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INEQUALITY OF VALUE AND GENDER (DIS)EMPOWERMENT ALONG THE HORTICULTURAL VALUE CHAIN IN MALAWI: THE ROLE OF SUPERMARKETS AND OTHER BIG PLAYERS

ABSTRACT

This study investigates to what extent smallholder women farmers can access supermarkets and the horticultural value chain in Malawi. The data used was obtained through a survey among farmers and other players in the value chain. The data was analyzed and the results revealed significant women marginalization across all dimensions within the horticultural value chain. This study discloses that smallholder women farmers are undermined in decisions involving the choice of crops; what land sizes to own; where to sell their products; and the use of earned money. The results from this study underscore the importance of policy intervention to correct the existing inequalities.

Keywords: Gender (dis)Empowerment; Smallholder Farmers; Horticultural Value Chain

JEL Classification: J16; Q13

RIASSUNTO

*Disuguaglianza di valore e (de)potenziamento di genere nella catena di valore orticola in Malawi:
il ruolo dei supermercati e altri grandi soggetti*

Questo articolo studia l'accesso alla grande distribuzione delle piccole imprese agricole guidate da donne ed il loro ruolo nella catena del valore orticola in Malawi. I dati utilizzati provengono da un'indagine svolta presso gli agricoltori ed altri soggetti della catena del valore. Dai risultati ottenuti si evidenzia una significativa marginalizzazione femminile a tutti i livelli della catena del valore orticola. Si evidenzia altresì che le imprenditrici agricole hanno minore possibilità di decisione circa la scelta del raccolto, le terre da possedere, i luoghi dove vendere i loro prodotti e

la gestione dei ricavi. È stata riscontrata una disuguaglianza di genere nella possibilità di ricevere sovvenzioni, anche tra pari livello.

I risultati di questo studio sottolineano l'importanza di interventi destinati a contrastare queste disuguaglianze.

1. INTRODUCTION

It is estimated that over 40% of the population in Malawi is poor accounting for half of the world's extreme poor population (Ngepah, 2016). Despite robust growth in Gross Domestic Product (GDP), averaging 5% over the last decade, poverty in Sub-Saharan Africa has remained unacceptably high at above 40%. Most of the poor largely depend on agriculture for employment and livelihoods. There is rising food insecurity in Malawi (for instance, from 3.3 to 4.5) for the period between 2004/06 and 2014/16 (FAO *et al.*, 2017). Malawi's main staple food crop, maize, has seen decreasing yields overtime, due to erratic rainfalls resulting from climate change. As a result, the country has seen a growing emphasis on horticultural production to diversify its food basket. Horticultural commodities have the potential to contribute to household nutrition, food security and household income (Gotor and Martin, 2013; Kachule *et al.*, 2002; Kachule and Franzel, 2009).

Studies that address issues related to gender inequality and empowerment are essential for achieving sustainable economic growth and development in communities (Owoye and Onafowora, 2017; Charles-Coll and Mayer-Granados, 2017; Milone, 2020; Beltrametti and Cerruti, 2022). This is because they provide valuable insights into the challenges faced by both women and men in every society. Most of the poverty among households earning their livelihoods from the agricultural value chain is due to limited returns and value generated. Market access limitations are key factors among smallholder farmers (Ziba and Phiri, 2017). In Malawi, major problems to market access include lack of organized markets, poor marketing infrastructure and market information system; poor infrastructure; poor road condition and road network; processing (technology); poor communication; and low prices offered on horticultural commodities due to low quality and inefficient markets.

Given the above a study focusing on investigating the extent of market access by women smallholder farmers into supermarkets and across the horticultural value chain in Malawi is

necessary due to several reasons, among others: (i) existing research highlights significant gender disparities and marginalization of women smallholder farmers within the horticultural value chain in Malawi. Women are often undermined in decision-making processes, including crop selection, land ownership, selling their produce, and financial management (FAO, 2011; van Tilburg *et al.*, 2012). This study would provide empirical evidence, to some extent, of gender disparities, raising awareness about the challenges faced by women farmers. (ii) Women smallholder farmers face multiple constraints beyond those faced by men farmers. They are often invisible to policy makers, face unequal access to markets, assets, and inputs, and are excluded from decision-making processes (FAO, 2011). Understanding the extent of market access for women farmers in supermarkets and the horticultural value chain is crucial to identify specific barriers they face and design targeted policies and interventions to address these challenges. (iii) Women's disproportionate impact by poverty and hunger, including limited access to education and healthcare facilities, further emphasizes the need for research and interventions targeting women smallholder farmers (FAO, 2011). Improving market access for women farmers can enhance their income-generating opportunities, reduce poverty, and contribute to food security at the household and community levels. (iv) Smallholder farmers, including women, often face challenges in accessing markets for their agricultural products (van Tilburg and van Schalkwyk, 2012). Investigating the specific barriers faced by women smallholder farmers in accessing supermarkets and the horticultural value chain will provide insights into the structural and systemic constraints they encounter. This knowledge can inform the development of targeted strategies to enhance market access for women farmers. (v) Promoting market access for women smallholder farmers can contribute to their empowerment and advance gender equality (FAO, 2011). By identifying the factors that limit women's participation in the horticultural value chain, interventions can be designed to enhance their economic agency, decision-making power, and overall well-being.

For example, women play various roles in the production and sale of horticultural products which include, among others: (i) Crop cultivation: women are actively involved in the cultivation of horticultural crops, including planting, weeding, irrigation, and harvesting (FAO, 2011); (ii) Seed selection and management: women often engage in selecting and managing seeds for horticultural crops, including saving and exchanging seeds (FAO, 2011); (iii) Post-harvest handling: women are responsible for post-harvest activities such as cleaning, sorting, grading, packaging, and storage of horticultural produce (FAO, 2011); (iv) Value addition and processing: women play a crucial role

in adding value to horticultural products through processing activities such as drying, preservation, and transformation into various products like jams, sauces, and pickles (FAO, 2011); (v) Marketing and selling: women are involved in the marketing and sale of horticultural products, including direct selling in local markets, roadside stands, and through cooperative networks; (vi) Entrepreneurship and business management: women may take on entrepreneurial roles by starting their own horticultural businesses, managing production, marketing, and financial aspects.

With increasing urbanization, supermarkets, being a contemporary market channel, carry hope for smallholder farmers, especially women. There is potential for higher value for smallholder farmers by supplying to supermarkets. Despite this potential, there are significant constraints associated with supplying supermarkets. Therefore, there is need for a study that will reveal and challenge the inequalities in the horticultural commodity value chains in Malawi and to shift power to the majority of women smallholders who grow them. The key objectives of this study are therefore as follows: (1) To identify economic opportunities for female smallholder farmers in the fruit and vegetable value chains as a result of the expansion of supermarkets in the Southern African Development Community (SADC) region; (2) To determine factors that enable or hinder the participation of fruit and vegetable smallholder farmers' to supermarket networks; (3) To determine the difference in economic benefits accessed by smallholder farmers through supermarkets and through major alternative channels; (3) To determine inequalities and distribution of value in fruit and vegetables in horticulture value chains in Malawi.

Conceptualizing the definition of smallholder farmers has been a subject of global debate¹. Nagayets (2005), amongst others have proposed a 2-hectare threshold as the cut-off farm size to define smallholders. This definition has however been criticized for the fact that the 2-hectare threshold size may not be standard across different zones. Another study by Key and Roberts (2007) has rather opted to make use of the median farm in a given region or country as the threshold. This approach comes with some associated problems in that smallholders will not be comparable across different countries and zones. This is particularly critical in the context of this work, given its multi-country approach. Since most studies² maintain the use of the 2-hectare approach for the goal of comparison, the current study follows suit, especially as the study-zone

¹ See FAO (2015) for a summary of this debate.

² See FAO *et al.* (2018) for a list of these.

is relatively confined to similar agro-ecological zones with farmers belonging to similar socio-economic backgrounds. Our definition also follows that of Cousins (2018), who defines smallholder farmers as farmers based on small plots of land on which they grow subsistence crops and one or two cash crops relying almost exclusively on family labour. It is worth mentioning that in Malawi, the distribution of land sizes places smallholders in a much lower category, as the majority are below 1 hectare. This category however is still within the confines of our smallholder definition.

Malawi has undertaken some important economic and structural reforms, and consequently sustained its economic growth rates over the last decade. In 2016, IMF Economic Outlook reported that Malawi gross domestic product (GDP) in 2016 was worth 5.44 billion US dollars representing 0.01% of the world economy. GDP was estimated to grow from 5.44 to 6.4 Billion dollars in 2017. Since 1960, Malawi reached an all-time highest GDP of \$8 Billion in 2011. From 1990, the period towards multiparty era, GDP growth for Malawi averaged at 4.23%. During this period, Malawi attained its lowest GDP growth of -10% in 1994 and this was followed by highest GDP growth of 16.7 % in 1995. Despite the registered growth, poverty remains widespread among the citizens. According to 2018 IMF Country Report, Malawi's GDP *per capita* (annual) for 2018 is estimated at \$342.06 which is one of the lowest in the world. The GDP *per capita* in Malawi is equivalent to 4 percent of the world's average. Over the past two decades, the value for this indicator has fluctuated between an all-time high of \$512.13 in 2011 and \$146.76 in 2001 (World Bank, 2018). The Malawian economy relies predominantly on agriculture, with the agricultural sector accounting for 30% of the GDP and generating more than 80% of the country's national export earnings. Additionally, the agriculture sector employs 64% of the country's workforce and plays a vital role in ensuring food and nutrition security (JICA, 2022). The remaining 15.6% is accounted for by industry, which includes mining, manufacturing, energy production, and construction.

This study used survey questionnaires that were designed and collected from farmers, traders, brokers, transporters, supermarkets, and restaurants. Additionally, it employed the value analysis approach to achieve its objectives. This study aims to provide policy implications for campaigns focused on smallholder empowerment, as well as women and youth empowerment.

The organization of this paper is as follows: Section 2 presents the overview of employment, poverty, inequality, agricultural sector, horticultural value chain component and supermarkets in Malawi. Section 3 presents the methodology of the study. Results from the empirical analysis are presented and discussed in Section 4, while the implications for smallholders, women and youth empowerment campaigns are found in Section 5. Finally, Section 6 concludes the study.

2. OVERVIEW OF EMPLOYMENT, POVERTY, INEQUALITY, AGRICULTURAL SECTOR, HORTICULTURAL VALUE CHAIN COMPONENT AND SUPERMARKETS IN MALAWI

Table 1 shows the breakdown of employment by economic sectors. The agricultural sector is the biggest employer of the Malawian workforce, catering for more than 60%, who are mostly female rural workforce. Regarding the labor force employed in agriculture, majorities are women accounting to 69.9% while men only account to 58.5% (Malawi Labor Force Survey, 2013). This makes the agricultural sector a potential engine for poverty reduction and inclusive development, if its value in the economy is enhanced. In general, of the employed labour force, women receive less wages compared to their male counterpart in terms of mean monthly gross income which is MK50,263 for men and MK30,548 for women (Malawi Labor Force Survey, 2013).

Malawi is one of the world's least developed countries. It is densely populated and over 80% of Malawians live in rural areas with bad accessibility due to poor infrastructure. Almost three quarters of employed people are living on less than US\$1.25 a day. Tobacco production is the dominant export industry, and many agricultural workers depend on it and work under meager conditions. Almost half of the population, about (50.7%) lives below the poverty line.

TABLE 1 - *Employment of Persons by Occupation, Sex, Residence and Region*

Industry (ISIC)	Sex			Residence		Region		
	Total	M	F	Urban	Rural	Northern	Central	Southern
Total	100	100	100	100	100	100	100	100
Agriculture, forestry and fishing	64.1	58.5	69.9	16.4	70.4	69.6	67.7	58.3
Mining and quarrying	0.3	0.2	0.3	1.1	0.2	0.2	0.2	0.4
Manufacturing	4.1	4.5	3.6	7.6	3.6	3.8	3.6	4.7
Electricity et al	0.2	0.3	0	0.3	0.2	0.2	0.2	0.2
Water supply, sewerage, waste	0.2	0.4	0.1	0.6	0.2	0	0.3	0.1
Construction	2.6	4.2	1	7.2	2	2.9	2.3	2.9
Wholesale and retail trade	16.2	15.1	17.4	32.5	14.1	15.3	14.8	18.3
Transport, storage and communication	2	3.8	0.2	5.6	1.6	1.4	1.7	2.6
Accommodation and food services activities	0.7	0.7	0.8	2.4	0.5	0.4	0.7	0.8
Professional, scientific and technical	0.2	0.3	0.1	0.8	0.1	0.1	0.1	0.3
Administrative and support services	0.7	0.8	0.5	3	0.4	0.2	0.5	1
Public administration and defense	2	3.3	0.7	6.7	1.4	1.8	1.7	2.5
Education	2.2	2.8	1.6	4.4	1.9	1.9	2.4	2.1
Human health and social work	1.4	1.6	1.1	2	1.3	0.8	0.9	2.1
Other service	1.8	2.6	1	4.8	1.4	1	1.5	2.3
Activities of households as employers	1.3	0.8	1.7	4.8	0.8	0.3	1.6	1.3

Source: the Labour Force Survey Report (NSO, 2014).

With regards to the current study, participants were asked to subjectively define an income threshold they think is above poverty levels, and to position themselves in relation to this threshold. This exercise was done to assess the prevalence of poverty among smallholder farmers. The self-subjective assessment regarding poverty levels shows that of the total sample, 97.8% of female respondent live below the subjectively defined poverty line, while those who live above and at the same level of the line constitute each 1.1%. Similarly, 96.75% of male respondents fall below

this line, while those who live above and at the same level constitute 0.81% and 2.44% respectively (see Table 2). Amongst the poor, males are marginally less poor compared to females. There are more males above the poverty threshold than females. There is therefore marginal inequality in poverty distribution favouring males more than females.

TABLE 2 - *Subjective Poverty*

	By gender		By quartiles of land			
	Female	Male	1	2	3	4
Below	97.80	96.75	98.51	100	92.98	98.04
Above	1.10	0.81	1.49	0.00	1.75	0.00
Same	1.10	2.44	0.00	0.00	5.26	1.96

Access to land seems to have a marginal role to play in subjective poverty alleviation. Table 2 shows that there are more poor people within the two lower quartiles of land distribution than the two upper. This suggests that there is some income and welfare advantage in accessing appropriate sizes of land.

There are several dimensions to gender inequality in agriculture and these include land rights, production resources, unpaid work, employment and decision making. Compelling empirical evidence shows that gender equality is good for economic growth. Research finds correlations between gender equality and economic growth, both in comparisons across countries and over time and conclude that gender inequalities undermine nations' productivity and human capacity (Behrman *et al.*, 2014). Gender inequalities affect competitiveness by restraining productivity, growth and output, indirectly hindering trade performance. Value chain programs designed with gender equitable principles can encompass both competitiveness and gender equity and lead to poverty reduction.

The FAO Gender and Land Rights database in Malawi reports that women make up 32 percent of individual land holders (FAO, 2011). IHS4 results also show that on average, male-headed households had bigger lands, and cultivated 1.7 acres compared to their female counterparts who cultivated 1.2 acres. On the other hand, the proportion of male-headed agricultural households

who cultivated more than one but less than two acres of land (32 percent) is higher than the female-headed households (29 percent). Overall, results indicated a higher proportion (95 percent) of female members of the household contributing to the agricultural labour force than their male counterparts (83 percent).

Until recently, land holding in Malawi was regulated by a policy framework largely inherited from the colonial era. Under the regime, land management was strongly patriarchal. Recently, the 2016 new land bill was gazetted. Under this new framework, the land committee for the administration for customary land under which most of the smallholder farmers, as defined in this work would fall, have been somewhat improved to attenuate gender biases. For example, section (2) of the current land bill, though it gives the committee chairmanship to the village headman, stipulates that out at least three of the seven members of the committee must be female. It is important to note that currently, Malawian women have access to land, which they can hardly control, due to tenure structures and local administrative arrangements that prevailed before. Section 22c (1) and (11) include clauses that equalizes the previous discriminatory arrangements in order to level the playing field in access to land between males and females. However, given the marginalization of females in the previous regime, more equality considerations should have been given to females, since the prevailing land issues are culturally entrenched. Due to such entrenchments, there can be a significant lapse before good law changes actual practices. Hence policy issues relating to land emanating from this report should still be followed through, despite new land laws.

Regarding time use, while both men and women dedicate a significant amount of time to agricultural activities, women spread their time across a wider range of activities, including both productive and domestic activities. Domestic activities refer to tasks such as collecting water and firewood, cooking and cleaning. It also refers to activities related to caring for children and other family members, although the data that follows, taken from the Integrated Household Survey does not include these activities in their definition of domestic activities. The estimates of time use in non-productive activities therefore are likely lower than in reality. According to the IHS3, 30 percent of women spent more than 30 hours per week to productive work, whereas 52 percent of men do the same. The higher percentage of men dedicating significant time to productive activities is the result of the division of labor in domestic activities. The majority of men (88 percent) do not dedicate any time to domestic activities, whereas more than half of women spend

between 11 and 40 hours per week for such. As men spend little time on domestic activities, they have more time to spend on productive activities, whereas women must split their time between productive and domestic activities.

2.1 The Agricultural Sector

2.1.1 Shares of GDP and Employment

Agriculture is critically important to both Malawi's economy and to its social fabric. The sector accounts for 31 percent of gross domestic product (GDP) and 84 percent of Malawian households own and/or cultivate land. The sector directly employs most of Malawi's labor force (64.1%). The sector includes farming (crop and livestock), fishing, and forestry and contributes 32% to national GDP. Agriculture is the only sector which employs more female labor force (69.9 %) against 58.5 % of male labor force. Agriculture also employs more rural based labor force, unlike other sectors.

2.1.2 Main Crops by Volumes and Values

The main economic agricultural products of Malawi are maize, tobacco, tea, cotton, groundnuts, sugarcane and coffee. These have been among the main cash crops for the last century, but tobacco has become increasingly predominant in the last quarter-century, with a production of 200,447 tons in 2018 (WHO FCTC, 2018). Volume production of most of these major crops has been fluctuating widely in the past 10 years (Table 3). In 2016, the volume produced were 2.3 million tons of maize, 1.04 million tons of potato 84,962 tons of tobacco leaves and 41644 tons of tomato amongst selected main field and horticultural crops.

TABLE 3 - *Some Selected Main Crops by volume (in tons) Produced in Malawi*

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Tobacco leaves	160238	208155	172922	174928	72551	132849	126348	120479	84962
Maize	1596955	1608945	3419409	3895181	3618699	3639866	3978123	2776277	2369493
Rice, paddy	114885	135988	110106	117733	110964	125156	132002	111437	83757
Groundnuts, with shell	243215	275176	297487	325215	368081	380800	397503	274876	275070
Potatoes	2993818	3427764	3673538	3613290	4152204	4535955	1023981	1065833	1043338
Cabbage	63126	66923	70443	73971	78500	81032	83899	87579	91024
Tomato	39495	39704	39942	40156	40500	40625	41010	41348	41644

Source: Adapted from FAOSTAT (2017).

Figure 1 below shows that the production of horticultural crops (tomato and cabbage) is steadily increasing.

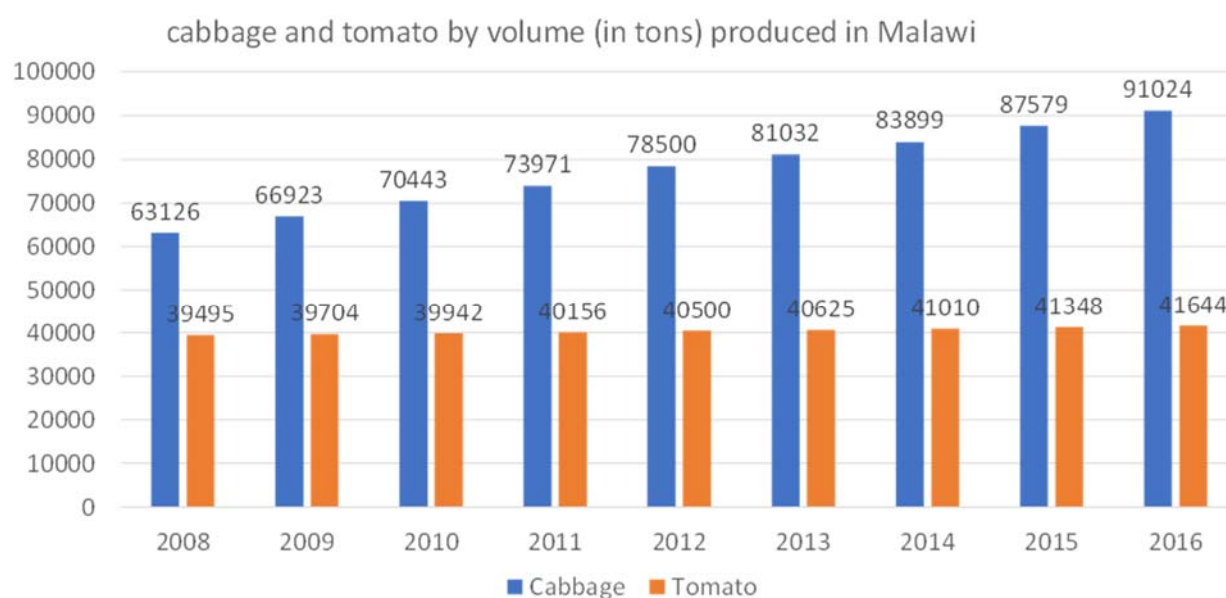
FIGURE 1 - *Cabbage and Tomatoes by Volume in Malawi*

Table 4 shows some selected fields and horticultural crops in terms of main crops measured by gross production value for the past 7 years. Maize and potato attain the highest values by far.

TABLE 4 - *Selected Main Crops Measured by Gross Production Value (current million \$)*

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Groundnuts	130.8	125.3	359.9	349.2	425.1	455.7	396.3	422.7	191.0	154.9
Maize	438.0	862.5	1191.6	782.2	716.6	789.5	1065.3	897.0	667.1	720.8
Potato	607.7	682.1	2078.5	2146.6	2149.4	2031.9	2238.8	606.3	342.3	454.9
Rice	76.0	122.6	164.4	119.9	123.3	125.6	121.1	127.5	97.7	78.7
Soybean	39.7	48.6	82.0	56.2	67.4	96.7	75.5	84.3	77.4	79.7
Tobacco	67.6	115.4	209.6	168.5	158.6	30.1	31.7	27.5	23.3	9.2
Tomato	18.3	19.4	26.6	29.6	30.1	22.8	19.3	21.9	20.8	22.9

Source: Adapted from FAOSTAT (2017).

2.1.3 Agriculture Distribution Outlets (Local vs. International Trade)

The liberalization of markets has led to an expansion of the choices of market channels/outlets for the production of smallholder farmers. Export opportunities are mainly for cash crops such as tobacco, tea, sugar, coffee and cotton. Recently, there is also increasing export demand for groundnuts, macadamia nuts and rice. Tree nuts such as macadamia nuts and cashew nuts seem to be the only horticultural products that Malawi exports (Kachule and Franzel, 2009). Domestic market opportunities are mainly wholesales, vending at local markets; private traders; supermarkets; restaurants and hotels/lodges; associations and cooperatives and private companies.

Malawi currently exports only a few range of horticultural produce. Most of the processed and semi-processed horticultural produce are exported via Malawi mangoes. Macadamia nuts are also exported. The horticulture crops however have specific market outlets. For example crops like tomatoes and onions can be traded directly by the producer at a primary level by selling their produce at the nearby trading center. While individuals from outside production areas and with a high capital base are responsible for selling the crop to major cities, trading of tomato was done mainly in the city at a tertiary level (Mango *et al.*, 2015).

In a study to determine factors that explain the choice of marketing channel (private traders, local markets or neighbors) for maize and other crops among smallholder farmers Chirwa (2009) reported the following:

- Level of education attained. Farmers that completed primary school education are more likely to sell their maize to private traders.
- Perceptions about the prices are important determinants of market choices. Farmers are likely to select that particular market channel that they perceive offers best prices.
- Other factors, with implications on transaction costs, which influence the choice of markets, include repeated transactions between the smallholder farmer and the buyers .
- Infrastructural services also play a role in determining the choice of the market channel. Farmers who live near main road networks are unlikely to sell to private traders suggesting the importance of road infrastructure in providing options for marketing agricultural produce.

2.1.4 Agriculture-Based Industrialization Strategy

Agricultural development is alleged to be the catalyst for industrial development in Malawi. However other literatures argue that agricultural development and industrial development are mutually reinforcing, and in the case of Malawi with its saturated agriculture sector, it is industrial development that can trigger a positive change in agriculture development. The Government of Malawi (2016) mentions promotion of product development and food processing to minimize pre-harvest and post- harvest losses. This is taken as a policy action to achieve the objective of improving food security and nutritional status of all people in Malawi, under the thematic area of agricultural production (Kambewa, 2014). The government's effort to propose agro-based industrialization is reflected in the Malawi Growth and Development strategy (both II and III). Promoting agricultural value addition and agro-processing is also one of the Strategies in the MGDS III. The aim is to achieve increased agricultural market development, agro processing and value addition, as an outcome. This falls under the goal to achieve sustainable agricultural transformation and water development that is adaptive to climate change and enhances ecosystem services.

The agriculture sector in Malawi faces several challenges ranging from climate change impacts to prices volatility of agricultural produce and constraints to agricultural productivity such as pre- and post-harvest crop losses; extreme weather events (dry spells, floods); inadequate access to

farm technologies; depressed land sizes due to increase in population; low soil fertility due to land degradation.

2.1.5 Policy Related

Malawi is a strong adherent to continental and regional level policy instruments. The national agricultural policy developed in 2016 and is aligned to several international, continental and regional policy protocols, such as: the Comprehensive African Agricultural Development Program (CAADP), the New Alliance for Food security and Nutrition, and Various SADC and COMESA level protocols. The Malawi's National Agricultural Policy (MNAP) is also nested within the resource pulling framework of The Agricultural Sector Wide approach (ASWAp) (MNAP, 2016). The Malawian NAP strongly subscribes to the Malabo Declaration (2014) on agriculture and food security in Africa, which urges African Union member countries to dedicate at least 10% of their national budgets to agriculture.

The associated agricultural investment plan (NAIP) has also been crafted by Malawian policy stakeholders and published in January 2018. The NAIP is a medium term investment framework running till 2023, and also anchored on similar international continental and regional policy protocols. Identification of priority sectors in the NAIP was based on systematic research. The process identifies horticultural crops, especially vegetables as engines of poverty reduction and dietary diversification. Key actions relating to horticulture are the coordination of production and marketing, investment in small-scale irrigation, storage and transport facilities. Apart from vegetables, key crops earmarked are fruits and nuts, particularly mangoes, bananas, papaya, oranges, macadamia and cashew. However, the policy strategy acknowledges that the development of the value chains especially of fruits can be challenging with high investment requirements, long gestation period and post-harvest challenges. Therefore, specific strategies accompanying the policy are still to be developed.

It is worth saying therefore that the new policy initiatives ranging from land to agriculture, not only recognize the role of the horticulture value chain, but also the marginalization of women smallholder farmers, particularly in the new land policies. The main issue envisaged, as mentioned in the NAIP, is the possible long gestation period of policy implementation. Therefore, though the address of these issues in the new policy frameworks might call for some excitement,

the real stakeholder engagement and advocacy work still remains that of keeping government and other policy stakeholders on their toes for the implementation and development of associated policy levers to close gaps. In this respect, the gaps will be largely drawn by participants' experiences with policy on the ground, based on the survey data used in this work.

Despite the country's agro-ecological diversity providing a conducive environment for crop diversification, some crops are grown in unsuitable areas resulting in poor yields and returns to investments. In addition, there is lack of programs that can enhance value addition to crop products, thereby making it difficult to realize the full potential of the sector.

2.2 Horticultural Component

The horticultural sector in Malawi comprises fruit production, vegetable production, roots and tubers. Despite being a rich sector in terms of economic value, horticulture in Malawi is still small and undeveloped. Annual horticultural production is very low and rarely exceeds 5% of the total agricultural production (Kafanikhale, 2017). This, among other factors, is because most of horticultural crops are produced by smallholder farmers as a minor to maize or cash crops. As minors, horticultural crops are produced as offseason crops at a small scale and are thus constrained by limited water availability and poor technology for water delivery (Kafanikhale, 2017). The expertise for production and poor postharvest handling is low and ultimately affects quantity as well as quality and their outlet.

The sector lacks political and private support, as exhibited by lack of policy and of a clear production and marketing strategy (Kafanikhale, 2017). Consequently, the horticultural sector in Malawi is characterized by poor technical and technological disposition, as well as poor institutional arrangement such as poor market organization.

2.2.1 Description of the Horticultural Value Chain and Players

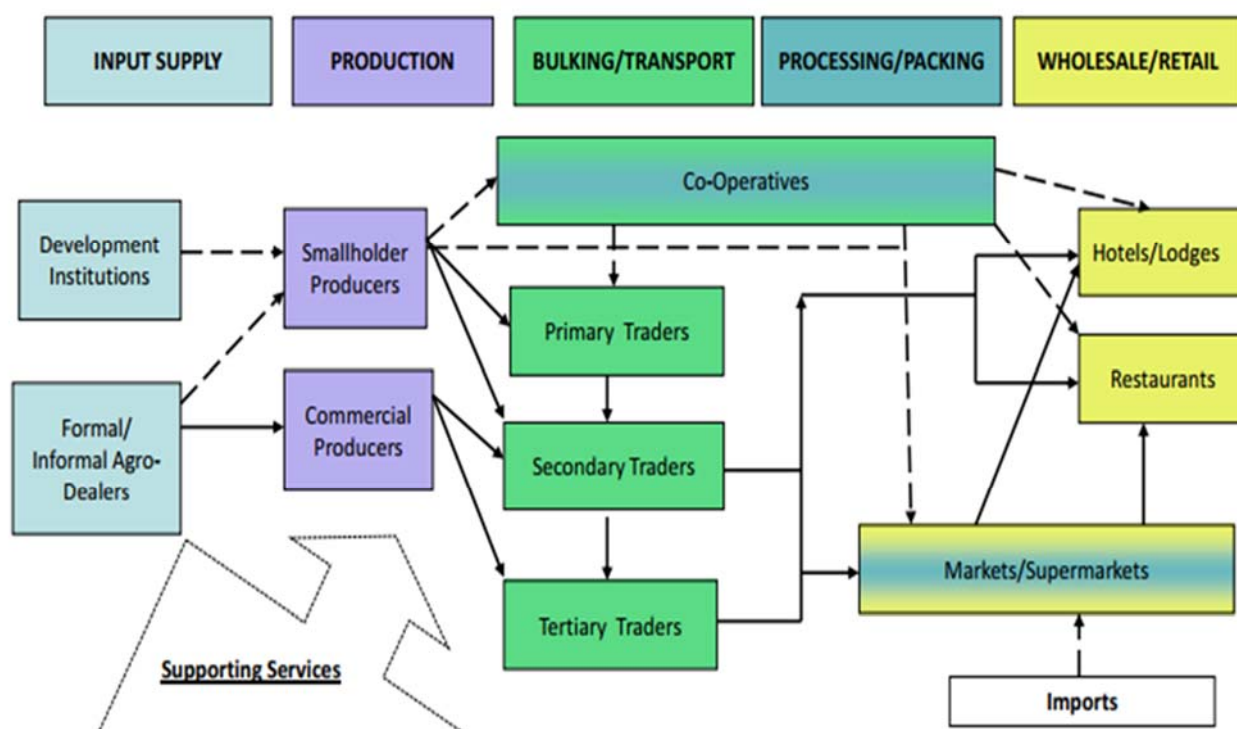
2.2.2 Components of the Value Chain

A value chain describes the full range of activities required to bring a product or service from conception, through the different phases of production (involving a combination of physical

transformation and the input of various producer services), delivery to final customers, and final disposal after use (Kaplinsky and Morris, 2001).

The horticultural value chain in Malawi starts from input supply, up to end user markets. Along these components, several players play their different roles. Almost all the horticulture crops follow the same chain. Figure 1 below shows the general horticultural chain components as well as the players along the chain.

FIGURE 1 - *Horticultural Chain Components*



Source: Microloan Foundation (2011).

The horticultural value chain in Malawi is short and poorly organized due to lack of government and private sector support (Joosten, 2013; Chagomoka *et al.*, 2014). Farmer-consumer transaction, as depicted on the diagram (from smallholder producers to markets, including informal markets), is one of the most popular outlets of horticultural crops. Otherwise, marketing of horticultural crops involves four main players in Malawi: the producer (individual smallholder, cooperatives or semi-commercial farmer); the intermediate trader or transporter (who buys from

the farmer and takes the produce to the open markets where it is either bought by the consumer or another intermediate buyer for resell); value addition to the products (packaging) and end consumers. Rarely, under relationship-based marketing, the produce is bought by an intermediate trader from the farmer and sold to supermarkets (Chagomoka *et al.*, 2014; Joosten, 2013).

Apart from production and transportation not much value is added to most horticultural crops in Malawi as is done by commercial farmers in other countries such as South Africa. Mostly, the produce is sold without grading, packaging, labeling nor processing (Mango *et al.*, 2015). Again, due to lack of political will and private sector support, the horticultural industry lacks appropriate low cost technologies for value addition, besides lack of technical expertise and entrepreneurial skills. Horticulture can develop if essential support services are provided to create the enabling environment for production and marketing. Unless reliable market information systems as well as organized markets with good prices for horticultural crops and good road infrastructure are provided, horticultural sector in Malawi will remain inferior (Mango *et al.*, 2015).

The horticultural sector has the potential to turn the economy around if adequate resources are allocated. The existence of Malawi Mangoes, a horticultural based establishment, is a living testament. Besides producing, Malawi Mangoes grades, packages and processes their produce and hence, sells at a higher price. Malawi Mangoes thus eliminates price distortions and hence realizes the true value of the produce. As a result, Malawi Mangoes sells their produce even beyond the borders of Malawi including overseas.

Key players in agriculture and horticulture in Malawi include input suppliers, farmers who are producers, transporters, traders, bulkers/middlemen and consumers. The linkages between these value chain actors are reported to be weak, mostly based on spot market transactions, except for those between retailers and supermarkets, which were based on relationship marketing. The distribution of value varies depending on the crop type, the kind of actors involved and the costs incurred at each level of the value chain. Nevertheless, it is farmers or producers who attain the lowest returns among all actors, due to high production costs and precarious production environments (Microloan, 2011; Mango *et al.*, 2015; Chagomoka *et al.*, 2014).

Farm Level – Producers/Farmers

These are persons involved in the production of various crops, including traditional vegetables, tomatoes, onions etc. According to a study conducted by Mango *et al.* (2015), in terms of tomato production, the gross margin which accrues to Malawian smallholder farmers is estimated at US\$207.50 per hectare or US\$233.15 per ton of tomato produced. Tomato farmers achieved a higher gross margin compared to traders.

Middlemen

These are persons who buy goods from producers and sell them to retailers or consumers, also referred to as collectors and transport contractors. In the value chain analysis of traditional vegetables, Chagomoka *et al.* (2014) reported that in Malawi, average monthly sales of traditional vegetables by middlemen amounted to approximately US \$50, and the traditional vegetable sales accounted for 51-75% of the total income of majority (60%) of middlemen.

Retailers/Traders' Level

Malawian traders make about US\$54/ton of fresh tomato, which is partly contributed by high cost of transporting the product from farm level to the market, due to poor road infrastructure and transport system development (Mango *et al.*, 2015). Traders also achieved lower returns in sales of traditional vegetable compared to middlemen, with a mean monthly sale of US \$37 compared to \$50 achieved by middlemen. Traditional vegetables only accounted to 50% of the income of retailers compared to 75% of middlemen (Chagomoka *et al.*, 2014).

2.2.3 Value Flows

Microloan foundation study of 2011 found that smallholders receive the lowest profit margins in the value chain. This is due to high production costs, augmented by high input costs, poor yields, post-harvest losses, and a lack of economies of scale. The fragmented nature of production and poor organization at the farmer level means that bargaining power is reduced and primary traders are able to successfully purchase at lower prices. Primary traders have low overhead costs and thus make substantial profit. Secondary and tertiary traders suffer higher overhead costs and greater competition and consequentially see lower profits. Retailers, especially at the higher end

of the market, grade produce to receive optimum prices and improve their profit margins significantly (see Figure 2).

FIGURE 2 - *Profit Margin Analysis*

Per Kg	Smallholder	Primary Trader	Secondary Trader	Tertiary Trader	Processor/Retailer
Costs	Seed 0.2MK	Raw material 65MK	Raw material 120MK	Raw material 130MK	Raw material 165MK
	Fertiliser 6.4MK			* Please note that this does not match the selling price of the Secondary Trader as interviews were held with traders from different individual 'chains'	
	Pesticide 2.8MK	Packaging 5MK	Packing 2MK		Packing 5MK
	Labour 4.7MK		Loading 4MK		Storage 3MK
	Transport 2.5MK	Transport 2.5MK	Transport 16MK		Transport 2MK
	16.7MK	72.5MK	142MK	130MK	175MK
Selling Price	40MK	120MK	167MK	165MK	220MK
Profit	16.7MK	47.5MK	25MK	35MK	45MK

Source: Microloan Foundation.

TABLE 5: *Value Flow along the Value Chain*

	From current study				From Microloan Foundation (Fig. 5)
	Total	Female	Male	Vegetables	
Farmers	7%	2%	10%	8%	10%
Traders	6%	6%	6%	32%	64%
Supermarkets	87%	92%	84%	59%	27%

Source: Survey data and Microloan Foundation.

Table 5 above presents a picture of the share of value that farmers, traders and supermarkets are able to access from the total value created along the value chain. The current study shows that supermarkets generate the most value (87%) from the total value, compared to farmers and

traders. Female farmers seem to appropriate the least share of value (2%) compared to their male counterparts. Of the total value generated from the cultivation of vegetables, supermarkets again seem to have the highest share, while farmers generate the least. Though supermarkets are portrayed in the current study as having the most share of value, the study from the Microloan Foundation (2016) shows that traders seem to have an upper hand in value access. The current finding regarding farmers' share of value relative to the total value generated is however consistent with that of the Microloan Foundation (2016). Given that both studies reveal the marginalization of smallholders along the value chain, this therefore motivates the idea that smallholder farmers could tap into some of the value created by these big market outlets, particularly supermarkets.

2.2.4 The Role of Women and Smallholder Players

Agriculture can be an important engine of growth and poverty reduction. But the sector is underperforming in many countries in part because women, who are often a crucial resource in agriculture and the rural economy, face constraints that reduce their productivity. The whole agriculture sector is dominated by women mainly responsible for production and in rare incidence, they are involved in grading, transportation, and marketing.

In relation to access to and control over resources from value chain participation, Njuki *et al.* (2011) showed that in Malawi and Uganda women were more likely to control the income from commodities that generated lower revenues and that were traditionally used for food and sold in local markets, such as groundnuts and beans. Men, on the other hand, often controlled income from commodities that generated high revenues and often were cash crops sold in formal markets.

Gendered physical attributes may also affect how women and men participate in value chains, since men often engage in activities that include what is perceived as heavy labor. Trade in fresh cassava tubers in Malawi is dominated by men due to the heavy labor involved, including carrying and trade of large volumes of tubers (Donovan *et al.*, 2011; Haggblade *et al.*, 2012). Although this is not the only reason, as shown by Chiwona-Karltun *et al.*, (1998): fresh sweet cassava was highly susceptible to theft and most women and poor men did not grow it to avoid theft. Finally, safety issues have been identified as a factor that may affect women's and men's participation. Similarly,

it is not uncommon for women to feel fear for their safety when attempting to enter or penetrate market opportunities, particularly rural women (Chiwona- Karlton and Tihanyi, 2015).

2.3 Overview of Supermarkets in Malawi

Research on supermarket activities in Southern Africa is very scanty. There are scarcely any systematic studies of supermarket activities in the region, and less so for Malawi. Within the Southern African region, South Africa has been seen as the country with the largest number of supermarkets. If South Africa could be the yard stick for the future in supermarket destination countries, we can extrapolate that as GDP *per capita* rises, and the middle class becomes more significant, supermarkets will ultimately become more dominant in these countries. Currently in South Africa, supermarkets own 60% of the market share (Das Nair, 2018). This has been a steady increase from the last known figures on supermarkets in South Africa in 2005. In 2005, 1380 supermarkets were identified to be existing in South Africa (Makoka, 2005). As of then, supermarkets contributed 55% of the gross turnover of the formal food retail sector, which was estimated to be over US\$ 6.5 million (Reardon and Berdegue, 2002). This confirms supermarkets to be one of the most high value outlets for agricultural products. Currently, the presence of supermarkets in South Africa still remains strong. Other countries within the region have thus been able to follow the same pattern as South Africa.

Malawi has a peculiar history of supermarkets in that, up to the liberalization in 1994, the only supermarket in the sense of the word was government owned. The first foreign supermarket (South African origin), to gain access to Malawi was Shoprite in 2001. Since then, supermarkets have gradually expanded mainly in the urban areas. In late 2011, Spa entered Malawi in some difficult economic climate following the devaluation of the Kwacha. However, in 2012, Spa recorded a turnover of up to 2 million Euros (Joosten, 2013). This is an example of how easy supermarket chains penetrate and expand in Malawi.

Projections suggested that supermarkets would have grown aggressively by 2020, controlling 73 tons for green beans, to 435 tons for tomatoes within the horticultural produce spectrum. Table 6 gives the projected trends for detected crops within the horticultural produce spectrum.

TABLE 6 - *Estimated Supermarket Demand for Locally Produced Fresh Vegetables in Malawi*

Products		2014	2015	2016	2017	2018	2019	2020
Tomatoes	Ton	25	75	135	165	330	435	435
Carrots	Ton	9	27	49	81	119	157	157
Potatoes	Ton	20	60	108	180	264	348	348
Onions(red)	Ton	10	25	45	75	110	145	145
Greenbeans	Ton	3	7	23	38	55	73	73
Greenpepper	Ton	6	18	32	52	77	102	102
Apples	Ton	20	56	101	169	247	281	281

With the rapidly increasing market share (Makoka, 2005), supermarkets in Malawi provide great opportunities for the local vegetable growers. However, the increasing standards and supply requirements also imply considerable challenges and a risk of exclusion from the upcoming fresh produce market opportunities. Small holder farmers, including women, mention that it is not easy to penetrate supermarkets as they seem to have prohibitive requirements which are hard to meet. Currently, the required range and quality of vegetables are not consistently available and the supermarket sector relies heavily on imported fresh produce from South Africa.

Common supermarkets in Malawi include:

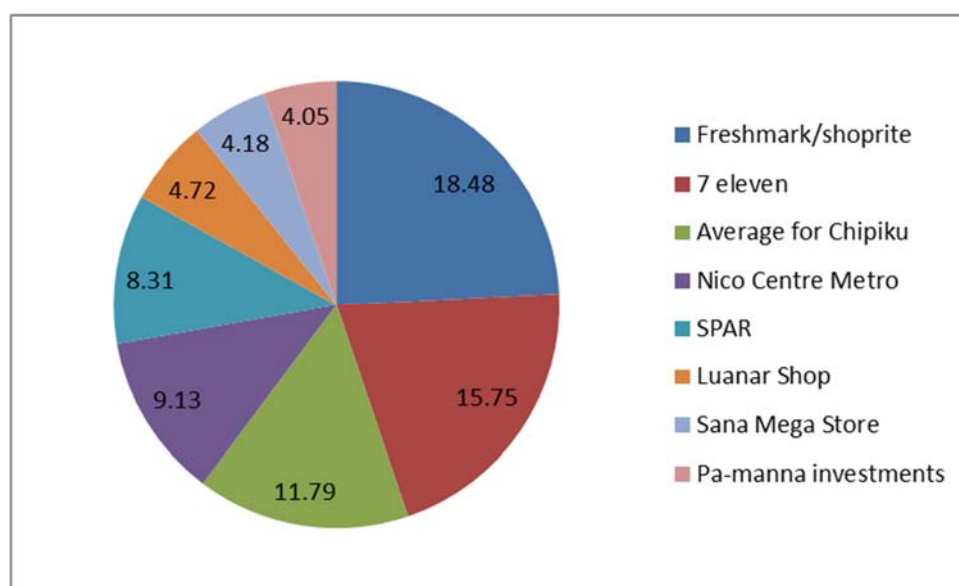
- SPAR Malawi: owned and managed by three local investors who obtained the franchise for Malawi from SPAR International. SPAR has been in existence in Malawi for 6 years now.
- People's Co-operative Group (PTC/ METROCASH): this group has been in existence for 40 years and has approximately over 100 outlets.
- Shoprite Checkers: this is a South African chain that has been in Malawi for almost 10 years and has approximately 4 retail outlets, in Lilongwe, Mzuzu and Blantyre.
- Chipiku: this is a rural wholesale/supermarket group since over 35 years in the market and 75 retail outlets that vary in size. Chipiku is a low cost and volume retailer.
- Sana Cash and Carry: this is a family owned and run business since over 25 years in the market. The group has a number of outlets mainly in urban city centres and some residential sites.
- Food Lovers is a recent entry in the market (since two years) with shops in Blantyre and Lilongwe.

- In addition to these common ones there are also few others which are mainly found in Lilongwe. These include 7 Eleven and City Supermarket.

Based on the supermarkets' survey data collected, we were able to compute the share of each supermarket by value in our sample. This can be used crudely to proxy for market shares but limited only to the supermarkets of our sample.

From the above analysis, the top three supermarkets with the highest market shares by value are Shoprite, 7 eleven, and Chipiku combined³. This analysis is useful in providing information on which supermarkets have the highest market share in terms of value.

FIGURE 3 - *Supermarket's Market Share by Value*



Source: Survey data.

The spatial distribution of supermarkets in Malawi follows urbanization trends. Consequently, the supermarkets are clustered in the main cities, especially in the capital Lilongwe. In contrast, most smallholder farmers are situated at extreme peripheries and rural areas. One of the major issues therefore in linking smallholder horticultural farmers to supermarkets is spatial mismatch. This is a Malawian peculiarity. As it will be apparent later, this largely explains why although the

³ There was three types of Chipiku in the survey, and the value for Chipiku is an average of the three.

data for this work was collected within the smallholder horticultural hubs, there were scarcely any smallholder farmers supplying supermarkets, although a few had prior exposure.

3. METHODOLOGY

3.1 Data Collection

Data for the current study was collected through a survey. The survey included various players along the value chain such as farmers, traders and brokers, transporters, supermarkets and restaurants. Survey questionnaires were designed and used to collect data from all the mentioned players. The questionnaires also considered data requirements for the analysis of gender inequality in value participation, along various socio-economic dimensions. In addition, respondents were asked questions pertaining to enablers and constraints in accessing supermarkets, from the point of view of the farmers primarily, and of the supermarkets, too. Furthermore, qualitative information was collected through the survey on farmers' experience with policy instruments, gaps and expectations.

The sampling was drawn at 200km radius around the capital city. The survey was conducted in the months of July and August of 2018, across three districts – Ntcheu, Dowa and Dedza. About 42% of respondents came from the Ntcheu district, while 30% and 28% came from Dowa and Dedza respectively. Questionnaires were administered to 220 farmers, 120 traders, 11 supermarkets, 40 restaurants, and 30 transporters. Approximately 42% of the sample was made of males, while 58% were females.

3.2 Value Analyses

In this study, value (v_i) is calculated as sales net costs per crop per person, aggregated over all crops. Relative value RV for person i is:

$$RV = \frac{v_i}{\sum_i^N v_i} \cdot 100$$

, where N is the sample size

It is the percentage of total value that an individual can access on average, with a negative value implying a loss. The distribution of this value share is analyzed by various characteristics and endowments along gender lines, with weights computed. Analysis is done with application of weights in aggregation lines. In simpler terms, value participation is expressed as value share,

which is the mean value for each farmer in our sample relative to the total for farmers. It is calculated by dividing each person's value (simply value of production minus costs) by the total value for all farmers in the sample and expressed in percentage. This can be interpreted as the percentage of total value that an individual of a certain characteristic accesses on average.

The main weakness of this approach is that the data was collected at a given point in time. Such data collection approach may be prone to seasonality bias, due to the fact that production and prices vary periodically. We have however mitigated this bias by asking questions that cover the whole farming year (the last twelve months). The bias can only therefore persist to the extent that there are memory lapses.

4. RESULTS OF ANALYSES

This section deals with analyses and is divided into two parts. The first part deals with Malawi's regional trade balance *vis-à-vis* the rest of SADC, while the second, entails analyses carried out from the survey data.

4.1 Regional Trade Balance

Malawi is largely dependent on imports. Over a third of its aggregate supply is from imports. Mostly, imports have exceeded exports. Foreign savings in the form of grants and loans normally fill the gap. This implies that a country's welfare status is intricately linked to imports. Regional trade is therefore crucial to Malawi as the majority of its imports are sourced from the region. South Africa is the biggest trading partner. Mozambique, Zambia, Zimbabwe and Tanzania are significant trading partners, too. Formal trade between Malawi and Mozambique is strongly complemented by informal cross border trade. Since 2004, the quantity of imports from the borders has increased. The role of informal cross border trade between Malawi and Mozambique has been so crucial especially for covering the deficits in grains such as maize for staple food. South Africa and Mozambique are stronger suppliers of agricultural products in times of need.

Pertaining to horticulture produce, Malawi has been largely a net importer of vegetables, roots and tubers and preserved fruits. However, the trend is similar to other countries like Mozambique, Zambia and Zimbabwe. Surprisingly, Malawi is a net exporter of fruits and nuts as shown in Tables 7 below.

TABLE 7 - *Regional Trade Balance in Horticulture (SA/SADC)*

VARIABLES	2000-2005	2005-2010	2010-2016	SA/SADC shares	
Vegetables	91.08	675.36	1,692.57	Exports	35%
				Imports	47%
Vegetables roots and tubers-preserved	-348.69	-776.69	-1,360.06	Exports	58%
				Imports	86%
Fruits and nuts	174.45	741.09	2,251.25	Exports	98%
				Imports	88%
Preserved fruits	-85.28	23.84	-387.81	Exports	64%
				Imports	77%

Informal cross-border trade is common in Africa including Malawi. Notable corridors for Malawi include Mchinji, Songwe, Mwanza, Dedza and Mulanje. It is essential for welfare and poverty reduction because it creates jobs, supports livelihoods, and contributes to food security. However, it is a type of trade that is not recorded in government statistics, thereby creating a gap in data on what and how much is being traded among countries. In most cases (70-80 percent) it is women trading (Soprano, 2014; Ibrahim, 2015; Koroma *et al.*, 2017; Blumberg *et al.*, 2016). Informal cross border trade is both complex and diverse as evidenced in the variety of goods of various quantities and values carried by traders including agricultural produce. Most agricultural goods traded include maize, pulses, vegetables, Irish potatoes and fertilizers. However, studies have shown that smaller traders i.e. with low-value trade, are popular (Tull, 2017). Trade varies from very small quantities moved by bicycle, to large volumes trucked over long distances (FAO *et al.*, 2017). Further, the majority of the informal cross border traders are residents of townships or communities close to the border towns where they operate from. This minimizes their expenses on transport and accommodation.

4.2 Survey Analyses

4.2.1 Crops and Commodities of the Value Chain

Crop selection is an important determinant of value. Lack of information about most lucrative crops can lock individuals into a low value farming business. Respondents in this survey were asked about their preferences with regards to crop cultivation. This exercise was necessary, so as to highlight the participation of smallholder farmers in the cultivation of different crop types in the country.

TABLE 8 - *Crops and Commodities of the Value Chain*

	Primary		Secondary		Tertiary	
Crops	Female	Male	Female	Male	Female	Male
Leafy Veg	37.63	28.13				
Tomatoes	31.18	29.69	25.4	21.52		
Onions	11.83	5.47	4.76	8.86	16.67	0.00
Potatoes	10.25	15.63	53.97	0.00	41.67	66.67
Cabbage	4.30	11.72	11.11	24.05	16.67	26.67
Apples	2.15	2.34	0.00	3.8		
Bananas	1.08	0.78			8.33	0.00
Peaches	1.08	2.34	1.59	0.00		
Citrus	0.00	3.13	0.00	7.90		
Bean			1.59	0.00	8.33	0.00
Egg Plant			1.59	0.00	8.33	0.00
Peaches					0.00	6.67

Source: Survey data (2018).

The above Table 8 presents these crops and their respective distributions. As can be seen, more women preferred the cultivation of leafy vegetables (37.63%) and tomatoes (31.18) as primary crops. Women' participation in the growing of bananas and peaches as their main crops bore the

least proportion (1.08%) compared to other crop types. The former picture was almost similar for men, however, their participation in the cultivation of tomatoes was slightly higher (29.69% than that of leafy vegetables (28.13%). Both women and men were not involved in the farming of leafy vegetables as secondary crops. Potatoes (53.97%) bore the most participation rates for females followed by tomatoes (25.4%) and cabbage (11.11%), while for males, cabbage (24.05%) had the highest involvement followed by tomatoes (21.52%). Lastly, male and female farmers did not participate in growing leafy vegetables and tomatoes as tertiary crops. Their proportion of participation in the growing of potatoes remained relatively high (41.67% and 66.67% for females and males respectively).

4.2.2 Intra-Household Power Relations and Market Dynamics

The level of autonomy in both farm business decision-making and market price negotiations can be an important determinant of value. The participants responded to the question regarding decision-making on five important dimensions of the farming business (crop selection, land size for cultivation, inputs, where to sell crops and what to do with the proceeds of sales (see Table 9).

TABLE 9 - *Gender Power Relations and Market Dynamics*

	Made by others		Jointly		Myself	
	Female	Male	Female	Male	Female	Male
Intra-household power dynamics						
Crop selection	16.3	8.73	36.56	27.784	47.31	63.49
Land size	13.98	8.73	37.63	28.57	48.39	62.7
Inputs	15.059	8.73	37.63	27.78	47.31	63.49
Where to sell	11.83	10.32	38.71	31.75	49.46	57.94
Money use	12.9	10.32	40.86	36.51	46.24	53.17
Market dynamics						
Crop 1	32.97	51.18	2.2	1.57	60.44	47.24
Crop 2	30	44.74	1.67	1.32	68.33	53.95
Crop 3	20	38.46			80	61.54

Source: Survey data (2018).

Less than 50% of females take decisions at their individual levels with regards to crop selection, land size, inputs, where to sell the crops, and the use of money. Below 41% report doing so jointly, while only less than 16% report being imposed on in the same order. Contrary to females, more than 54% of males reported to have taken decisions at the individual level, in same order as the females above. Fewer men reported to have taken decisions jointly (27.78%), even lesser so, being imposed upon (8.73). This clearly reveals the existence of male dominance with regards to decision making in the households. Contrary to the above picture, there is an indication that with regards to market related issues, more women tend to make decisions at their individual levels, compared to men for primary, secondary and tertiary crops. In addition, more men reported being imposed upon, compared to women, at all levels of crop cultivation (see Table 9 above). Given that the picture of male dominance is more visible at the household level, this indicates that more has to be done to give women autonomy in decision making at the household level with regards to crop cultivation.

4.2.3 Gender Perspective Intra and Inter-Value Chain Inequality

In this section, various dimensions of value distributions are used to examine the level of inequality that exists in the horticultural value chains. We begin this section by establishing the differences that exist in value between males and females (age groups; marital status; size of player), and in passing, make allusion to their loss distributions. Secondly, we highlight the distribution of value by various capacity endowments. These consist of education, natural capital, financial capital, and social capital. Lastly, we look at how much influence decision making in households and markets has on value access.

Distribution of Loss by Gender, and Value by Age and Marital Status

Table 10 expresses the distribution of value by gender, age and marital status, among smallholder farmers. Women were oversampled in the survey in order to get a good picture of much value they are capable of accessing. Value in this case, is the mean value of an individual farmer in the sample, relative to the total value for farmers. Males are able to generate five times more value compared to their female counterparts. On average, this constitutes approximately 0.6% share and 0.1% share of the total value generated by male and female smallholder farmers respectively. This is again strengthened by the fact that females seem to be making more losses (47.31%) compared to

males (26.56%). These differences depict how marginalized women are with regards to making value in Malawi.

TABLE 10 - *Value Access by Age and Marital Status, across Gender*

Gender	Value share	Loss-making	Age group			Marital status			
			Youth	Adult	Elderly	Never Married	Married	Divorced	Widowed
Female	0.111	47.31	0.121	0.113	0.013	0.857	0.102	0.073	0.2
Male	0.576	26.56	0.267	1.01	0.578	-0.073	0.652	0.158	1.84

Source: Survey data (2018).

Having discussed the distribution of value by gender, it is also essential to see how this value distribution varies across different age groups. With regards to small holder-farmer women, there seem to be a decreasing tendency of value from young (0.121) to adults (0.113) and to the elderly (0.013). Young female make more profit compared to adult and elderly females. This might be explained by the fact that young get more involved in agricultural activities due to lack of opportunities in other fields, hence the reason for more value making. The males' picture however discloses that adults tend to make more value compared to the youth and the elderly. When comparing the age groups across genders, young, adults and elderly males steadily have more access to value compared to their female colleagues. There are significant inequalities across all age groups in favour of males. Within the female category, the youth and adults access more value compared to the elderly.

Furthermore, value access varies not only across age groups but is also documented by marital statuses. As can be seen, women who were never married generate the most value (0.857), followed by the widowed (0.2). This might be explained by the fact that for these groups of women, not having men in their lives gives them the freedom to make decisions that might have a positive impact on their value creation. Divorced women on the other hand, being the group that generates the least value (0.073), might be doing so because of losses incurred during the divorce process or lack of concentration on agricultural activities due to psychological challenges. Married men have six times (0.657) more access to value compared to married women, and widowed men have about nine times (1.84) more value compared to widowed women. Again, we see a picture of women

being disadvantaged with regards to value access. Men who are never married make a loss in generating value (-0.073). This could be a result of lack of interest in farming practices as they mature and advance in education (see Table 10). Policies should therefore target married and divorced women in addressing issues of value access.

Distribution of Value by Size of Player

In this study, smallholder farmers were identified as those found in the third quartile and below. The least in the quartile had a land size of 0.405 hectares, while the highest was in possession of 2.26 hectares of land. Farmers in the fourth quartile are considered to be those with large land sizes. Table 11 below discloses that in general, the distribution of land across genders for smallholder farmers do not vary much. However, within the female quartiles there seems to be great disparities. Females in the first quartile access on average two and three times smaller land sizes compared to those in the second and third quartiles, respectively. This distribution is also similar for males.

TABLE 11 - *Land Distribution by Gender*

Land quartiles	Female	Male
1	0.38	0.428
2	0.803	0.804
3	1.19	1.20
4	2.06	2.31

Source: Survey data (2018).

Value Distribution by Capacity Endowments

This section highlights the value that farmers have in the context of the four capital sets that affect production. These are human capital measured in terms of education; natural capital, taken as land; financial/physical capital, taken as access to finance by difference sources; social capital as access to different social networks. The value access by the different capital endowments are presented in Table 12.

TABLE 12 - *Value access by Capacity Endowments*

	Female	Male
Human Capital		
No education	0.056	0.421
primary	0.113	1.21
secondary	0.143	0.079
high school	0.155	-0.147
Natural Capital		
Quartiles of land	Female	Male
1	0.075	0.336
2	0.255	0.557
3	0.184	0.497
4	-0.133	0.698
Land Tenure		
Family land	0.071	0.624
Lease	7.6e-03	0.526
Communal	-0.103	0.029
Own	0.308	0.301
Financial Capital		
Past savings	-0.344	-0.137
Other activities	-0.028	0.417
formal credit	0.026	1.09
inform cred	0.092	0.132
Profit from other agricultural activities	0.23	0.887
Social Capital		
Religious groups		
no	0.114	0.595
yes	0.046	0.244
Farmers group	Female	Male
no	1.60E-03	1.11
yes	0.252	0.178
Village groups	Female	Male
no	0.123	0.608
yes	-0.056	0.178
Buyers group	Female	Male
no	0.111	0.576

TABLE 12 - *continued*

Social Capital		
Sellers group		
no	0.111	0.576
yes		0.762
Political groups		
no	0.111	0.579
yes		-0.064
Other groups		
no	0.111	0.578
yes		0.312

Source: Survey data (2018).

Table 12 reveals that women with high school education had more access to value (0.155) compared to those with lower educational status. Women with no education generated the least value (0.056). This finding regarding females concurs with that of Oduro-Ofori *et al.* (2014), which shows that higher educational levels have positive effects on agricultural productivity. When comparing across gender, it can be seen that women are seriously marginalized with regards to value access. Males with no education and those with a primary education have higher access to value compared to their female counterparts (0.421 and 1.21 respectively). However, at the secondary and high school levels, there is a perceived change in the story. Males with secondary education are seen to have less access to value compared to females (0.079 and 0.143 respectively). Furthermore, at the high school level, not only do males have less access, they do actually incur losses with regards to accessing value. The latter picture and the former indicate lack of interest and diligence in agricultural activities on the side of males. There were no documented individuals with tertiary education for both males and females. With this visible picture of inequality, policies should firstly, include measures to assist uneducated women to attain the level of value creation similar to men's of same caliber. This could be done by providing technical and managerial assistance where necessary. Secondly, given that women with high school education are able to generate more value, policies focusing on the education of girls need to be reinforced around smallholder farmers.

Though land distribution between males and females in Malawi do not vary much as seen in the previous section, there seem to be remarkable differences in terms of value access between genders across different quartiles. First of all, when comparing value access between females owning different land sizes, the results show an increase in value from the first to the second quartile (0.075 to 0.255). However, women at the third quartile experience decreases in value, and even make losses at the fourth quartile (-0.133) of land sizes. This indicates that ideally, smallholder women farmers are better off with land sizes within the second quartile. Acquiring larger land sizes may lead to losses in value which could be attributable to inefficiencies in the use of inputs (Manjunatha *et al.*, 2013). This implies that if women have access to larger land sizes, it must be accompanied by necessary support measures to enable sustainability. Males on the other hand experience steady increases in value generation, with the exception of the third quartile, where there is a slight decrease (0.497) after the second quartile (0.557). This paints a similar picture to that of the females. Majors therefore need to be put in place for the support of both female and male smallholder farmers within the third quartile of land sizes.

In general, males of all quartiles are able to generate far more value compared to females. In addition, at the fourth quartile where females make losses, males are able to make a value of 0.497. This shows that large-scale male farmers are better off in value creation than females. However, since the emphasis of this study is on small scale farmers, support structures necessary to boost the inferred females' value-generation skills are of utmost importance. Policy measures could include focusing on land sizes that are most profitable, especially to smallholder women farmers. In this regard, land sizes owned by women in the least profitable quartiles could be increased. This must nonetheless be followed cautiously for two reasons. Firstly the focus of this study is on small holder farmers; hence increases in land sizes must be within the boundaries of the definition of smallholder farmers. Secondly, above certain land sizes, women start to make losses. The most ideal land size in this case falls within the confines of the second quartile. Another option for policy makers could be to look at factors that contribute to less value being generated at the first and the third quartiles. If such are identified and dealt with, there will be potential for more value access within these quartiles.

With regards to financial capital, women who reported using profits from other agricultural activities to fund their horticulture crops, made the most value (0.23). This could be a result of years of farming experience, hence more value creation. Again, males are able to generate more

value from all financial capital sources compared to women. From sources where losses are made, females (-0.344) are still more disadvantaged compared to male farmers (-0.137).

Lastly, also belonging to diverse social groups has consequences on value access. Females belonging to farmers' group made the most profit, compared to those belonging to other groups (0.252). Interestingly, they were also able to generate more profit compared to men (0.178) belonging to the same group. Women should therefore be encouraged to join cooperatives or to come together and create one. For males, more value was created by belonging to the sellers' groups (0.762). This could be attributable to the selling power created in markets by such groups.

Value Distribution by Power Relations

In section 4.2 we saw how male and females were distributed in the different categories of decision making. The current section deals with how much value is generated from each of these categories. The categories include "myself", "jointly", and "made by others". The option "Myself", are decisions taken single-handedly by the farmers. "Jointly" represents decisions made by the individual and his spouse, or decisions made with family members. And finally, "made by others" are decisions imposed on the farmers.

As can be seen, women make the most value by independently making decisions with regards to all aspects outlined on Table 13. Conversely, in cases where decisions are jointly made, they consistently generate the least value. This could be a result of clashes that lead to wrong choices, eventually impacting value access negatively. Women should therefore be self-sufficient in decisions pertaining to crops selection, land sizes, inputs, where to sell crops, and money use.

Males on the other hand surprisingly produce more value when decision making is done by others; and make the least value when decisions are taken independently, regarding all aspects. Even though males make the least value when decisions are made by themselves, their value in most of the categories appear to be two times more, compared to that of females within the same classification. This again portrays a picture of inequality existing between both genders.

TABLE 13 - *Value Access by Decision Making*

Crop selection	Female	Male
made by others	.162	3.03
jointly	.045	0.333
myself	.258	.588
Land size		
made by others	.149	3.03
jointly	.049	.683
myself	.579	.592
Inputs		
made by others	.14	3.03
jointly	.052	.707
myself	.26	.586
Where to sell		
made by others	.204	2.6
jointly	.044	.701
myself	.262	.584
Money use		
made by others	.184	2.8
jointly	.042	.663
myself	.2615	.463

Source: Survey data (2018).

Value Distribution by Crop Type

In Table 14, growing egg plants as a secondary crop seems to generate the greatest value for females (0.947). At the primary level, the most generated value for women comes from the cultivation of potatoes (0.41), followed by cabbage (0.248). Contrary to females, onions seem to

give more value to males as a primary crop, compared to all other crops. In fact, they continue to make profits even when onions are grown at the secondary and tertiary levels. The only crop that gives value to women at all levels is tomatoes.

TABLE 14 - *Distribution of Value by Different Crop Types*

Crops	Primary		Secondary		Tertiary	
	Female	Male	Female	Male	Female	Male
Potatoes	0.41	0.38	0.084			
Cabbage	0.248	0.761	0.244	0.361		
Tomatoes	0.175	1.04	0.0059	1.66	0.478	
Onions	0.139	2.45	-0.165	1.02	-0.063	0.052
Apples	0.101	0.458		1.25	-0.147	0.577
Bananas	0.096	1.84		0.122		
Peaches	-0.044	0.122	0.147		0.054	
Citrus		0.158				
Bean			0.811	0.624		
Egg Plant			0.947		-0.014	
Peas					1.29	
Leafy Veg	-0.0089	0.027				0.979

Source: Survey data (2018).

Women tend to make losses when growing leafy vegetables as a primary crop. This is quite concerning since we had earlier seen that majority of women take interest in leafy vegetables, as their main crops. These losses could be a result of using substandard methods for their preservation, or perhaps because the vegetables generally have a shorter lifespan compared to other kinds of vegetable crop. As a result, when not sold within a given time frame, leafy vegetables might result to great losses. Given the recent calls that have been made for smallholder farmers to shift to leafy vegetables, this should be accompanied by measures necessary for their optimum preservation, and also recommended markets for the quick sales of such produce.

Unlike women, men tend to make profits when cultivating leafy vegetables, and much more so when they are grown as tertiary. This reveals that there is a potential for women to also make value from leafy vegetables if appropriate measures are put in place. Since the most value for women is created when they farm potatoes and tomatoes as their main crops, leafy vegetables could be considered as secondary or tertiary, given their shorter lifespan. Thus, they could always depend on these main crops if losses have incurred with the leafy vegetables. In the worst case scenario, an alternative option for policy makers could be to move women out of crops that do not yield positive value. These include peaches at the primary level, onions at the secondary and tertiary levels, apples and eggplant at the tertiary level, and leafy vegetables at the primary level.

4.3 Role of Supermarkets

4.3.1 Market Access and Value by Gender

This segment of the study seeks to establish the proportion of people having access to various markets, and their respective values. The first section of Table 15 expounds on current and previous access to supermarkets, and also indicates their willingness of supply. The second half continues with the share of people having access to other market outlets, and the value they generate as a result of this access.

No woman reported having currently accessibility to supermarkets. 3.23% said they had once upon a time sold their produce to supermarkets, while 67.03% indicated their willingness to sell. No man reported they are currently selling to supermarkets. Furthermore, they stated that they had no prior exposure to supermarkets. When asked about their willingness to sell, 68.75% of them responded positively. The table thus reveals how inaccessible supermarkets are for smallholder farmers. The fact that very few currently have access to supermarkets, though they have reported significant past exposure, exposes significant barriers to supplying supermarkets. This is interesting when we consider the very high percentage of both male and females willing to supply supermarkets. This suggests that while all of them perceive value in selling to the supermarkets, there seems to be high constraints that they are unable to overcome.

TABLE 15 - *Access to Supermarkets and other Market Outlets*

Variable		Female	Male
Currently selling		0	0
Have sold	no	96.77	100
	yes	3.23	0
Willing to sell	no	32.97	30.47
	yes	67.03	68.75
Value			
Intra- and inter-value chain inequality and gender			
End consumer	no	76.34(0.014)	78.91(0.654)
	yes	23.66(0.31)	29.09(0.28)
Brokers/Wholesalers	no	49.46 (0.03)	35.56(0.067)
	yes	50.54(0.218)	64.84(1.11)
Supermarkets	no	100	100
	yes	-	-
Restaurants	no	100	98.44(0.578)
	yes	-	1.56(0.161)

Source: Survey data (2018).

76.34% of women had no access to end consumers, which number is not very different from that of men's (78.91). This is quite remarkable, since more profit is generated for those with direct access (see Table 15). Men recorded a higher percentage (64.8%) of supply to brokers/wholesalers than females (50.5%). Females who supplied to brokers/wholesalers made about 7 times more value (0.218) compared to those who did not supply (0.03), while for males it was about 16 times more value (1.11) for those that supplied, compared to those who did not (0.067). This demonstrates the benefits associated with supplying to this market outlet. When comparing value across market outlets, intuitively, farmers are expected to make more value when dealing directly with end consumers, which case is true for females. However, males seem to make more value

when supplying to brokers/wholesalers, than to end consumers. This can be explained by the fact that supplying to end consumers is associated with some wastage, since end consumers might be unable to buy in bulk like wholesalers, thus, the reason for the lesser value. Indeed, the data on wastage reveals that on average, females bear twice the wastage costs (\$2.68) compared to males (\$1.36). Moreover, since there seems to be an indication that women tend to make more value when supplying directly to end consumers, comparing this value with that of males who supply wholesalers shows that males make higher value when supplying to wholesalers, compared to females who supply to end consumers. This therefore explains the higher percentage of men who take interest in supplying brokers/wholesalers, because they seem to have understood this principle. There were no reports of supplying restaurants for women, while only 1.56% of men indicated they supplied to restaurants. Those who did were able to generate a value of 0.161. This shows a good indication of the potential that lies with supplying to restaurants.

4.3.2 Barriers to Entry in the Supermarket Networks

Farmers' Perspective Regarding Access to Supermarkets

As indicated earlier on, more than 60% of smallholder farmers are interested in supplying their produce to supermarkets. According to them, there are certain benefits associated with their dealings with supermarkets. Majority of these farmers are of the mindset, perhaps from past experiences, that supermarkets offer better prices compared to other dealers. As a result, they are able to make better profit from sales. In addition to offering better prices, they are able to buy in large quantities, which again enhance more profits for the farmers. Moreover, selling to supermarkets entails immediate sales, which is less cumbersome to farmers, compared to wandering through different markets. This comes with the benefit of fewer damages to the farmers' produce (see Table 16).

TABLE 16 - *Farmers' Perspective*

Enablers	Constraints
Better prices	Lack of knowledge regarding supermarkets
More profit	High transport costs
Supermarkets buy commodities in large quantities	Distance
Stable market prices	Lack of capital
Sell in large volumes	Lack of access
Immediate sales	Produce may not meet supermarket standards
Less damages to the produce	No supermarkets in their areas
	Unfavourable methods of payments from supermarkets

Source: Survey data (2018).

Despite the aforementioned benefits highlighted by farmers with regards to supplying to supermarkets, there are nonetheless associated constraints to their access. Lack of knowledge with regards to supermarket access is one of the challenges farmers face. Embarking on an awareness campaign might prove beneficial in this regard. In few instances, the farmers reported that there were no supermarkets in their areas, and in most instances they highlighted other challenges to include high transport costs, distance and lack of capital. The latter three challenges arise due to the fact that supermarkets require crops to be transported in special conditions, which entail additional expenses the farmers may be unable to carry. In case they were able to overcome the previously mentioned barriers, they were again faced with the difficulty of falling short of supermarket standards (packaging). Furthermore, given the high operating systems of most supermarkets, the methods of payments were seemingly unfavourable to these smallholder farmers, who in most instances preferred cash payments. Finally, smallholder farmers are faced with the issue of capacity. As previously seen, most farmers who are able to supply supermarkets have about 2 hectares of land. The dilemma therefore arises whether increasing smallholder farmers' land size might be favourable in boosting their capacity for supply. On the other hand, however, increasing their land sizes might not be plausible, since these increases may take them out of the boundaries of smallholder farmers. To keep them within these boundaries, the formation of cooperatives should be encouraged, so to ensure consistency of supply.

Supermarkets' Perspective Regarding their Access

TABLE 17 - *Supermarket Requirements and Reasons*

Requirement	Reasons
Quality/freshness	To meet the preferences of consumers
Consistency	the supplier must be able to supply
Supplier should have a farm	Traceability
Packaging	Last longer on the shelf
Distance	Easy communication
Capacity	Quantity of supply
Identification	Health crop

Source: Survey data (2018).

It is also imperative to examine the perception of supermarkets with regard to their access. This is necessary to establish if there is any existing relationship between the constraints raised by farmers and the requirements posed by supermarkets. The above Table 17 highlights some key requirements and the reason for such. Quality/freshness and packaging emphasized as a requirement, actually link with the constraint of “high standards” posed by farmers. The reason for this requirement could be the desire of supermarkets to satisfy their customers’ preferences and to increase the shelf life of the produce. Other requirements are that of capacity and consistency, which again were highlighted as farmers’ constraints. Supermarkets see these as vital, because they need to keep up with customers’ demand. Therefore, farmers must possess the capacity for regular supply. Due to the existence of these constraints on the side of farmers, when they on their part attempt to supply to supermarkets, they do so at a loss.

5. POLICY IMPLICATIONS FOR SMALLHOLDER, WOMEN AND YOUTH EMPOWERMENT CAMPAIGNS

The current section deals with farmers’ involvements with governments, NGO’s and supermarkets, regarding policy measures. Pre- and post-harvesting actions were combined by

each of the three players to present a clear and concise picture. Table 18 presents the experiences of farmers regarding policies.

TABLE 18 - *Experiences of Farmers regarding Policies*

Actions	Gaps
Government	
Access to inputs	No access to loans
Training on farming methods	Limited markets
	High input costs
	Low selling prices
	Corruption
	No action
NGOs	
Provision of inputs	No action
Soil preparation	Failure to fulfil promises
Encourage standard prices	
Supermarkets	
Harvesting	No action
	Market access
	Unable to meet standards

Source: Survey data (2018).

The existing government policies confirmed by some farmers as being effective include the facilitation of input access and training of farmers on farming methods. There were also recognitions of NGOs' actions as being instrumental in the enhancement of their profitability. These comprised the provision of inputs, soil preparation and the encouragement of standard prices. On the other hand, supermarkets made very little contributions towards farmers' access to value. They were only able to help in the harvesting of crops.

Despite the recognitions of these interventions by farmers, others however gave unsatisfactory responses regarding all three bodies. Government's actions that restrain profitability were identified, in the worst case scenario, as being no action on their part to improve farmers' profitability. This was also true for NGOs and supermarkets. Other complaints pertaining to the government involved no access to loans, limited markets, high input costs and corruption. Cognizant of these concerns, the government needs to put systems in place to make loans available to smallholder farmers by creating low interest credit systems. They need to intervene in the costing of inputs by perhaps creating subsidization systems for farmers, especially smallholder farmers. The entry of smallholder farmers into different markets should be facilitated, while at the same time dealing with corruption that may be existent, perhaps in agricultural departments. Lack of fulfillment of promises made by NGOs towards farmers was a gap highlighted by the respondents. In view of this, NGOs in Malawi should be able to follow through with commitments made to small scale farmers. The gaps posed by supermarkets are consistent with the constraints faced by farmers. Supermarket access, high supermarket standards are issues among others, such as land size discussed earlier, which if dealt with, will contribute to the enhancement of value access by farmers.

Corroboration from Alternative Approaches

In an attempt to close the gap in background information relating to smallholder horticultural farmers and supermarkets, a consultative meeting was held which was more of a focused group discussion. It took place on the 28 of September 2018, and brought together a prominent smallholder farmers group, supermarket representatives and the government (Ministry of Agriculture). The key issues raised by the farmers' groups relating to farmers' experience are: good production but low quantities; difficulties penetrating the supermarket supply chain due to significant barriers. From their point of view, supermarkets complained that they are already saturated by suppliers. They indicated that not being able to supply outlets like supermarkets leads to significant post-harvest wastage. Farmers' representatives raised further issues particularly relating to the fact that supermarkets import most of their produce from South Africa. They think that the relationship between farmers and supermarkets is quite problematic and needs attention. In their view, supermarkets seem to offer lower prices. For instance, only K20 per kg of spinach, compared with up to K150 per kg elsewhere. They also desire supermarkets

to enter into some sought of symbiotic relationship with farmers through some sought of contracting arrangements.

Supermarket representatives on the other hand, raised the problem of poor farmer organization. This underscores the recommendation in this report for policy efforts to focus on farmer organizations especially cooperatives. The supermarkets also raised limited value addition and farmers' inability to raise demand as some of the key issues. The apparent disparity between the view of supermarkets and farmers in relation to the ability to supply is largely a seasonal issue. When farmers produce, the available space in supermarkets do not absorb all at once, due to the fact that supermarkets seem to be locked up in contractual arrangements with more adequate and able suppliers, which farmers complain about. The supermarkets on the other hand are unable to get produce from farmers at farmers' off season, hence, their complain about farmers' inability to meet quantities at all times. Supermarkets have also justified importation by consumer preferences.

The government representative acknowledged historical policy gaps in the sense that agricultural policies had not prioritized horticulture. However, new policy endeavors are being undertaken. The key policy documents available are the NAP and NAIP, which are being mainstreamed into the local policy spectrum. Government pointed to a number of initiatives for the benefit of smallholder farmers, like for example, MASHEP, market infrastructure development.

Overall, the meeting suggested to improve market information systems, the development of storage infrastructure such as cold store chains; to assist farmers in organizing production and market systems; to establish linkages and coordination among main players; to invest to facilitate value addition and agro-processing.

Issues pertaining to women were also strongly acknowledged, with the recommendation that women should be targeted and assisted to be involved in all layers of the value chain. One other significant area identified was access to land, with the recommendation that more land should be extended to women.

The outcome of the focused group discussion/consultative meeting largely corroborates the results of the analyses of the survey data in this study. Therefore, the following policy recommendations emanating from this study are robust enough to be reliable.

Areas for Policy Intervention

In view of the challenges discussed, the following policies are recommended for government, NGOs and supermarkets.

- The following classes of women smallholder farmers must be targeted for policy support: young, uneducated, currently married and divorced women.
- Policies should include procedures to assist uneducated women attain the level of value generation, similar to those of uneducated men. This could be done by providing technical and managerial assistance where necessary.
- Since women with high school education are able to generate more value, policies focusing on the education of girls need to be reinforced around smallholder farmers.
- The above groups should be given technical support and information on high value crop selection and profitable farming methods.
- Although the recent land bills have addressed land issues around women, actions still need to be taken to put the government on its toes to fast track implementation. Secondly, the recent bills mostly address equality issues, with equity problems being ignored. Government therefore needs to skew the distribution of resources in favour of women, due to past discrimination. This will in the long-run resolve matters of equity.
- Identify and strengthen existing groups that enhance value, particularly sellers' group in the case of males and farmers group for women.
- Autonomy should be given to women with regards to decisions concerning crop selection, land sizes, where to sell crops, and money use.
- Given the recent calls that have been made for smallholder farmers to shift to leafy vegetables, there is a need for actions necessary for the optimum preservation of these crops and also recommended markets for the quick sales of such produce.
- In a worst-case scenario, farmers should be moved away from crops that incur losses such as onions and leafy vegetables.

- There is need for farmers to be educated on existing markets, their access, and prevailing conditions.
- The constraints faced by smallholder farmers with regard to supermarket access should be made known to supermarkets. These constraints include: high transport costs, high supermarket standards, unfavourable methods of payments, and capacity.
- Supermarket requirements come from two sources: governments imposed requirements for taxes, and regulatory purposes. Action should target governments so as to exonerate women smallholder farmers. The second source is requirement imposed by supermarkets for their own convenience. Supermarkets have the means to get the right kind of transportation and storage facilities, they can meet the farmers at the point of delivery just as the traders and wholesalers do.
- The government is called upon to fast track the establishment of the agricultural bank, and should also consider specific horticulture credit.
- High wastage cost incurred by females is an indication of inadequacy of farms to market infrastructure. Proper support such as transportation storage and value addition can assist in improving value.

Advocacy Action Points

1. Governments to address Regional Trade Imbalances through Local Content Policies

Develop and enforce local content policies aimed at encouraging procurement from women smallholder farmers. Adopting such policies will provide opportunities to increase incomes for women smallholder farmers who are the most vulnerable. We encourage governments in Southern Africa to take a leaf from the Walmart Case in South Africa where they were compelled to invest in supporting smallholder suppliers to meet their requirements. Such policies would be key in helping to address the high trade imbalances between South Africa and other countries in the region.

2. Government to invest in addressing challenges smallholder farmers face to meet market requirements

The study noted challenges that limit women smallholder farmer participation in supermarkets which included the inability to meet required volumes and quality with the consistency required by supermarkets. To address these, we recommend:

- Support the formation of farmer groups to increase production volumes and bulk sales
- Support irrigation infrastructure to enable all year-round and consistency of supply by smallholder farmers.
- Implement interventions to reduce wastage such as investment in cold storage infrastructure and supporting value addition initiatives among smallholder farmers
- Influence the distribution of power and decision making roles between women and men smallholder farmers for equitable share of value within households and among market actors.

3. Government to provide a supportive environment that enables women smallholder farmers' participation in supermarkets

- Provide agronomical and market support to smallholder farmers through learning on field and exposure to best farming practices
- Provide tailored financial support to women smallholder farmers. The study notes that less experienced farmers often face financial constraints. Financial support coupled with the right business development support would be the key.
- Support capacity building initiatives especially among young and un-educated women to take farming enterprises as business through crop selection, land and other resource allocation.
- Support in addressing gender disparities between women and men smallholder farmers.

4. Supermarkets to address own-induced constraints that limit smallholder farmer participation

We recommend that supermarkets should relax some of their requirements meant for their own convenience and profitability. These include:

- Supermarkets to relax their requirements for farmers concerning transport in special conditions and consider meeting farmers half way in the collection of commodities.

- Supermarkets to disseminate information to smallholder farmers on their demand requirements.

6. CONCLUSION

The purpose of this study was to establish the inequality that exists along the horticultural value chain in Malawi. In doing this, attention was given to the role of supermarkets and other big players. Agriculture, being an important engine for growth still underperforms in many countries, partly because of constraints farmers face, especially smallholder farmers. Though women seem to be more dominant in this sector compared to men, they are however restricted to lower level activities that involve only production. Even when handling incomes generated from agricultural activities, they do so over crops that do not yield much value.

This work therefore had four key objectives which have been met as explained below:

- To identify economic opportunities for smallholder farmers in the fruit and vegetable value chains created by the growth of supermarkets in the SADC region. This objective was met by identifying most lucrative crops that exist in the horticultural value chain. Smallholders could therefore put more efforts in the cultivation of such, so as to be able to supply supermarkets.
- To determine factors that enable or hinder the participation of smallholder farmers in the fruit and vegetable value chain in supermarket channels. This study has identified factors that affect smallholder farmers' participation to supermarket chains.
- To determine the difference in economic benefits between smallholder farmers marketing through the supermarkets and those using major alternative channels. Respondent who were surveyed in this study do not currently supply supermarkets. However, other market outlets such as wholesalers were identified as profitable channels.
- To determine inequalities and distribution of value in fruit and horticulture value chains in Malawi. Gender inequality has been flagged out across all aspects of this work.

On this note therefore, this study proposes various points of action through which value can be generated by smallholder farmers, especially women. We are confident that if these recommendations are taken into consideration, remarkable changes will be observed amongst smallholder farmers, with such benefits spilling over to the agricultural sector as a whole.

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