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Over the Heads? Agricultural Expansion, Production and Marketing Experiences among Rural Farmers in Zambia

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Abstract

The post-2007 crisis-induced an agricultural expansion across Africa, but local level production and marketing experiences remain understudied. This study assesses the dynamics of agricultural expansion and small-scale farmers' experiences in rural Zambia. Using a mixed research design, data were drawn from surveys, multi-level interviews, group discussions policy reviews and observations. Results show an agriculture expansion among small-scale farmers is underway due to favourable climatic conditions, land, and water availability, enabled by state subsidies, and an emerging market in commercial and supermarket outlets. However, farmers encounter production and marketing challenges related to poor tenure security, late delivery of inputs, and low financing. They face low and fluctuating prices, poor infrastructure, including low levels of mechanisation necessary to expand the production. Overall, despite an agricultural and land-use expansion taking shape, actual benefits for real transformation are largely missing – and currently over their heads. An argument is made that whilst policy actors continue to impress farmers to organise themselves to maximise benefits of an agricultural expansion, actual processes on how farmers can achieve this are missing in policy and practice. This necessitates a focus on multi-level processes aimed at addressing production, storage and marketing dynamics within a progressive coordination arrangement that centralizes small producers. Until that is addressed, the prospects for local development and poverty reduction for small-scale farmers under an agricultural expansion will be slender but continue to centrally reside in the state efforts to create enabling local and community environment that addresses real challenges. Overall, this study helps to extend the debate on diverse processes shaping rural transformation in Zambia and across sub-Saharan Africa, including the role and importance of agricultural expansion.

Key Words: agriculture expansion, marketing, Land-grabs, value-chain, small-scale farmers, Zambia

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1. Introduction

The post-2000 has witnessed agro-expansion in developing countries, including in sub-Saharan Africa (World Bank 2008). Agricultural expansion converts non-agricultural to agricultural lands through area expansion, changes in output mix, and technical changes (Collier, 2014; Hazell et al., 2010). Changes in both output mix and technology preserve their importance throughout the development process and require a dynamic and flexible sector. LaSAIs and sound macro-economic policies have allowed trade in agricultural products and their supply to the domestic market and institutional and physical infrastructure that support broad-based change. Some of these point to policy and institutional changes that facilitate access to land, finance, technical knowledge, communications, and transport) are needed. It is necessary to provide appropriate incentives to small-scale farmers and ensure conditions that permit them to respond to agricultural expansion (Hazell et al. 2010).

Agriculture expansion, proponents argue, expands the production of industrial raw material for the agro-based industries. As with the 2007/8 triple crisis, shortages in agricultural goods negatively affected industrial production, resulting in record prices (Collier and Dercon, 2014). An underlying argument is that agriculture expansion provides opportunities for job creation in developing countries where investment capital is scarce, increasing income disbursement for marginalized populations and improving their livelihoods (Manda et al., 2019). It also brings about, proponents acknowledge, an extension of the market for industrial output (Collier and Dercon, 2014). Critics, however, provide evidence that small-scale farmers face production and marketing challenges, which comprise land availability, poor soils, shortages of input supplies and weak linkages to markets. They face limited access to inputs such as seeds, fertiliser, and pesticides (Chilundika, 2011). Small-scale farmers often lack the requisite knowledge and access to promotional elements related to marketing. Farmers often sell their products to intermediaries like wholesale markets and milling plants but face relatively lower prices when compared to retailers in business who often sell directly to consumers, thus retaining a higher margin. There is evidence that the actual process of moving products to the market is equally problematic for farmers due to many

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problems encountered. For instance, the storage facilities available to small-scale farmers are either nonexistent or very poor (Chilundika, 2011). Where agricultural expansion has taken place, land concentration has emerged, raising implications across gender (Behrman et al. 2012).

In Zambia, land, water, and human capital have come under pressure due to agricultural expansion (Manda et al. 2019). These assets have often been affected by population growth, environmental degradation, expropriation by dominant interests, and social biases in policies and the allocation of public goods (World Bank et al., 2009). Land alienation processes in Zambia have excluded small-scale farmers in favour of external corporate investors (Nolte 2014). Beyond production challenges, farmers also face marketing problems. The past decade witnessed a demand for high-value primary and processed products, driven by rising incomes, faster urbanization, liberalisation, foreign investment, and technology (Schoneveld and Zoomer 2015). These developments are expanding market opportunities, important in driving agricultural growth (Perreault and McCarthy (1996). However, the performance of farm produce markets in Zambia is often hampered by poor infrastructure, inadequate support services, and weak institutions, pushing up transaction costs and price volatility. How markets for farm produce function within contexts of an agricultural expansion affects livelihoods, welfare, and food security, especially for small-scale farmers in Zambia, remains less explored (Manda et al. 2018b). A well-functioning agriculture marketing system can reduce the cost of producing crops and the uncertainty of supply, improving the food security of small-scale farmers (World Bank 2011). However, how this plays out, in reality, is less known.

An emerging agricultural expansion across countries in sub-Saharan Africa has not been accompanied by a clear extent to which small-scale producers are catching up. Small-scale farmers in Zambia either hire transport to move their products to the market or sell the same to intermediaries (who often are not close by), losing bargaining power to shrewd intermediaries. Poor and impassable road networks during the rainy season affect the transportation of farm produce to the market. Exploring and understanding small-scale farming in poor regions such as those in Africa where

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policy and institutional frameworks remain poorly developed is important given advances in an externally driven agricultural expansion (Manda et al. 2019).

The overall objective of this study is to explore the dynamics of agriculture expansion and marketing experiences among rural farmers in Zambia. Specifically, the study explores drivers of agriculture expansion in Zambia. It examines the dynamics and aspects of agriculture marketing experiences and challenges amongst small scale farmers in rural Zambia. Finally, it explores the extent to which existing policy and legal frameworks help to address marketing challenges among small-scale producers. This study contributes to efforts around agricultural expansion and prospects for rural economic development. This inquiry is drawn from per-urban area of Mwekera, an agricultural area on the Copperbelt.

2. Situating Marketing Dynamics among Small-Scale Farmers

Small-scale farmers require value chain integration and market linkages to determine the suitability of their farm products for a particular target consumer base. Borden (1964) began using the term marketing mix in the late 1940s after James Culliton described the Marketing Manager as a "mixer of ingredients." Ingredients in Borden's marketing mix included product planning, pricing, branding, distribution channels, personal selling, advertising, promotions, packaging, display, servicing, physical handling, and fact-finding and analysis. McCarthy (1964) later grouped these ingredients into four categories, namely, price, product, promotion, and place (4Ps of marketing).

The marketing mix framework was relevant in the early days of the marketing concept when physical products represented a large portion of the economy. Today, with marketing more integrated into organisations, alongside a wider variety of products and market, some authors have attempted to extend its usefulness by proposing a fifth P, such as packaging, people, and process (McCarthy 1964). Today, however, the marketing mix most commonly remains based on the 4Ps. Its relevance points to 4 main elements: creating the right marketing strategy and its implementation through effective tactics; providing a framework to separate marketing activities of a business from various other business activities; allowing the delegation of marketing tasks to

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various specialists; and helping at the beginning of the advertising idea, when physical items impacted to a bigger bite of the economy (Borden: 2004). Marketing mix has become relevant in the post-2000 given the attention to debates around agriculture for development (Deneinger 2011). Agricultural expansion and value chain linkages are advanced in international development as an opportunity to stimulate and integrate small-scale farmers. Thus, marketing mix elements such as price, product, place, and promotion can predict the performance of small-scale farmers (McNaughton 2002). Kotler (2007) defines price as the cost of producing, delivering, and promoting the product charged by the organization. Price can be stated as the actual or rated value of a valuable product that is up for exchange; other explanations were further expounded as the amount of money paid for the product (Kotler et al. 2005). The impact of pricing strategy on performance is validated in previous studies (Louter et al., 2008), where empirical results on small-scale farmers and the relationship between pricing strategy show a positive link between pricing strategy and overall performance. Pricing strategy may vary from market to market because of many reasons associated with political, economic, social, technological, environmental, and legal dynamics. These forces affect marketing, distribution, and transportation costs vis a vis market structures and demand and supply dynamics.

LaSAIs and related coordination arrangements are arguably conduits for value chain integration and thus income disbursements. However, diversity in production arrangements and marketing linkages mean price transmission and related household wellbeing cannot be generalized easily. Reports such as Trostle (2008) show small-scale producers are more inclined to accept low prices given the seasonality of their products and the peculiarity of the products. During harvest time, prices are low, rising towards the sowing period (Trostle, 2008). The ability of small-scale farmers to stockpile their products can reduce seasonal fluctuations by placing on the market only amounts of produce sufficient to maintain a given price. But challenges of storage capacity mean that small-scale producers are often price takers even in vertically oriented value chains (Manda et al., 2018).

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Agricultural products and their production are important in trade exchanges, processes bought by the final consumer. Investments present opportunities for small-scale farmers to possess the ability to produce and meet buyer standards and requirements. Some scholars argue that small-scale farmers that pursue product adaptation strategy in a global market significantly lead to sales growth performance (Cavusgil and Zou, 2009). How this plays out in LaSAIs and agricultural expansion remains interesting an area of research.

Smallholder distribution of products to the market (market linkages and place – local, domestic, and regional). Distribution strategies positively impact small-scale farmers performance in terms of access to incomes for investments (Louter et a. 2008). The 'place' function also makes sure products are accessible in targeted in terms of markets. Place considers the appropriateness of a particular distribution channel not being stagnant, accounting for the socio-economic, political, and environmental circumstances.

The visibility of smallholder agricultural activities and producer underpins their viability in the market frame or otherwise (promotion). Promotion focuses on a set of activities that inform, persuade, and influence existing and potential customers (Gilaninia et al., 2013). More broadly, promotion divides into four groups: advertising, sales promotion, public relations, and personal selling. Access to information communication technology is crucial for this purpose. However, low availability and access to technological services can limit smallholder efforts and the visibility of their activities.

3 Research Design and Methodology

3.1 Mwekera Agricultural Camp

Mwekera Agriculture Camp in Kitwe is a camp in the Copperbelt province, and it was created in the 1980s by the then Ministry of Agriculture and Cooperatives (MACO). This camp is located 35 kilometres from Kitwe town centre. The major source of livelihood in Mwekera is agriculture, and it has a population of about 2100 farmers registered in the ZAIMIS application. Of 2100 farmers, 62% (1300) are benefiting from

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the farmer input support program (FISP). The camp has one agro shop, but this is less reliable. Sometimes farmers mobilize themselves to buy in bulk, calling agro shops in town who deliver for them in their camps. Most active agro shops are located in town, which is very far from the camp, yet these are often well-stocked with all the necessary inputs and chemicals required by farmers. Seed companies such as SeedCo companies usually work with camp extension officers to organise seed fares, where the seed companies bring seed and other inputs for farmers in the camp to buy. This usually takes place at the onset of the rain season. The camp relies on the market from Kitwe town centres and surrounding areas to sell their farm products. Mostly the farmers rely on the Chamboli market, 25km from the camp. Sometimes marketers from town come to Mwekera to buy vegetables but force farmers to sell at a reduced price to carter for transport. Farmers see this as eroding their profit margins, preferring to deliver their products to the market themselves despite the long distance. Landholding in Mwekera in the hands of the council, ministry of lands and forestry department. Most farmers settled on forest reserve land, and recently the government has been doing resettlements in the area. Some farmers have benefited from the resettlements and are now landowners (MOA Block quarterly report 2021).

3.2 Methods

This study used a mixed-method case study research design, allowing for interaction in the local setting. Selected participants belonged to Mwekera agricultural camp and engaged in agriculture within the local context (Creswell, 2013). The data collected was descriptive. Qualitative methods provide a textual description of how smallholder farmers experience socio-economic challenges and opportunities and related agro-expansion. The study population comprised 385 small scale farmers and fifteen (15) officers from the Ministry of Agriculture. The sample frame of this study was focused on small scale farmers at Mwekera Agriculture Camp in Kitwe. The sample techniques used for this study were random sampling and the purposive sampling technique. The sample size was determined using Solvin's formula (1971), where N = Total Population (400); n = Sample size (?); e = the margin of error (10%). We used a 10% margin of error (confidential interval), and a 90% confidence level to estimate the sample size.

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The sample size for the study was, therefore, eighty (80), made of seventy-five (75) small scale farmers and four (4) officers from the ministry of agriculture and one agricultural marketing organisation (1).

Structured questionnaires collected quantitative data related to demographic characteristics of respondents, qualitative data related to drivers of agricultural expansion, dynamics, and aspects of agriculture marketing among small scale farmers, marketing challenges facing small scale farmers and policy measures that could help address marketing challenges. Questionnaires measured opinions and the experiences of small-scale farmers because the questions asked had a direct influence on them. Closed-ended questions permitted respondents to select possible responses. Combined with open open-ended questions, questionnaires ensured accurate and consistent responses. We administered sixty questionnaires to farmers. Individual and group interviews were conducted with officials from the Ministry of Agriculture (District Marketing Development Officer, District Agriculture Coordinator), Zambia Agribusiness and Trade Project Copperbelt Regional Coordinator and two (2) Agricultural Extension Officers in Kitwe district (n=5). Interviews were considered relevant in this study because they highlighted challenges facing small-scale farmers, marketing practices, and perceptions about features that stimulated agriculture marketing. The interviews highlighted factors that can help to address challenges faced by farmers (Table 2).

Table 1: Data sources and participants

Data course	Number of Participants
Questionnaires (Kanakatampa)	72
Semi-structured interviews (multi-level)	49
Focus Group Discussions (2)	12
Total	**133**

Focus group discussions explored the social dynamics of the group to stimulate participants to reveal more information about agricultural expansion activities and marketing challenges small scale farmers faced. For this study, focus group discussions were made up of fifteen (15) small-scale farmers. Overall, we held three (3) focus group

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discussions comprising men only, for women and youths. Group discussions collected data related to what small-scale farmers understood by agricultural expansion, what small-scale farmers produced and where they sold their produce. Focus group discussions also helped collect data on the conditions that initiated and supported agricultural expansion among small scale farmers and whether these drivers were readily available to them, the marketing dynamics in terms of impact on their agricultural system, and the main issues that impede marketing among small-scale farmers in Zambia. Furthermore, they helped gather data on policy measures small-scale farmers needed from the government to help address marketing challenges. Meanwhile, observations explored the daily engagements of small-scale producers and marketing dynamics as well as broader livelihood practices. In what follows, we present concise local level experiences of small-scale farmers in line with research objectives.

4. Results

4.1 Drivers to an agriculture expansion in Zambia

Recent reports show an agricultural expansion is underway in Zambia since 2000 (Manda et al. 2019). This report however shows that *"limited rural infrastructure development means investments align to main roads and rail networks, where favourable agro-ecological conditions are traditionally associated with commercial farming"* (p.13). This includes urban areas such as the Copperbelt region, including Mwekera. Promotion of agriculture by state actors, donor and NGO actors arguably presents opportunities for rural employment creation, income disbursement, and a driver of economic diversification. Interviews revealed district state officials were generally supportive of agro-investments because *"Zambia needs investments for it to develop"* (Z1:2020). At the district level, these narratives reflect the national policy and institutional frameworks underpinning agricultural expansion in Zambia (Table 2; Manda et al., 2019). Through different national policies and political pronouncements, small-scale producers have been encouraged to take advantage of this existing dynamic and be part of the changing agro-vision.

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Existing literature shows an agricultural expansion in Zambia has been driven by seven key factors: 1) support by the donor and state actors (e.g. irrigation, input supply); 2) expanding domestic and regional marketing dynamics (e.g. COMESA, SADC); 3) agricultural diversification as a departure from maize; 4) calls for rural development; 5) availability of land and water resources; 6) policy and legal frameworks; 7) investment promotion through state agencies (e.g. ZDA) (Manda et al. 2019) (Table 2).

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Table 2: Drivers to LaSLAs as identified in policy documents (Manda et al. 2019)

Drivers to LaSLAs	NWP 1994	NIPS 2004	V2030 2006	5thNDP 2006	NEP 2007	NAP 2011	6thNDP 2011	NAIP 2013	IS 2013	R6thNDP 2013	NRP 2015	7thNDP 2017
High-value crops/value-addition												
Economic/agricultural diversification												
Rural development, job-creation, empowerment &poverty reduction												
Irrigation expansion/infrastructure development												
Production, productivity and mechanisation												
Farm-block development/commercialisation												
Rural and investment promotion												
Investor-friendly policies												
Expanding cultivation area												
Private-sector participation/competitiveness												
Water access for irrigation/agriculture												
Agricultural land-use/utilization												
Energy diversification												

Coding: *Dark teal*=emphasized; *Black*=not emphasized; *White*=Not mentioned.

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At a local level, all participants explained that drivers of agriculture expansion included favourable climatic conditions, good soils, and abundant land (Figure 1). Water availability is another driver as one youth said, *"I don't walk a long distance when watering our vegetable field because it is near the Mwekera River."* This included emerging markets in commercial and supermarket outlets as the District Agriculture Coordinator said: *"there are memoranda of understanding between commercial farmers and small-scale farmers. Big farmers buy and supply to chain stores"* but this does not always happen. Meanwhile, Kitwe District Marketing Development Officer added: *"Mwekera Agricultural Camp has favourable climatic conditions, with rainfall greater than 1000 mm. The growing season ranges from 120-150 days"* (Figure 1).

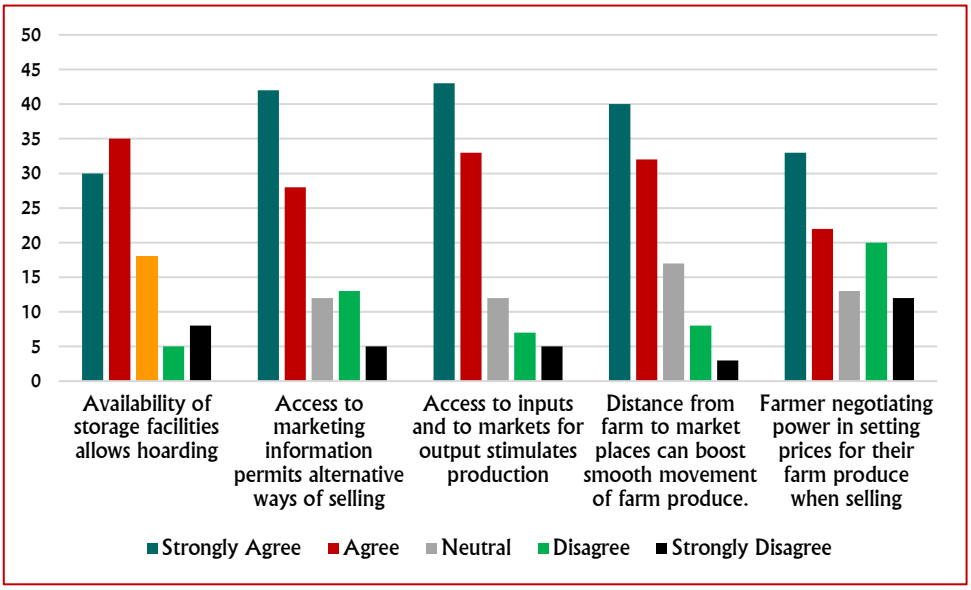

Figure 1: Perceived drivers to agricultural expansion

There were views about the centrality of state input subsidies stimulating local production, 43.3% (n=26, strongly agreed, and 33.3%, n=20).

Meanwhile, delivery of agricultural inputs to small-scale farmers was also cited as an important factor in enhancing agricultural expansion (66.7%, n = 40). Access to financial credit facilities from financial institutions like National Savings and Credit Bank (NATSAVE) enabled another factor (65%, n = 39). Interviews and group discussions reveal farmers produced more food crops by accessing land (55%, n = 33) and technology (53.4%, n = 31). Half of the participants argued that the

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availability of farming information from agricultural extension officers in the area improved their farming skills (50%, n = 30), highlighting a potential challenge.

4.2 Marketing Opportunities and Challenges among Small-scale Producers

General political, donor and NGO narratives in Zambia promote smallholder value chain integration and participation in market linkages (Manda et al. 2020). Interviews with extension officers explained that *"these pronouncements might be true at policy level, but the reality on the ground is that our farmers face challenges to access marketing linkages and platforms"* (Interview, Kitwe). There was a general agreement across different participants that the greatest advantage for farmers was availability of resources and emerging chain stores and processing facilities *"but these are at medium to large-scale which means our farmers cannot access"* (Interview, Kitwe). Group discussions corroborated: *"we face so many challenges, and sometimes we do not know what to do"* (Group Discussion).

Farmers expressed views that "we as farmers know exactly where the problems lie." For instance, 72% argued addressing distance from farms to marketplaces could boost smooth movement of farm produce, and that access to marketing information would allow small-scale farmers to explore alternative and possibly lucrative ways of selling their produce (70%, n=42). Of great concern was seasonality of agricultural production and missing support storage facilities at household, community, and regional level. About 65% (n=39) of the participants agreed that storage services could help small-scale farmers to keep their produce until prices for them become attractive in the market, but these are non-existent. As a result, farmers relied largely on open markets that are less lucrative, highlighting low negotiating power in setting prices for their farm produce (55%, n=33). Across different study participants, inputs (76.3%, n = 46); storage facilities (65%, n=39); distance to markets (71.7%, n = 43); and access to information (70%, n = 42), were crucial components for enhancing agricultural expansion and improving income disbursements and livelihoods. Combined, these elements were seen as potentially enhancing smallholder negotiating power (55%, n = 33) (Figure 2).

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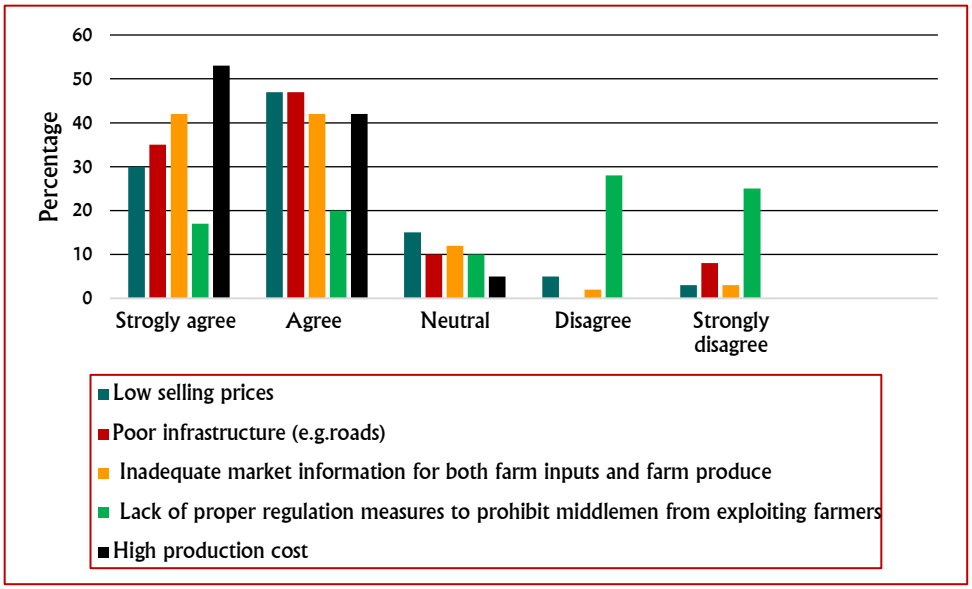

Figure 2: Perceived marketing challenges among small-scale farmers

Results of the interviews and focus group discussions indicate that participants looked at the dynamics and aspects of agricultural marketing among small-scale farmers in different ways, but generally linked these dynamics and aspects of agricultural marketing among themselves to be the information they provide to each other about the food products they have for sell – social connections. Social networks have for a long time been relied upon as *"this is our culture"* (Group Participant). A focus group participant expressed an opinion that:

> *"I told my fellow farmers not to plant crops at one time to avoid wastage. If crops are planted in the same period, they will be harvested within the same period. These food crops surplus will be wasted (rot) because market demand is low and lack of enough storage facilities among us. But crops planted at different period will be harvested in different months. The second harvest will reach the market after the first one is finished. In this way, smallholder farmers will gain from their produce, but we are divided."*

This highlights some of the decision-making challenges facing small-scale farmers, raising the need for extension services. However, analysis showed these have often been unreliable particularly during market fluctuations and volatilities. Whilst

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membership to cooperatives provided access to inputs, farmers expressed loss of trust that these structures could change to offer storage and other support services (78%) (see Mdee et al. 2020 for the political economy of subsidies in sub-Saharan Africa). Interviewees with district actors an extension officers were critical of local community views, highlighting contestations:

> *"Small-scale farmers don't listen to us. We told them to organize themselves in groups of the '20s or '30s. In this way, they will be able to help each other. They can pool their harvest together and sell to a commercial buyer, like Shoprite, in large quantities and then share the money according to what each farmer had put in terms of farm produce.*

More widely, policy and institutional processes in Zambia have faced tensions and contestations between and among state actors despite being driven by similar agricultural objectives (see Manda et al. 2019).

Whilst an agricultural expansion was taking place across the country, farmers in Mwekera still faced high production cost (95%, n=57), inadequate market information for both farm inputs and farm produce (83.4, n=50). They experienced poor infrastructure, especially roads and storage (63%, n=49); and low and fluctuating prices (77%, n=46). This includes a perceived lack of proper regulatory measures to regulate markets for small-scale farmers and prohibit middlemen from exploiting producers (54.7%, n=39). An interesting feature in group discussions related to agricultural expansion and land tenure systems, with farmers emphasizing the lack of title deeds to their production land as an area of concern (78%). Combined, these elements were even more striking across gender, as one woman lamented:

> *"Poor harvest increased our problems. Crop incomes do not satisfy our household needs. Transport is expensive. The municipal authorities also charge us. As a result, we are left with a small amount of money. It is painful because we do a lot of work just to get one day's food. With the rising dollar, the price of maize flour has gone up. To buy 50Kg of maize flour, one needs to sell four to six bags of vegetables" (Female Group Discussion Participant).*

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Other expressed opinions *"In the markets, we are discriminated against by the municipal authorities. Though they take money from us, they still consider us illegal traders (vendors). We don't have rights in the markets. Sometimes, we move through residential areas to sell our vegetables to avoid the municipal authorities"*. One woman from the focus group highlighted missed priorities by state actors:

> *"Sometimes, the government assists us with seeds, but it comes late. And at times they bring sorghum and millet seeds which are not good for our soil. Farmers here don't know how to grow them. Late bringing of the seeds by the government does not help us. They should give us seeds in October and November because this is the right planting period".*

Despite state presence through subsidies, there still reports that respondents lacked adequate income to buy seeds particularly during times of crop failure and unreliable rains. Crop failure leads to dependence on external support. Giving different seeds to farmers mean ignoring their needs and interests. There reports of receiving contaminated seeds, leading to poor harvest and losses to farmers.

Meanwhile generational challenges implicate labour allocation. Small-scale farmers complained about the limitation of labour as reported by female respondents from,

> *"Our husbands were hardworking farmers in their youthful days. From their farm produce, they bought goats and cows for our bride-wealth. But our sons don't want to cultivate. They go to town in the planting season and come back home after harvest. They are good at enjoying what we parent produced. And we cannot refuse them food because we gave birth to them"* (Female Group Discussion Participant)

Results revealed a lack of youth participation in household food crop production. Some of them exploited *"a culture that sees farming as an activity for the old"* (District Agricultural Officer). As a result, some youths preferred off-farm work such as washing cars in the city. However, the few farmers who had the interest to cultivate

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were discouraged by family members, who resided in the town, as revealed by a female respondent from,

> *"I am cultivating alone because my husband is old and cannot dig for many hours. At the same time, my children are in Kitwe for studies. Their uncle will not allow them to come and help me even when they are on holidays. It is also expensive to hire labour to work on your farm as other farmers do. So, because I depend on my hands only, I always get a small harvest."*

Meanwhile, access to finance is another challenge. Small-scale farmers face difficulties when accessing loans or credit due to several factors, as described by the following respondent: A woman from Mwekera Camp: *"I have not seen or heard of financial institutions or agencies that loans money to farmers like us".* A male respondent also said:

> *"As poor farmers, nobody cares about us. If the government cannot supply us with inputs in time, how will it be possible for a financial institution to give us money? Also, Loans often go with interest. If you take loans but have a poor harvest due to heat, how will you pay them back? The little income one makes will be taken, and your family will suffer. Rains are no longer consistent as in the old days. With good rainfall, we can make money without depending on anybody."*

One academic at the University of Zambia indicated that these experiences should be placed within the wider social economic and political context. First, support services such as from NGOs entities were less effective in reaching these areas and, in some cases, missing. And that *"the deteriorating economy either due to mere mismanagement or COVID-19 has not helped farmers either"* (Academic, UNZA). Some of this related to cost of production and marginalization of youths. As will be shown, these elements were explored further in national policies and institutional processes.

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4.4 The extent to which existing Policy Measures help to address Marketing Challenges faced by Small-scale Farmers

Respondents gave various policy measures for effective marketing. These include the need for effective marketing networks and promotion of agricultural commodities and ensure fair prices of crops to growers and the consumers. Processing facilities, they claimed, could help address wastage of rapidly perishable crops, increase utility, and maintain the quality of agricultural commodities. Respondents also echoed that the government would need to devise policy measures on grading, labelling and quality issues to enhance marketing capability. Again, there were arguments that market-related information is needed for farmers and consumers (Table 2).

One of the policy measures to help address marketing challenges faced by small-scale farmers is ensuring their access to inputs and markets for outputs. One National Interviewee from the Ministry of Agriculture explained:

> *"the private sector should be encouraged to participate in the supply of inputs which would lead to a gradual reduction of the role of the state in this area. It should also be the main driver of competitive commodity value chains and the promoter of farmer group/out-grower marketing schemes, with the government providing an enabling environment for commercial operations. Small-scale farmers need assistance to organize themselves into viable associations or groups that would enable them to respond to market demands"* (National Interviews: 20120).

The other is an intensification of extension education on fertilizer and wider chemical utilisation which has implications on sustainability. The argument was that information on continued chemical utilisation was not followed by adequate and appropriate education on actual utilisation and safety issues, implicating sustainable agriculture:

> "extension agents need to intensify their efforts in educating farmers to increase their level of awareness of these chemicals. The use of fertilizer, for example, is fairly widespread in the middle town of Kitwe as well as here but this is not

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> taking care of our environment. Am talking about land and water. Effective extension services can be sustained through adequate government funding and staffing of extension agencies and research institutes" (District Participant 2020)

Policy actors still maintained that a cooperative model was the only way these could possibly be addressed. For instance, a Zambia Agribusiness and Trade Project Copperbelt Regional Coordinator said: "*Farmers should team up to supply on agreement with buyers so that fluctuation of prices does not affect them much. Improvement of feeder roads and bridges will ease the transport problem of course but farmers should team up to buy inputs so that they have the bargaining power*". The District marketing development officer added:

> "*Farmers should come together to form bulking centres and aggregate them to sell, storage facilities are needed; farmers should have contracts with buyers as it can help face the price fluctuations. Ministry of Agriculture through the agri-business department should make sure they start signing memoranda of understanding between buyers and sellers. This will be to strengthening the capacity of farmer groups and co-operatives in the production, processing, marketing, and trade of farm produce. Logistical support to ensure information is flowing is also needed*", voiced the District Agriculture Coordinator.

Overall, despite land-use expansion among small-scale farmers, wider smallholder specific services such as those related to marketing were inadequate. Whilst policy actors continue to impress farmers to organise themselves in order to maximise benefits of an agricultural expansion, actual processes on how farmers can possibly achieve this were missing in policy and practice.

5. Discussion

The overall objective of this study was to assess the dynamics of agricultural expansion and marketing linkages among small-scale farmers in rural Zambia. Results show that agriculture expansion among small-scale farmers is underway due to favourable climatic conditions, land and water availability, enabled by state subsidies, and an

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emerging market in commercial and supermarket outlets. However, farmers encounter poor tenure security, late delivery of state agriculture inputs, low access to credit facilities, and technology. They face low and fluctuating prices, poor road networks to markets, including low levels of mechanisation necessary to expand the production. The presence of the middlemen raises the need for comprehensive regulatory measures that can protect small-scale producers from market exploitation. Overall, despite land-use expansion among small-scale farmers, the benefits for real transformation were missing. An argument is made that whilst policy actors continue to impress farmers to organise themselves in order to maximise benefits of an agricultural expansion, actual processes on how farmers can possibly achieve this were missing in policy and practice. Thus, the performance of small-scale farmers in Zambia depends on the drivers of agricultural expansion, but that market linkages are currently over their heads of producers poorly linked to markets. Overall, the paper calls for effective and efficient marketing systems that account for local-level small-scale farmers experiences.

There are several implications about this study. Drivers to agricultural expansion exist both in policy and in practice such as expanding large-scale agricultural investments – dubbed land grabs (World Bank 2011). However, local level experiences relate to alternative explanations (e.g. resource availability, social networks) (Nkambule and Dlamini 2012). State support mechanism such as for subsidies are crucial, but these remain ineffective to address production challenges (Salami et al. 2010). Arguments about smallholder market integration are important, but geographical dynamics alongside missing infrastructural development have negative implications. It can be argued that these missing middle level services continue to create a divide between what is possible in national policy and institutional processes (Manda et al. 2019, and realities at community level. Poor access to financial credit facilities add to this challenge (Fukudze and Machethe 2015).

Agricultural expansion obviously has land use implications, but poor policy frameworks will create huge challenges for small producers whose visibility on these institutions are largely missing (Nolte 2014). Even where farmers are linked to agribusinesses as

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suppliers, benefits are not guaranteed in part due to power dynamics (Manda et al. 2018a). Cooperatives have for a long time been relied upon across Africa, but this study finds no concrete evidence that this help to address smallholder challenges (except in rare cases of subsidies which remain politically productive) (Mdee et al. 2020). In the case study area, cooperatives were narrow as opposed to being broad based, failing to provide necessary production and marketing information, storage facilities, and advocating for infrastructure development (of course a tall ask). By belonging to a cooperative, small-scale farmers can create relationships with buyers and better sell their products (Thamaga-Chitja and Morojele 2014), but this is not the case in Zambia. In Zambia, small-scale farmers exploit cooperatives for the sole purpose of buying accessing subsidized inputs under FISP. As a result, this seasonal practice means cooperatives are unable to support themselves.

Consequently, an agricultural expansion has not brought farmers to date with current dynamics (Ortmann and King 2007). Small-scale producers face several marketing challenges such as those linked to fluctuating prices, poor road networks to the markets, lack of improved irrigation systems. Others are related to tenure insecurity, poor sales/marketing, illiteracy levels and farmers do not get inputs on time. Lack of access to proper roads has limited the ability of small-scale farmers to transport inputs, produce, and access information. Because road and transport infrastructure are undeveloped in farming blocks like Mwekera, markets for agricultural inputs and outputs are not efficiently utilized, becoming unreliable for small-scale farmers (Mwape 1994). This leads to inconsistency in production and supply capacity, and coupled with lack of bargaining power, from poor access to market information, they often sell their products at lower profit margins. This cycle produces and reproduces itself until appropriate interventions are designed.

Policy measures to help address marketing challenges faced by small-scale farmers are lacking or face implementation challenges. Some of these can be addressed by developing a proper marketing network that should be established to facilitate the timely marketing of agricultural commodities (Louw et al. 2008). It can also involve developing programmes that will promote the processing of agricultural commodities

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and ensure fair prices of crops to both the growers and the consumers – but with a clear smallholder integration and coordination arrangement (Manda et al. 2020). Processing facilities can be promoted and developed near production areas, to reduce wastage of rapidly perishable crops, increase utility, and maintain the quality of agricultural commodities. Some of these can relate to possibilities Public-Private Partnerships, currently viewed as fashionable across the region (Regan et al. 2011).

6. Conclusion

This study assessed the dynamics of agricultural expansion and marketing linkages among small-scale farmers in rural Zambia. Results show that agriculture expansion among small-scale farmers is underway due to favourable climatic conditions, land, and water availability, enabled by state subsidies, and an emerging market in commercial and supermarket outlets. However, farmers encounter poor tenure security, late delivery of state agriculture inputs, low access to credit facilities, and technology. They face low and fluctuating prices, poor road networks to markets, including low levels of mechanisation necessary to expand the production. The presence of the middlemen raises the need for comprehensive regulatory measures that can protect small-scale producers from market exploitation. Overall, despite land-use expansion among small-scale farmers, the benefits for real transformation were missing. An argument is made that whilst policy actors continue to impress farmers to organise themselves in order to maximise benefits of an agricultural expansion, actual processes on how farmers can possibly achieve this were missing in policy and practice. We conclude that the performance of small-scale farmers in Zambia depends on the drivers of agricultural expansion, but that market linkages are currently over their heads of producers poorly linked to markets. There always technocratic narratives seen as solutions to local challenges, but these often fail to address real local challenges. The present study has revealed the role, importance and limits of national policy and technocratic narratives. Rather than highlight the need for small-scale farmers to organise themselves to leverage market imperatives, this study has shown that perhaps more need to be done to provide middle level services for smallholder inclusion. This necessitates a focus on multi-level processes aimed at addressing production, storage and marketing dynamics

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within a progressive coordination arrangement that centralizes small producers. Until that is addresses, the prospects for local development and poverty reduction for small-scale farmers under an agricultural expansion will be slender but continue to centrally reside in the state efforts to create enabling local and community environment that address real challenges.

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