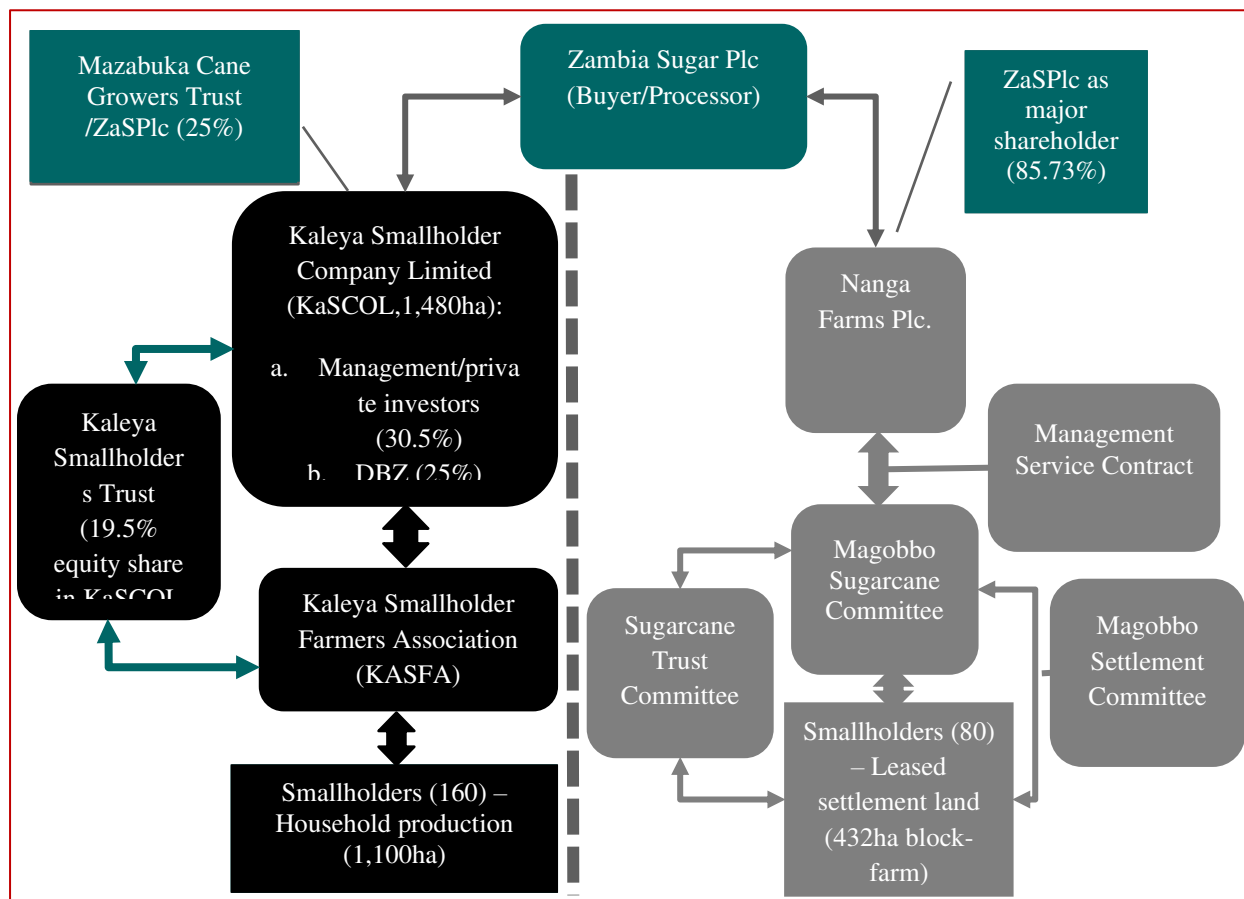


Figure 2: Institutional structure and organisation of Kaleya and Magobbo sugar projects.

Magobbo on the other hand was established in 2007 with support from the European Union. The scheme has 432 hectares of land. The operational modalities of the Magobbo outgrower scheme involve pooling individual smallholder plots of land into a single contiguous block farm for

economies of scale and the facilitation of irrigation infrastructure. A commercial entity and subsidiary of ZaSPIC – Nanga Farms – is in charge of land management and marketing of the crop, while landowners are shareholders, proportionate to their original landholdings, ranging between 4 – 6ha. At inception, the EU donor guidelines provided Magobbo with a clear focus on gender in its project design to facilitate the inclusion of women as a marginalized group. At the time of research, 70% of committee members were women but the top three positions in the committee (Chairman, vice-chairperson and secretary) were male. Recent reports show this position is already changing in favour of men.

3.2 Data collection and analysis

Data were collected in three phases between 2015 and 2019. This started with a scoping exercise through preliminary group discussions with scheme leaders in Kaleya (1/6 women) and Magobbo (5/10 were women). Scheme leaders were asked to brainstorm on community groups in relation to a key livelihood question of wellbeing (Phase I). Three social groups across better-off, medium, and poor categories and across gender were formed and based on these formulations subsequent group discussions with men and women (6 -8 participants) were purposively drawn. Women's group discussions mixed participants from female-headed households and households headed by both men and women. Discussions began with general questions that helped to map previous land tenure arrangements, land-use changes, boundaries, village locations and fields, changes in food production and consumption, decision-making and labor allocation. Discussions lasted between 1 – 2 hours.

Two female-headed households were then drawn from each social group for in-depth household case study interviews ($n=12$ in the two schemes) (Phase II). In depth household case study interviews took the form of oral histories livelihood patterns (Haynes 2010). Case study interviews asked about intra-household dynamics around labor, employment, and expenditure decision-making (Table 2).

In-depth household case study interviews were accompanied by group discussions ($n=10$ in both schemes) to explore wider gender experiences. Group discussions were conducted with men and women separately. Questions in group discussions focused on gendered perceptions of access and control over resources (e.g. land and access to ecosystem services). Participants were also asked

about processes of inclusion in sugarcane schemes, historical and post-sugarcane livelihood strategies, family dynamics around employment and incomes.

Table 2: Study participants

Qualitative data	Kaleya	Magobbo
Mazabuka district interviews <i>n</i>=12		
Community key informant interviews	<i>n</i> =8	<i>n</i> =8
Group Discussions	<i>n</i> =5	<i>n</i> =5
In-depth household case study interviews	<i>n</i> =6	<i>n</i> =6
Quantitative Data		
Household surveys were deployed	<i>n</i> =80	<i>n</i> =70

Phase III involved household questionnaires (*n*=80, Kaleya; *n*=70, Magobbo). Questions were directed to individual households to capture existing livelihood profiles. Questionnaires asked questions about background information, land scarcity, cropping patterns as well as access to and control over resources. They included questions related to sources of income and related economic activities – on-farm or off-farm. Questions were administered physically on a one-to-one basis with women as members of the wider household economy.

Meanwhile, observations were used to understand every day livelihood engagements such as petty trading, firewood collection, water access and utilisation and access to ecosystem services.

Nvivo was used to sort and code qualitative data from different sources, drawing on broad themes. Qualitative data were then subjected to thematic analysis (Kumar, 2005; Bazeley, 2007). Quantitative data from household questionnaires were analyzed using SPSS, allowing the generation of statistical summaries around incomes, and background information. Where possible, these were then used to validate and confirm qualitative data.

3 Results

4.1 Participation in outgrower schemes

Participation of women in outgrower schemes generally compares unfavourably to men. Cultural factors and previous ownership arrangements continue to prioritise men as plot owners, compounded by *“unclear gender focus in project design and implementation”* (SDKe:16.06.16; SDM1:21.01.16). In Kaleya, 6% ($n=10$) of growers were ‘original female farmers and 34% ($n=44$) were female successor farmers compared to 70% ($n=126$) of men. The case-farmers agreement provides a succession clause that allows lead farmers to nominate a preferred next of kin to succeed them in the event of their death or infirmity (e.g. spouse, child or other family members). Succession arrangements show limited positive changes in participation for women in that of 102 new farmers or successors in Kaleya, 43% ($n=44$) were women compared to 57% ($n=58$) of men. Plot owners increasingly opt for female successors to successfully run farm plots and look after the wider family. As one scheme leader argued original farmers *“now prefer women successors to male since they have proved to be responsible”* (GDK3:01.16). In Kaleya, *“a will is very important without which women cannot participate in sugarcane cultivation as growers”* (SDKe:16.01.16). However, historical and cultural practices that prioritise male successors persist in Kaleya, with KASFA and KASCOL records showing that of 160 farmers, only 54 (34%) were women. During data collection, only one female belonged to the association committee (as the second secretary) compared to nine men who occupied other positions. Participation in the company KASCOL as workers were also limited for women in Kaleya due to household labor demands, and the technicality of the jobs requiring higher education and skills. The association Chairperson blamed this on lack of awareness about gender equality.

In Magobbo on the other hand, representation in the sugarcane committee reflects the EU donor policy requirements. About 50% ($n=5$) of the committee members were female, but men occupied the top three positions as chairpersons (2) and first secretary (1) (2017). However, by 2019, only 1/5 committee members was female (Treasurer). Only 6% ($n=5$) were original female farmers (2019) compared to 11% ($n=9$) in 2008 as *“some original farmers died and named their spouses as next of kin”* (SDM12:28.10.19). Governance and equal women representation demanded by the EU resulted in limited success and *“failed to address pre-existing gender imbalances”* (SD12:28.10.19). For instance, only 15% ($n=3$) of women participated in the recent scheme’s constitutional review committee (2017) compared to 85% ($n=17$) of men (SDM12:28.10.2019).

How men and women interact with outgrower schemes differs greatly. In both schemes, whilst women were integrated only to a limited degree and were relegated to lower end low paying casual jobs (e.g. weeding), men gained supervisory roles. Clear male dominance was observed across the schemes in cane cutting, fertiliser application and herbicide spraying. Meanwhile, in Magobbo, women revealed *“having land in the catchment area determines who grows sugarcane or not”* (SDM5:02.16), but land control and ownership is predominantly male. However, others participated in the scheme as growers following land purchases in the catchment area, but this presented challenges for poor women who lacked financial resources or extra land to swap.² Consequently, only 18% ($n=14$) of the total 80 farmers at the start of the scheme were women. Thus, control and access to land determined decision-making.

Women also interact with sugarcane schemes as wage labor. Women were agreed this was because of the *“need to earn family respect”* through contribution to household income and welfare (SDM5:02.06). For women, wage labor was an opportunity to retain their lost space through enhancing economic independence, and respect from spouses (Section 4.2). This included the need to enhance assertiveness and recognition in the wider community processes, and bargaining power within households. It was generally agreed that women who worked on the plantations or held formal jobs (e.g. teachers) were more likely to enjoy collective household expenditure decision making on social services and investments. And that they *“are assertive and confident, and thus admired by fellow women.”* However, for men, sugarcane production consolidated their control of sugarcane incomes and heightened their claims to productive land.

4.2 Gender Dynamics in Environmental Resources, Livelihoods and Strategies

Diverse crops including staple maize, cotton, sunflower for subsistence and sale were previously common in Mazabuka. Communal patterns of production and crop diversity gave women some level of control over the production and marketing of commodities, enhancing their income access. Previously, women benefitted from trading crops such as maize, which were less centralised, more flexible in terms of production and marketing. Traditional cropping activities had clear trading

² Farmers with land outside the scheme boundaries could swap with farmers who had extra land in the catchment area. Rather than swapping, some farmers sold their extra land for quick economic gains (including those that exited sugarcane), leading to unintended lost opportunity for poor farmers especially women and youths (Manda 2019).

patterns, providing women with an opportunity to own and trade their commodities thereby granting some level of financial independence. Results show a generally decreased crop diversity due to sugarcane-related land-use changes. This is seen to have reduced women's overall engagement in agriculture and ultimately income. However, *"centralised and dominated by men"* (SDM2:06.15), sugarcane cultivation was identified as having negatively impacted land availability and access. The problem is that *"co-ownership of plots was never emphasised by men or intermediaries (Nanga Farms/KASCOL) themselves,"* remarked one district representative.

Whilst men do not substantially lose their dominance, women are disempowered and dispossessed from previous crops through land-use changes, and by extension previous independent land ownership. This intensified productive roles for women by drawing them to work on the plantations as wage laborers (i.e. Magobbo) or household plots (i.e. Kaleya). In Magobbo, group discussions revealed land scarcity and low and fluctuating sugarcane prices drove women into wage labor to supplement household incomes. This process was linked to heightened claims to land within households: *"everyone looks to sugarcane plots as their future"* (SDKa:14.11.15). It was also linked to monoculture practices which restrict rearing of livestock (e.g. cattle, pigs and goats) and growing of crops such as maize around the sugarcane plantations: *"we are not allowed to plant maize around the scheme"* (SDM2:06.15). Meanwhile, the general manager at Nanga Farms believed these processes were worsened because sugarcane *"displaced farmers from the best lands in the area and moved them to less productive lands"* (SDMa:20.01.16).

One consequence has been heightened household reliance on markets for sugarcane sales and food security, but low and fluctuating sugarcane incomes for households increased women's responsibility of food provisioning: *"These are the fields that grew our food. We cannot do that anymore,"* and *"our problems as women have increased"* (SDM5:02.16).

4.3 Access to Employment Opportunities

Across the schemes, the organisation of employment integrates cane growing households with a guaranteed right to employment alongside migrant workers (seasonal workers). Whereas one member of sugarcane growing household is guaranteed employment in Magobbo, analysis shows a deliberate policy to employ one member of a household to work on the plantation prioritised male

members. Meanwhile, Kaleya members do not necessarily have guaranteed employment. Instead, they must apply, and selection can be through a lotto system. In both schemes, however, the level of internal or external recruitment is at the discretion of the employer, which favours migrant labor as a way to limit deserters. Plantation jobs were generally scarce and limited relative to the local population. District officials and NGO representatives were generally agreed: *“sugarcane is a highly specialised crop in terms of technology and production which leads to limited creation of employment”* (X7:15.06.15; D1.08.01.16). Complaining about high levels of poverty and unemployment in the district, a District Community Development Officer added: *“ZaSPIC is creating employment but this is around the schemes and skewed towards migrant workers”* (D8:27.11.16).

Consequently, access to work by women across the schemes is largely dependent on contingent ties to men as heads of households. In Kaleya, women have limited access to employment opportunities compared to men and face challenges of finding wage opportunities on the estate, and that *“the system of labor recruitment reliant on lottery does not help”* (ibid.). As a result, women are engaged largely in household unpaid labor: *“here, women are used as laborers in family cane fields as opposed to owning sugarcane plots themselves”* (SDKc:19.01.16). In Magobbo on the other hand, social and economic relations have forced women to participate on the plantation as wage laborers. They participate in planting, fertilizer application, weeding and disease control but their engagement is often short-term, temporary, low skilled and low paying leading to precarious livelihoods. Records from Nanga Farms for instance show an increasing trend in women’s participation on the plantation in various positions in Magobbo (Figure 3).

Across the schemes, access to employment was affected by socio-cultural, value-chain elements, and wider perceptions that sugarcane plantation jobs were precarious to women’s reproductive health due to exposure to agricultural chemicals. Low participation of women was also alluded to the gendered division of labor and a perception among women that sugarcane tasks were difficult. Consequently, women easily lose access to various forms of sugarcane related work and income as they still generally remain disadvantaged in the labor market.

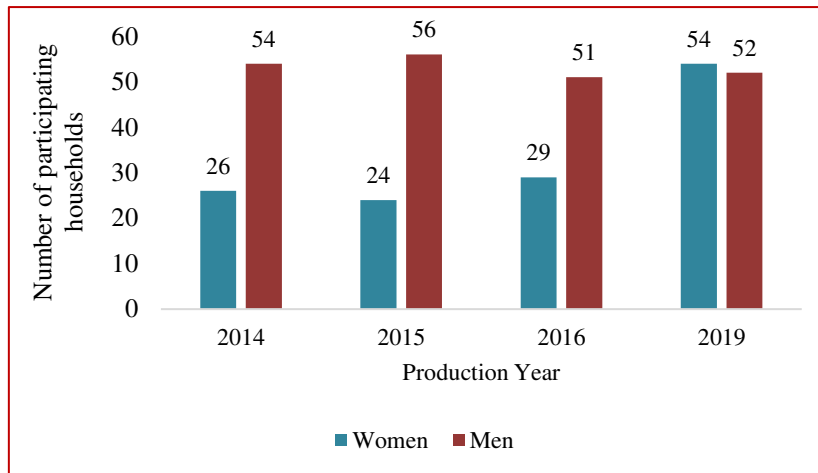


Figure 3: Labour engagement in sugarcane plantation in Magobbo in relation to sugarcane growing households.

One general manager in Magobbo was concerned that labor market disadvantages *“are leading to limited knowledge and skills transfer among women.”* And that low levels of education among women limit not only the pool from which to draw female workers but also their participation in the wider sugar value-chain. In Kaleya, limited knowledge and skills transfer on the cultivation of sugarcane for women affected prospects for succession. One female successor narrated on taking over the farm plot that *“I had to be patient before I agreed to take over the farm because I had little knowledge about sugarcane cultivation. Now I can handle everything”* (CSK1:12.15). In Magobbo, knowledge transfer through scheduled pieces of training (3 times a year) and exchange visits (e.g. Swaziland) was said to be limited for women and at the time of the (2018) research, only two pieces of training had been conducted since the inception of the project (2008), around good governance and financial management. For instance, an exchange visit to Swaziland to learn more about smallholder coordination arrangements, production, and marketing in 2014 had only 27% ($n=4$) women participants compared to 73% ($n=11$) of men. Ultimately, low representation and gendered division of labor structure as well as limit what women can do.

Case study interviewees reported that household decisions on who should work on the sugarcane fields as per policy broadly considered the need to maximise trainings. Men were seen as more likely to use the knowledge they acquired in different plantation opportunities as opposed to women who face several constraints related to their feminine nature and household responsibilities. Other considerations included the materiality of sugarcane as labor-intensive and

the perception it was a man's crop. This included rational considerations to maximise sugarcane-based incomes, the latter linked to men's larger flexibility to take overtime than women who must balance productive and reproductive roles. Reflecting on this, one committee remarked in a group discussion that the *"Magobbo scheme is not a man's project. Women and youths need training in sugarcane production"* (SDM3:06.15).

Group discussions and case study interviews expressed concerns lower level plantation jobs exposed women to health risks. In household interviews, one woman remarked: *"We are told that exposure to cane pesticides and herbicides can affect our wombs, fertility levels and our skin (beauty)"* (SDM5:02.16). In response, some women withdrew their labor from the plantation altogether (SDM13:28.10.19).

4.4 Labor Allocation

A general perception was that sugarcane production broadened livelihood tasks whilst making them more difficult for women. In Kaleya, women participate mainly in weeding and flood irrigation. A general perception among women across the schemes was that sugarcane production was not only labour-intensive but also induced new labor allocation dynamics – and thus polygamy. One woman in Kaleya remarked that *"women are used as laborers and are excluded from expenditure decisions after harvesting"* (GDK3:01.16). Others added *"our husbands are only good to us during farm work"* and become *"hostile towards and during harvest"* (ibid.) (Section 4.5). Meanwhile, reports were heard that parents in Kaleya *"depend on school-going youths as household labor"* thereby *"denying them an opportunity to access education"* (SDK3:19.01.16). Some of the youths corroborated: *"I dropped out of school to help my parents working on the cane fields"* (GDK5:06.06.15). That smallholders directly cultivate sugarcane means women are equally drawn into various production activities on sugarcane (Table 3).

Table 3: Sugarcane labour calendar in Kaleya (Derived from group discussions)

✓ LP: land preparation, trash clearing ✓ I: irrigation ✓ RM: removing smut-cane		✓ W: weeding ✓ FA: fertiliser application ✓ H: harvesting					✓ SL: slashing, clearing canals/field edges Key: Variations in intensity: ↑peak and ↓minimal						
Activity	Responsibility (men/women)	October	November	December	January	February	March	April	May	June	July	August	September
W	Both		↑	↑	↑	↓	↓						
I	Both	↑	↑	↑	↓	↓	↓					↑	↑
FA	Men	↑										↑	↑
SL	Men			↑	↑	↓	↓						
LP	Both									↑	↑	↑	
H							Harvesting						
Dry-off							Harvesting						
RM				↑	↑	↑							

Land-use change to sugarcane has created land scarcity and a serious reduction in crop production and livestock rearing. In Magobbo, this affected women previously engaged in gardening for consumption and income generation and rearing of livestock (e.g. goats, pigs, cattle). Land-use restrictions in and around plantations burdened women in terms of time allocation to household labor on the one hand and economic activities on the other. One woman remarked: *“we used to have farming land close by which has been converted to sugarcane, and now we are renting 8 – 9 kilometres away”* (SDM2:06.15). Although the institutional arrangement and presence of Nanga Farms can seem to free time for women due to their indirect participation in actual sugarcane production, long distances to cropping fields takes up time for food provisioning and access to ecosystem services including firewood, forest-related food products. The Estate Manager explained, *“people can collect firewood from designated areas”* which sometimes can be very far from the community but there is nothing we can do because *“we have rampant poaching and deforestation in the area”* explained the General Manager (SDMb:20.01.16). Sugarcane fields and the construction of irrigation canals has made it impossible to access previous wells and water points, with the community having to share one government borehole near the local school. Combined, these factors affected alternative livelihood sources, and have implications across gender.

Women ranked impacts of sugarcane expansion across eco-system services and wider resources such as water (few boreholes that frequently broke down), access to firewood, trading areas, burial sites, farming areas and roads for market access as important. In Magobbo, women frequently argued that *“men don’t see the importance of these things, but they affect us.”* Others complained that their work went unrecognised as one woman reflected on the challenge of accessing water and firewood: *“I have to walk long distances to fetch water before I can think of walking again to fetch firewood. Tell me, isn’t this contributing to my family?”* (SDM5:02.16). In Kaleya, challenges of water were reported as KASCOL *“restricts the use of water especially for gardening”* (SDK1:06.15). Access to firewood was also a challenge due to distances to nearby forested areas with most farmers resorting to spending sizeable amounts of their incomes on buying charcoal. On the other hand, men ranked and prioritised schools, health centres, roads for market

access and availability of micro-financial institutions, reflective of their dominance in financial and household expenditure decisions.

4.5 Incomes and Patterns of Intra-Household Expenditure Decisions

In Zambia, sugarcane is generally more lucrative than maize. Committee leaders agreed that unlike before, sugarcane increased smallholder incomes and thus asset acquisition: *“farmers can now drive, own grinding mill machines, shops, good houses and other assets,”* (SDM3:06.15). Female farmers have generally gained increased access, control, and utilisation of sugarcane income, but gains are less widespread to landless housewives due to low economic participation compared to men.

Livelihood perspectives show that transforming rural household economies requires thinking carefully about livelihood sources and intra-household expenditure decisions. Across the two schemes, various group discussions revealed that involving women in expenditure decision-making produced positive outcomes for households including balanced expenditures across priorities, and improved access to education and health services. This includes positive outcomes in general investments and household consumption of goods and services. However, women generally reported limited involvement in planning and expenditure decisions around income-generating activities, investments, and household purchases of assets. One woman remarked that *“we see income being spent right in our faces”* with others adding *“men should be sensitised on family care and the importance of shared decision-making”* (GDK3:01.16). Culture plays a crucial role in men’s dominance in expenditure decisions (Section 4.6). Family ownership patterns of farm plots, many respondents argued, means possibilities of shared intra-household decision making will always be hampered by the role and influence of extended family members, to the exclusion of women who join based on marriage.

Group discussion participants frequently shared how husbands gave sugarcane incomes to relatives (who also lay claims to sugarcane lands), leaving the household with little money. Others complained *“my husband has never shared his payslip with me”* (GDK3:06.06.15). Discussions with women across the two schemes identified a 4-way typology of household decision-making patterns frequently discussed across the schemes as D1 – D4 (Figure 4).

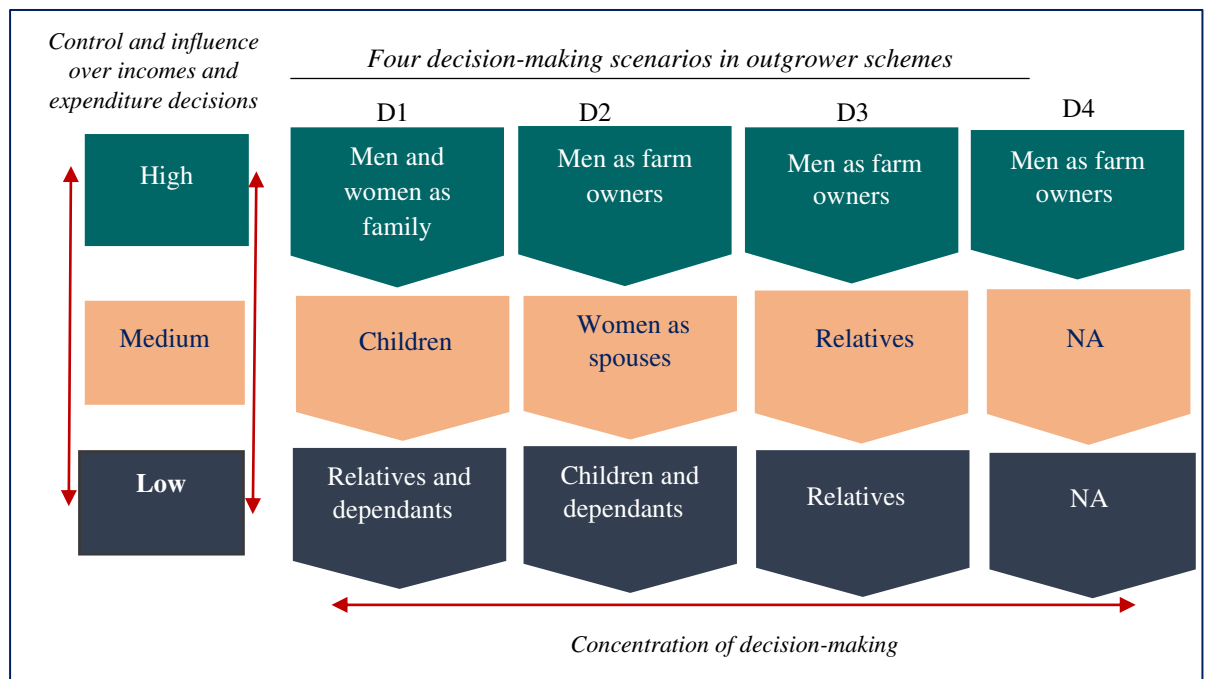


Figure 4: A typology of decision-making patterns in outgrower schemes.

One pattern of decision-making desirable to women was where both men and women exerted a high level of influence over income and expenditure decisions (D1). In this typology, men and women worked together as partners with children whilst relatives/dependants exhibit medium and low levels of influence respectively. This typology was associated with better-off households, and only a few women could be identified as practising this pattern of decision-making process (*not common*). The second typology relegated the role of women as well as children and dependants (D2). Here, men as farm owners exerted high influence over incomes and expenditure decisions compared to women (medium) and children/dependants (low) (*very common*). The third typology revealed men as farm owners exerted a high level of influence on incomes and expenditure decisions alongside a high from relatives (D3) (*common*). Finally, men as farm owners exerted a high influence on incomes and expenditure decisions and influenced all decisions (D4) (*common*).

There is a generally low level of women participation in household decision making, especially on investments and productive assets (Figure 5). Inability to participate in household decision-making is a challenge but in no way reflects the education levels of the spouse. Perception by women in group discussions of involvement in household expenditure decisions did not correspond to the ability to influence the actual allocation of resources. Across the schemes, allocation priorities were exclusively for the head of households, even where the household head was female. This situation was different for young women and widows who were able to control a larger part of their incomes.

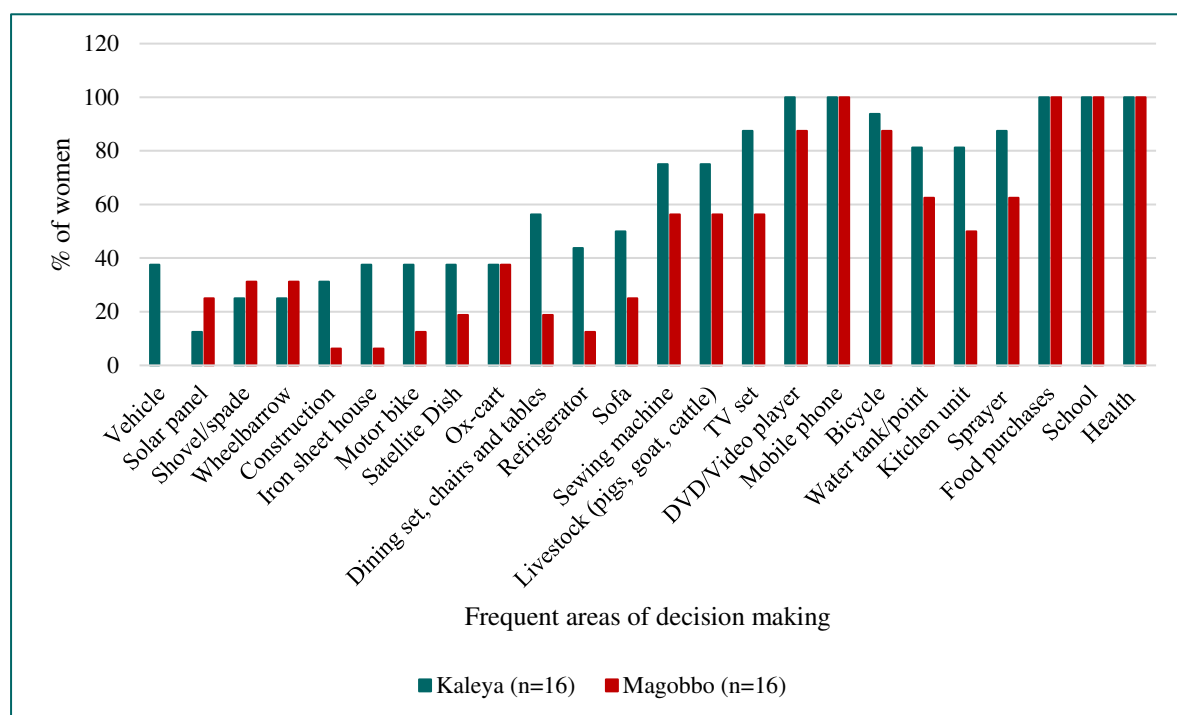


Figure 5: Perception of women involvement in decisions around investment and asset acquisition

Generally, men substantially upgraded their financial status by controlling earnings from sugarcane sales. In Magobbo for instance, women particularly those without an income reported relational changes in household treatment from their husbands. Group discussions revealed men now prefer marrying *“working women and those with ability to contribute financially to the household economy”* (SDM5:02.06). A new financial status alongside household responsibilities was identified as driving men into marrying financially stable women within the scheme or in the nearby Mazabuka town (e.g. teachers, nurses, and other civil servants). In response, *“some women are now taking up*

new labor opportunities on the plantations or trading in various commodities.” The extent to which this induced social change within households and communities is less clear, but the predominance of polygamy among the Tonga tribe mean women continue to live in precarious marriage arrangements, where access to land and property ownership links to marriage – and often men (Mizinga 1990; 2000).

4.6 Inheritance, Cultural Practices, and Intra-household Conflicts

Whilst there is generally an upward trend in women taking over sugarcane plots in both Kaleya and Magobbo through inheritance, wider cultural processes continue to limit women’s integration in sugarcane. In the Tonga tradition, women are not priority successors of property and sugarcane plots. There are customs and cultural practices that argue that allowing women to inherit property effectively passed the property to the new spouses to the exclusion of extended family members. One KASCOL officer noted: *“a wife cannot inherit the farm. She has powers to re-marry on the farm. It’s a taboo for her to inherit the sugarcane plot”* (SDKc:19.01.16). Men’s FGDs corroborated: *“my children cannot inherit my property, but my sister’s children can because we are matrilineal”* (GDK1.06.15). In FGDs, one woman corroborated: *“am not eligible to oversee my late husband’s estate on the basis of being a woman”* (Kaleya FGD 2016). These elements projected themselves in household relationships as one female successor remarked: *“am being verbally abused and disrespected as a result of being a woman as cultural practices are against women being successors”* (CSK6:12.15). As a result, many women expressed hopelessness: *“I am worried about my future – there is no future for me here. Our future is neither on sugarcane plots nor plantations”* (CSK5:12.15). Analysis shows that over time, and with awareness of their role, importance and contribution to the household economy, beliefs around inheritance have increasingly been questioned by women. Thus, taking sugarcane plots as extended family-owned, even if they qualify to be private property, many argued, undermined the role and importance of women.

In an event that a male successor is irresponsible, widows face further marginalisation and are subject to abuse, *“damaging their well-being and self-esteem”* (ibid.). One-woman successor narrated her experience of inheritance:

“My son was named successor but KASCOL repossessed the farm citing poor yields, poor cane and field management. The company decided to place me in charge. Since then, I have suffered verbal abuse from my sons and general family members, with threats bordering on gender-based violence. Children together with some extended family members accused me of illegality and that I was ineligible to oversee my late husband’s estate. They regulate my social networks, movements, and association. I lock myself in the house to cry and pray that God takes this burden away from me. All this was to remove me as a successor and to put their own preferred successor” (CSK6:12.15).

To most women, rules and regulations that protect women in the schemes are non-existent, giving men unfair advantages. As the KASFA Chairperson remarked: *“inheritance is leaving a sour taste”* (SDK1:06.15). Overall, it is important to acknowledge that even though some outgrower schemes explicitly allow gender provisions in their design and operations, it is not beneficial unless women are educated about their rights and work inheritance practices. This will necessitate a focus on pre-existing gender imbalances and evaluating what works and what does not.

5.0 Discussion

Four elements are central to this study. First, the gendered impacts of commercialised agriculture and outgrower schemes are complex but continue to be shaped by diverse and interdependent cultural arrangements as micro-processes at household and community levels. Second, intra-household patterns of decision-making, land and labor dynamics reveal that changing the structure, organisation, and integration of outgrower schemes does not necessarily make them gender-responsive and is not enough to alter strategic gender needs and relations in local communities. Third, even where schemes are intentional about inclusiveness and have an explicit program to transform gender relations, schemes are doomed to carry over and exacerbate pre-existing structural inequalities. Finally, even well-intended projects at the design level still require deliberate actions for incorporating/mainstreaming gender in their implementation, and in addressing the politics of land and labor relations and their integration in value-chains.

Whereas sugarcane does not seem to harm the status of women directly, their integration raises two crucial elements: limited opportunities available compared to men (e.g. materiality of sugar), and limited land-based agricultural opportunities due to land-use changes. Given low levels of education, paired with cultural arrangements, women do not have many options for employment outside sugarcane. Distance to Mazabuka town means women are unable to find household-based jobs or those around the food and beverage or hospitality industry which means sugarcane schemes still offer more lucrative deals.

Integration into commercialised agriculture is unequal, despite benign inclusionary narratives surrounding outgrower schemes (Willy and Chiuri 2010). In this study, a lack of direct targeting of female participants meant failure to challenge male-dominated historical patterns of sugarcane cultivation and landholding. Historical inequalities in land access and control continue to produce unevenness in land access and control. Whilst women participate in scheme associations, they lack effectiveness in their agency and ability to advance strategic gender needs including labor engagements. As with Rocca (2014), across the schemes, broadening of household tasks reflects pre-existing gender gaps in the control of land and differential access to employment opportunities in outgrower schemes as women are relegated to traditional roles. Sugarcane commercialisation engenders a feeling of tenure insecurity among women who previously laid claim to land and engaged in crop and livestock production thereby reinforcing control by men somewhat contrary to recent reports (FAO 2013; Deininger 2011; von Braun and Meinzen-Dick 2009). Changing inheritance dynamics due to provisions to appoint the next of kin are shifting women's interaction with outgrower schemes including female inheritors but this interaction remains at a limited scale.

Outgrower schemes heighten demand for women's labor oscillating between household and sugarcane fields but this application permits them to question and contest expenditure decisions vis a vis value of their labor (see D2 – D4 in Figure 4). The effectiveness of these processes remains unclear as farm management and control, as well as resource allocation priorities, remain male-dominated. Key insights from intra-household decision-making typologies may highlight the feminization of labor. It is possible employment on sugarcane plantations increased women's awareness of their position in the community and households. These changes are insufficient in

challenging or renegotiating gendered roles or their defined positions. These results resonate with wider arguments that despite claims that outgrower schemes present alternatives to land grabs, they also lead to dispossession and gendered access to resources (Tsikata 2015; Daley and Pallas 2014; Doss et al. 2014; Ossome 2014; Tsikata and Yaro 2014; Varma 2014). Thus, it is difficult to address the challenges facing women in schemes without thinking carefully about the systems that created them. Recognising only the 'plot owner' as being in charge and legitimate rights bearers to use the land for sugarcane affects pre-existing matrilineal land access based on local citizenship and kinship relations which previously allowed women access and utilise designated pieces of land. A complete disregard of co-ownership of farm plots relegates previous land rights for women, entrenching the role of men as heads of the households and landowners. One consequence has been reversed property rights that women previously enjoyed (Adams et al. 2019). The profitability potential of sugarcane is altering power dynamics in favour of dominant household members – men. Diverse household claims to land were somewhat subordinated to not only the dominant members but also the scheme's policy that recognises the legitimate landowner (often men) irrespective of whether they share sugarcane proceeds with women counterparts.

Social and cultural practices such as those related to inheritance shape patterns of land access and utilisation which in turn shape inequalities. Some of these relate to the centrality of intergenerational transfer of land rights (Park and White 2017) which does little to address historical inequalities against women. Previous studies such as Borras et al. (2011) have focused on acts of resistance but this tells a partial story of the centrality of women's struggles, class dynamics and processes that shape local discrimination (Agarwal 1994). Outgrower schemes have frequently been cited as sites for addressing gender imbalances (Vicol 2017). This study did not find evidence that outgrower schemes opened windows of opportunity for addressing historical and current imbalances or for women to claim new recognition. It also remains unclear whether women directly increased their intra-household bargaining power or indirectly enhanced the perceived legitimacy of their claims. Rather, this study perceived the under-valuation of women's abilities, capacity, and contribution as farmers, leading to exclusion from cane production and related economic activities. This is a key insight.

Weak customary land-use rights and the centralised nature of sugarcane production easily produce dispossession of weak actors (women), whilst enabling more men to exert control and benefit over sugarcane opportunities (Robbins 2012). External events or actions are important in triggering change processes that can favour women (Mies 1981). Yet, across the schemes, members were less aware of existing state or non-state actors that could help to leverage their agency. Thus, there seem to be missing components in institutional and gendered ideological change processes in communities. This study observed that employment and access to an income helped women to garner authority and challenge existing norms that define them around reproductive roles. By taking advantage of employment opportunities on the scheme, women attempt to make visible their financial contribution to the household, thereby striving to represent their interests in decision-making within their households and beyond.

Overall, although sugarcane production somewhat freed time for women in Magobbo, wider processes of food and household provisioning that bear on women affect time allocation for production. As FAO (2013) noted, multiple burdens faced by women puts competing pressure on their time and ability to work outside domestic care and subsistence food production. However, 'freed time' is, in any case, symptomatic of re-organising labor (unemployment) and land (scarcity) relations. Sugarcane expansion in Mazabuka shows commercialisation does little to automatically re-organise entrenched norms or "contribute to fulfilling women's strategic interest in obtaining equal access to employment" (Rocca 2014, p.69-70).

6.0 Conclusion

Whilst previous studies show outgrower schemes as alternative spaces redressing historical gender imbalances more broadly, an analysis of intra-household decision-making processes, land and labor relations as micro-processes reveals that these processes are complex and never straightforward. The greatest contribution of this paper lies in the interrogation of intra-household dynamics as a process and outcome of commercialised agriculture and pre-existing gender imbalances. Land and labor dynamics paired with typologies of decision-making processes highlight the role and importance of women in sugarcane. It has revealed gendered impacts of outgrower schemes are complex but shaped by diverse and interdependent cultural arrangements as micro-

processes at household and community and that these bear on land and labor relations. Changing the structure, organisation, and integration of outgrower schemes does not necessarily make them responsive to strategic gender needs, and these processes are insufficient in altering pre-existing community imbalances. One consequence is that even where schemes are intentional about being inclusive, they are likely to replicate structural inequalities and fail to engender transformational changes among participants. This paper raises the need to address the politics of land and labor relations, and their implications for different social groups within their cultural-historical context. Wage labor on plantations is low paying, delivers precarious livelihood patterns for women. Combining active women participation in outgrower schemes maybe be crucial in changing what men and women can do within the wider changing gender landscape. But women who manage to find employment and gain an income can somewhat enhance their participation in community and household decisions, but this remains low and is never straightforward. Thus, value-chain inclusion is a continuous process shaped by gendered realities, knowledge, and agency in the context of often highly unequal power relations. The outcomes of this study are framed around outgrower schemes in Zambia but can allow for generalisations that enhanced income access for women is necessary for addressing social-economic and political processes at household and community levels that produce gender imbalances. Overall, recognition of the historical land ownership and labor engagements across gender is crucial in addressing imbalances in smallholder coordination arrangements.

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