

Gender norms and the marketing of seeds and ware potatoes in Malawi

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Abstract

Gender dynamics shape and influence the nature of participation in, as well as the ability to benefit from, seed and ware potato markets in Malawi. 35 sex-disaggregated focus group discussions with farmers and 4 interviews with extension officers were conducted in Dedza and Ntcheu districts. Data on seed marketing and purchase, ware potato marketing, affordability, marketing decisions, and clients, as well as social norms and values that influence market participation by men and women were collected and analyzed using the Real Markets Approach focusing on social relations within markets. Results demonstrate that agricultural market interventions that do not address underlying social structures—such as those related to gender relations and access to key resources—will benefit one group of people over another; in this case men over women.

Keywords: Malawi, potato, gender relations, marketing, smallholder farmers

Introduction

Overview

The lack of access to markets by smallholder farmers negatively impacts farmers' incomes, food security, and general economic growth and agricultural productivity (Salami *et al.*, 2010). While market integration is regarded as a key ingredient in improving farmer's livelihoods, in many developing countries markets are structured in ways that disadvantage women farmers and entrepreneurs. For example, Change and Be'Soer (2001) noted that gender-related obstacles in Papua New Guinea—such as sexual harassment and intimidation along the supply chain, heavy workloads, and poor facilities at open markets—were key obstacles to women's participation. In India, Gurung (2006) shows that women lose control of agricultural produce (and consequently incomes) when produce moves further up the value chain. In a study on the commercialization of beans in Malawi, Njuki *et al.* (2007) note that although the absolute amount of money women received from beans increased, their share of income from the crop dropped. This demonstrates the need to understand how gender relations impact men and women's abilities to participate equitably in agricultural markets.

Elsewhere it has been noted that the commercialization of agriculture tends to exclude women, though it is not always clear what conditions spur this. On one hand, Fischer and Qaim (2012) note that in Kenya, when the banana sector that was traditionally under women was commercialized, banana production became “centralized under men's control” and women lost their source of income. On the other hand, a study by David (2015) suggests that in Nasarawa State, Nigeria, although sweetpotato was

traditionally a men's crop, women became more engaged in sweetpotato farming once the crop was commercialized and became profitable.

Informal markets are the main source for the marketing of ware potatoes (i.e. potatoes grown for human consumption or processed for either food or feed) in East and Central Africa (Scott *et al.*, 2013). In Malawi, Minde and Nakhumwa (1998) note that informal trade in agricultural commodities (including potatoes) contributed to 32 percent of total informal exports of agricultural commodities from Malawi to Mozambique. Although most of the produced ware potato is sold through informal channels, potato is a key cash crop in the Ntcheu and Dedza districts of Malawi. For potato seed, the focus is on informal seed markets, since in developing countries the majority of smallholder farmers obtain seed through informal/non-regulated channels (i.e. such as using farm-saved seed or using seed purchased from other farmers/other non-specialized seed growers) (Lutaladio *et al.*, 2009).

It is important to understand how gender influences seed potato and ware potato marketing in order to ensure that development organizations design systems that will benefit both men and women. This paper examines Ntcheu and Dedza's local/informal potato seed and ware potato markets to investigate whether men and women farmers can equitably participate in and benefit from seed and ware potato markets as both purchasers and sellers. In addition, since most farmers sell ware potatoes and are involved in seed markets as both buyers and producers, it is also critical to understand how these markets are linked and products sold and priced.

This paper seeks to answer the following questions: 1) What are the patterns of participation by men and women in potato markets in Ntcheu and Dedza districts? 2) What factors constrain or facilitate women's ability to participate in and benefit from seed potato markets? 3) What factors shape the opportunity structure, benefits, and participation of women in ware potato markets? The paper concludes with a discussion of this study's implications for integrating gender into agriculture-based market interventions. This paper defines "markets" not from the perspective of physical space but to denote the different ways in which people exchange commodities and services for cash or other forms of payment. This definition encompasses, for instance, agricultural products sold at the farm gate and in local i.e. (a central marketplace serving the village or a number of villages), national, and international markets.

Gender, potato production, and marketing in Malawi

Solanum tuberosum L.—referred to as "Irish potato" in Malawi—ranks only after maize and cassava in terms of diet, production, and trade in Malawi (Minot, 2010). As a result of its growing importance as a food and cash crop, between 1999 and 2009 potato production in Malawi increased by 86 percent and yields by 44.3% (FAOSTAT, 2010). Despite this increase, ware potato supply is always lower than demand in Malawi (Demo *et al.*, 2007), demonstrating that there is room for growth in potato production and marketing. Yet, any potential growth in agricultural markets may benefit men more than women, since Malawian men have been better able to take advantage of the commercialization of agriculture than women. For instance, it has been found that male headed households in Malawi are more commercialized than female headed households, with male headed households selling more agricultural produce than those headed by

women (Kherallah *et al.*, 2001).

Although women regard potatoes as an important crop (Mudege *et al.*, 2015), there is still a perception of potatoes being a man's crop. This perception is reinforced by the fact that many women involved in potato farming are engaged as part of households headed by men and there is limited engagement of women headed households in potato farming (62 percent of potato farmers in Dedza are men) (Maganga *et al.*, 2012). Female headed households face many obstacles to farming cash crops in Malawi, key among which are a lack of male labor and a lack of the cash needed for cultivation (FAO, 2011) as well as limited access to extension services, training, information, and markets (Mudege *et al.*, 2015).

No studies have examined the gender issues that inform seed potato marketing and ware potato marketing in Malawi. Instead, many studies of seed potato markets have focused on viruses and diseases among potatoes sold in informal rural markets (Gildemacher *et al.*, 2009); or they have focused on cereals (Guei, *et al.*, 2011); or they have focused on bottlenecks, such as limited credit and lack of risk-sharing schemes as factors that stifle the growth of commercial seed companies (Langyintuo *et al.*, 2010).

In addition, it has been noted that while women are heavily involved in agriculture and seed maintenance (particularly for vegetatively propagated crops like sweet potatoes), commercialized seed systems are rarely evaluated from a gender perspective (Gibson *et al.*, 2009). There have also been limited analysis of non-market structures that influence the ability of farmers to participate in and benefit from potato markets. For example, women may not own land or may have access only to marginal land, which may affect who is likely to benefit from the commercialization of seed systems. Furthermore, the FAO (2008) acknowledges that the commercialization of agriculture tends to exclude women, since women lack the resources needed to participate in commercialized systems.

Characterization of seed potato and ware potato sources and markets

Informal seed potato markets are often divided into two local chains: the first chain characterized by the use of ware potatoes as seed and the second chain is characterized by seed potato growers producing non-certified seed potatoes for sale (Crissman *et al.*, 1993). These informal seed potato markets are often local in nature, with farmers selling to other farmers. Yet, although informal seed systems can be local, farmers may also get seed from networks located outside their immediate communities (Walelign, 2008). Within the informal system, sourcing options for seed can include buying from local informal markets, other farmers, families, and neighbors. Farmers also use own-saved seed.

Seed potatoes in Malawi are part of the ware potato chain. This means that farmers do not usually separate seed potato and ware potato production, but rather select ware potatoes that can be used as seed. Seed selected from ware potatoes and sold informally within villages and at local markets are split into two types. The first is seed selected using either positive or negative selection techniques. When positively selecting plants as parent stock, farmers identify in their fields healthy potato plants with no signs of disease, bacteria, or viruses and preserve them as planting material. Negative selection

involves selecting and marking plants that are diseased and will therefore not be used as parent stock. Positive selection is normally done when most of the plants are infected, while negative selection is used when the field is relatively free of disease, bacteria and viruses. The second type is seed that is selected using the traditional method of selecting seed from a heap of ware potato tubers after harvest. This type of selection does not take into account the health status of the plant from which the seed is obtained. Seed from either positive or negative selection techniques is regarded as of better quality than seed selected from a heap, since the former is usually selected to ensure that diseased potato is not used for seed, while seed selected from potato heaps is only selected for size and the appearance of tubers.

Gender norms and gender dynamics in Malawi

Although Malawi has both matrilineal and patrilineal land inheritance systems, men own and control 65 percent of rural farms plots while women own and control 35 percent (GoM, 2012). In addition, while women are heavily involved in agricultural work, they earn about 78 percent of the income men earn from smallholder agricultural enterprises (GoM, 2012). This may indicate specific barriers that prevent women from participating in commercialized agriculture.

While official rhetoric in Malawi is pro-women, it has been noted that official policies sometimes prevent women from registering land and acquiring land titles. For instance, while the National Land Policy of 2002 states that women's land ownership needs to be encouraged, the Social Institutions and Gender Index (SIGI) notes that, "the policy allows for the name of the head of a family to be registered as the proprietor of family land, resulting in men's names being recorded with a likely loss to women and young men" (SIGI, 2014). Lack of ownership of and control over land may affect women's ability to adopt technologies and participate in agricultural markets.

In 2012, Malawi was ranked 38th out of 86 countries on the SIGI, while its Gender Inequality Index for 2011 scored 0.549 where 0 represents inequality and 1 equality (SIGI, 2014). The calculation of SIGI is based on five key drivers of gender inequality: Discriminatory Family Code; Restricted Physical Integrity; Son Bias; Restricted Resources and Entitlements (i.e. access to land, property, bank loans, and credit); and Restricted Civil Liberties (i.e. access to public spaces and political voice). Malawi also doesn't score strongly on indicators of gender-based violence and women's decision making. Barkvoll (2009) reports a high prevalence of Intimate Partner Violence (IPV), with close to 22.9 percent of currently married women experiencing IPV. IPV may be a form of social control of men over women. Low rates of women's participation and decision making has been noted in different sectors in Malawi. For example, Mathiassen *et al.* (2007) state that in Malawi when money is involved in a decision—as in the case of crops that require purchasing of inputs such as seed, fertilizer, and pesticides—men in Malawi make the majority of decisions about cultivation and marketing.

Methodology

This paper is based on a gender analysis of potato seed systems in Dedza and Ntcheu districts in Malawi in November 2013. Dedza and Ntcheu were selected because potato

is an important cash crop in both (they constitute two of the five major potato producing areas in Malawi) (Maganga, 2012). We used the International Potato Center (CIP)-led, Irish Aid-funded project, “Improving Food Security Through Enhanced Potato Productivity Technology Development and Supply Chains in Malawi”, as an entry point.

Theoretical underpinnings: Real Markets Approach

This study used the Real Markets Approach (Mackintosh, 2013) to collect and analyze data. This approach regards the market as a set of “social relations structured by institutions, interests, and power” (Boghle, 2011). The Real Markets Approach seeks to understand the market not as an isolated entity but as an institution that, for instance, helps to shape—and is itself shaped by—a variety of relationships (i.e. those based on class, power, gender etc.) that generate “real effects in terms of people’s survival” (Mackintosh, 2013). This approach departs from purely economic approaches, which focus largely on transaction costs related to market accessibility (Fafchamps and Gabre-Madhin, 2006, Zeller et al., 1997) and an inherent assumption that farmers make rational decisions about whether to participate in markets based on economic risk-benefit analysis.

Rooted in political economy, the Real Markets Approach recognizes that conditions of market entry are not equal. According to the Real Markets Approach,

[F]irst, analysis needs to center on the terms on which people come to the market: the way in which ownership of resources such as land allows certain individuals to establish dominant positions in organizing markets such as trade in food, while others for lack of resources are coerced into participation in the market on vulnerable terms (Mackintosh, 2013).

Although the Real Markets Approach (as is common with other political economy approaches) does not specifically address gender, this paper adopts it because it provides space for introducing gender analysis via its analysis of power and its recognition that access to markets does not ensure equal benefits to all. The way markets are structured may prevent those participating in the markets from benefiting and improving their livelihoods (Mackintosh, 2013).

Although the Real Markets Approach focuses on states and even global trade relations, the same principles can be applied to local level informal markets. For example, it focuses on how power and power relations can influence how markets operate (White, 1993). Power can operate at the state level; within market organizations (such as farmer market associations); and within social institutions and values that govern how markets operate (regarded as the “social embeddedness of markets”) (White, 1993). The approach posits that to understand how markets work, one has to employ an approach that embraces both behavioral analysis of market actors as well as structural processes that shape the behavior of market actors. Taking a political economy approach, White (1993, citing Polanyi, 1957) notes that “principles of social organization permeate markets and shape their structure and dynamics”. Thus, to understand how markets work, it is necessary to also understand how social and other values in communities affect the performance of markets. One such structural factor that is rarely considered

by political economists but can indeed structure how markets work is gender relations. Gender relations govern how power is distributed between men and women (March *et al.*, 1999).

Data collection and analysis

This study uses sex-disaggregated focus group discussions (FGDs) with farmers and individual interviews with representatives of partner organizations to understand both women and men farmer participation in potato seed systems. In total, 35 FGDs (19 with women and 16 with men) with potato farmers were conducted in the Chichewa language in both Ntcheu and Dedza. Focus groups averaged a total of 10 participants per group, totaling close to 350 farmers. In addition, four interviews were conducted with extension officers and a representative of a private sector partner working with CIP.

Recruitment was done through announcements at community meetings as well as by word of mouth from potato farmer group members. Targeted potato farmer groups were those that CIP and its partners were already working with under the Irish Aid-funded project “Improving Food Security Through Enhanced Potato Productivity Technology Development and Supply Chain in Malawi”. Extension officers and community leaders (such as lead farmers) helped us identify and recruit men and women potato farmers who did not belong to potato farmer groups. Farmers were informed that participation was voluntary and refusing to participate in the study would not result in any penalization.

Qualitative approaches were chosen because they allowed us to dig deeper into how gender relations interact with potato seed technologies and influence whether men and/or women farmers benefit. While focus groups helped us understand social norms in communities, group participants also often provided their opinions and described practices in their homes; thus the focus groups were facilitated in ways that helped us capture both norms and practices. Focus group discussions and individual interviews have been included in the following sections to highlight the validity and importance of women and men farmers’ experiences, ideas, and needs.

Using a the real markets approach which also seeks to understand social relations, this paper also analyzes issues like social norms—which, while they may not be regarded as key components of market analysis in traditional economic analysis, nonetheless do impinge on how markets are structured and operate, as well as the ability of those participating in the market to benefit from it. These norms may include gender relations and other social structures.

The author created a coding tree that identified different themes. After developing the themes, data was manually coded in Excel in a sex-disaggregated manner. Questions asked during the study were used to formulate the coding tree. The marketing component of the study asked questions that focused on how farmers market their seed and ware potatoes; which clients they sell to; how they determine their prices; household decision making on how much seed/ware potato to sell or keep; obstacles to

and opportunities for participating in these markets; access to and control over benefits from marketing; the affordability of seed for men and women; and whether men and women are willing to buy seed. In addition, questions on social and gender norms that influence market participation and benefits were asked. Thus the developed codes closely resembled the questions outlined above. Analysis was always sex disaggregated to tease out any differences and/or similarities between men and women's experiences. This led to the analysis of social norms and values that influence market participation by men and women. Several other non-market themes (such as those related to access to land and resources and the ability to benefit) are also used.

Results

This section is divided into broad subsections. The first subsection examines patterns of participation by men and women in seed and ware potato markets, with a focus on: Where men and women sell their seed and ware potatoes and why; the quantities that men and women sell; who makes decisions about seed sales; whether participation is different for women when selling seed vs. when selling potatoes; and participation of men and women in seed potato markets. The second subsection examines factors that constrain women from participating in and benefiting from seed markets. The last subsection focuses on the factors that shape the opportunity structure, benefits, and participation of women in ware potato markets. Social and gender norms that shape participation and benefits are also discussed.

What are the patterns of participation by men and women in seed and ware potato markets?

Both men and women who were interviewed participated in both seed and ware potato markets. However, differences existed in terms of target clients, the markets to which they sold their seed and ware potatoes, reasons for selling, and quantities sold.

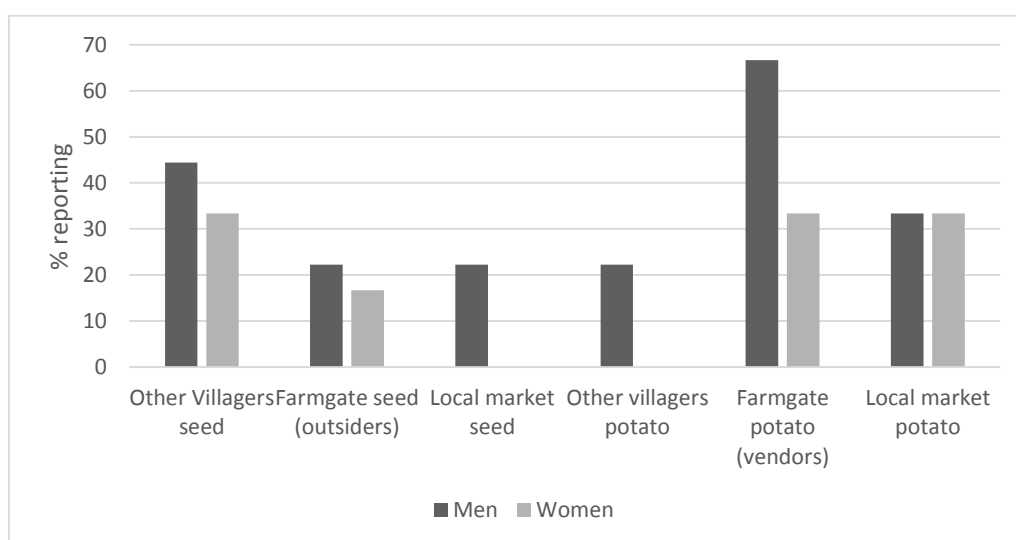


Figure 1: Types of markets targeted by men and women

In both Ntcheu and Dedza, farmers sold the bulk of their seed at the farm gate to both villagers and outside buyers, as well as at local markets. Targeted markets were usually similar for both seed and ware potato—although the major clientele for seed were other farmers while vendors were the major clients for ware potato.

A few farmers mentioned supplying other buyers from Dowa (a district in Central Malawi) and Lilongwe (the capital city). In terms of selling seed potato, both men and women focus group participants mentioned other villagers as a major source of clientele, while it was only men’s focus groups who mentioned selling seed at local markets.

While it is not immediately clear why local seed markets were mentioned by men’s but not women’s focus groups, the reasons for selling seed determined the quantity of seed to be sold and so could explain why women did not mention local markets as a source of clients for seed. Men participants in focus groups that mentioned excess seed as a reason for selling seed also said that poor storage facilities necessitated the seed sales. The men feared that if they kept the excess seed they would lose it to seed rot during storage. Men usually had large quantities of seed they could not absorb. For instance, men mentioned a poor absorptive capacity for seed due to a lack of access to inputs like fertilizer, which meant that they could not expand land under potato cultivation. While most often it was women’s groups who mentioned that the seed they produced was usually too little in quantity to sell. In one group, women mentioned that they sold seed to “lessen poverty in the home” [i.e. selling some seed to gain an income to purchase food and other items for use in the house] and some women’s groups mentioned that they had bad seed they did not want to plant in their own fields but could sell to others. Men often had more seed to dispose of, for which sales they would need to explore markets outside the village. Meanwhile the small quantities that women sold could be easily disposed of within their villages.

Table 1: Men and women’s reasons for selling seed

	Number of men’s groups reporting	Number of women’s groups reporting
When we have excess seed	4	1
Sell bad seed	1	3
To lessen poverty	0	1
To generate cash income to buy fertilizer	5	0

While slightly larger quantities of seed could be sold at local markets, within villages women could trade small amounts of seed to other farmers and use the money to buy household items like salt, pots, and pans, while men usually wanted to sell large amounts of seed in order to purchase agricultural inputs like fertilizer.

When asked who made decisions in the home about seed sales, a group of men mentioned that in seven out of ten families, men made all decisions related to how much seed to store or to sell:

Participant: Men will decide in 7 out of 10 families what will be done with the granary/stored seed.

Participant: He now knows the future plans.

Facilitator: What about families that decide together what is going to be done, let us take 10 families?

Participant: They are very few.

Facilitator: So can women decide whether to sell seed? Let us look at 10 families.

Participant: Women don't have that power to decide. They don't have any chance at all. (Men FGD participants Kambilonjo, Ntcheu, 29 October 2013).

There was also the belief in many men's groups that "women do not think about tomorrow", requiring men to be responsible for selling seed—i.e. if women were left to do it, they would sell all the seed (an assertion women disputed). In both men and women's group discussions it was agreed that seed was usually double the price of ware potatoes. At local markets, buyers could differentiate between seed and ware potatoes because sellers usually sold seed that had broken its dormancy. Prices for seed were often between 1,500 Malawi Kwacha (MK) (\$4.5 USD) and 8,000 MK (\$23.6 USD), whilst those of ware potatoes were in the range of 800 MK (\$2.36 USD) and 6,000 MK (\$17.8 USD) per 50kg bag. Higher cash returns for seed could explain why men dominated seed markets and controlled seed sales.

When ware potatoes were sold in bulk (whether at the farm gate or at local markets), men usually participated more than women. However, in contrast to seed potato sales, for ware potato sales men and women groups both mentioned local markets as a source of clientele while men regarded vendors as their major buyers.

Within the home, and even when selling ware potatoes at local markets, women dominated the sale of small quantities. When potato quantities were small, men did not regard it as worthwhile to go to the local market, but allowed women to sell the potatoes and use the money for buying soap or relish. At local markets, ware potato was usually sold in smaller quantities in basins/buckets (whereas vendors often bought in large quantities).

Men and women's participation in seed purchase

In the focus groups, women often asserted that they could not afford to purchase seed and stated that married women depended on their husbands to be able to access potato seed. When asked to estimate how many of the ten families in the village could access seed easily or were able to purchase quality seed, a range of three to four families was estimated in many FGDs as capable of affording to purchase seed. While men were generally positive about the number of families that could afford to buy seed, women's groups consistently pointed out that many families could not afford to buy seed. Further to that, while both men and women groups expressed the willingness to pay a higher price for good quality seed, women were more likely to mention a lower affordable price than men. Men generally stated that they could pay between 5,000 MK (\$14.8 USD) and 8,000 MK (\$23.6 USD) per 25-liter bucket for good seed. However, most

women's groups suggested that this price was unaffordable and sometimes mentioned 1,000 MK (\$2.96 USD) as the price that women would be able to pay for a 25-liter bucket. Other women group participants pointed out that even that figure was too high and said they could only access seed if given to them on credit (to be paid back after harvest). As a result of expenses associated with seed purchases, women's FGG participants often stated that they conserved their own seed.

Figure 2 summarizes the reasons men and women groups gave for why they did not have access to enough seed for new and improved varieties of potato:

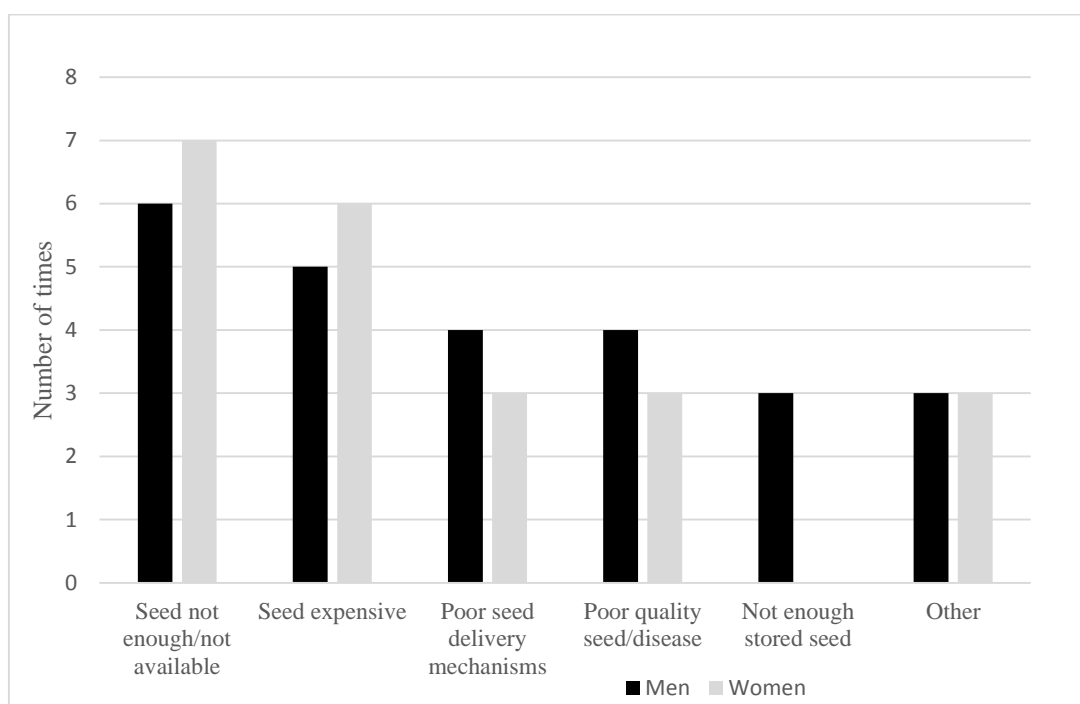


Figure 2: Number of times reason for not having accessing to quality seed was mentioned by men and women

Men's and women's groups gave similar reasons for not having access to seed. Seed markets were often blamed for farmers' lack of access to good quality seed. A common refrain was that the new varieties were expensive and not always available for purchase in enough quantities. In some group discussions, women mentioned that they bought "bad seed" knowingly because they could not afford the good quality seed.

Furthermore, women often mentioned an inability to afford potato seed as a key barrier to expanding potato production, while men often mentioned lack of access to other inputs, such as fertilizer.

In contrast to men, however, women expressed a preference for non-cash forms of payment for seed. According to them, women are willing to buy seed but prefer to use a wide array of payment choices, including non-cash transactions (such as using labor as payment for seed or asking friends for seed that they would compensate them for after harvest). On the other hand, most men did not mention non-cash transactions, saying instead that they engaged in odd jobs in order to get cash to pay for seed. Men often mentioned that they could afford seed and thought that women could also afford to purchase seed since they were also farmers. In order to access seed, women often relied

on relations of trust within the village and other social relations. Preference for non-cash payments for seed was consistently mentioned in women's groups but not in men's groups. For instance, it was mentioned that while women could rely on their friends to provide them with seed to be repaid after harvest, it was usually difficult for men to give another man seed to plant. Women who did not have husbands also mentioned that performing piecework in exchange for cash or inputs (such as seed and fertilizer) enabled them to have access to planting materials. Social relations based on trust made it possible for women to participate in seed markets even on a non-cash basis.

While it was preferred that men purchase seed when it was bought from the local market—because they could “tell the good seed from the bad”—when buying within villages participants said that both men and women could buy, since they were usually buying from people they knew and trusted. Farmers who bought seed from the market expressed distrust of the market, citing an entrenched belief that farmers sold bad seed there. Some farmers who sold seed practiced deception by using positive and negative selection techniques to identify bad seed that they would then sell at the market. Men and women who belonged to seed producer groups frequently mentioned selling bad seed at the market and mentioned that they did not feel obliged to sell good seed at the market, but rather preferred to keep the good seed for use in their own fields. In FGDs both men and women participants often mentioned that other farmers refused to learn how to produce their own clean planting material and did not see why they should do that work for them. As a result of deceptions at local markets, both women and men farmers preferred to purchase seed from other farmers within the village, where purchase of seed was mediated by relations of trust between the seller and buyer. Seed producers often mentioned that they sold their seed from the field because farmers know the farmers who have good seed and make an effort to buy directly from them. When farmers purchased seed from a fellow farmer's house or field, they knew how the seed was cared for by the seller, giving them confidence in the quality of the seed; whereas buying from the market was often regarded as a sign of a lack of options.

Factors that constrain women from participating in and benefiting from seed markets

Lack of knowledge was often mentioned by both men and women as a key barrier to women's participation in seed markets. It was believed that men had more knowledge about the quality of potato seed than women, so it was better if men were the ones buying the seed. For example, one woman mentioned that she had never bought seed because her husband believed she did not have enough knowledge:

Participant: But in my case my husband would rather go to buy because I may buy seeds with diseases since I will buy without knowing; so my husband should go to select. I have never gone to buy potato for seed but only for consumption (Woman FGD participant, Mphoyo, Ntcheu, 1 November 2013).

As a result, while women would mention that they could easily purchase potatoes for household consumption, seed purchases at local markets were usually the preserve of male household heads perceived to be more knowledgeable in this area.

Men had access to knowledge networks that women did not. For example, men were identified as able to gain knowledge about seed when they attended group trainings and also when they traveled to local and distant markets. Table 2 below demonstrates that women were usually not targeted for training:

Table 2: Proportion of men and women farmers trained and using knowledge different topics

Type of training	Awareness (%)		Trained (%)		Practicing (%)	
	Men	Women	Men	Women	Men	Women
Positive and negative selection	71	62	73	67	77	66
Diffused Light Store (DLS)	42	35	39	49	47	34
Marketing and Profit Calculation	30	21	68	33	35	23

*Source Data: CIP (2012)

Men often worried about allowing women to participate in agricultural training because they believed that women would not understand the training and mislead their families. In addition, extension officers often invited household heads (who more often than not were men) (Mudege *et al.* 2015). While the potential for purchasing bad seed at the market was a concern for both men and women, women's situations were exacerbated by their lack of training.

Women were also underrepresented in farmer groups that were usually targeted for training on crops and livestock technologies and also for input and output marketing (as illustrated below).

Table 3: Group membership by sex

Membership	Dedza		Ntcheu	
	Men (%)	Women (%)	Men (%)	Women (%)
Club membership	56	60	49	63
Club services				
Crop and livestock technologies	71	48	68	43
Credit and savings	37	71	30	78
Input-output marketing	67	39	72	42

In contrast to men, women often mentioned that they were not able to identify bad and good seed at the market.

However, in one FGD, a group of women gave their subordinate status as the reason why men were the ones responsible for buying seed. Women mentioned that men are the ones who go to the market to purchase seed because, "we are still tied in our own

houses” [meaning they do not have the freedom to decide anything]. In addition, not having access to these markets also meant women were shut out from gaining new knowledge relating to other new potato varieties that appeared in the market.

Factors that shape the opportunity structure, benefits, and participation of women in ware potato markets

Women and men farmers also faced some similar issues in the marketing of ware potatoes. Both mentioned the lack of support infrastructure (such as good roads and efficient transport systems) as a factor limiting the profitable marketing of potatoes. While farmers could often sell seed within their villages, for ware potatoes they had to look to other markets beyond the village. For instance, farmers mentioned that in some cases it was better to sell to vendors who came to the village and bought at very low prices, because selling to private sector buyers who demanded farmers bring the potatoes to a central collection point meant farmers incurred huge transaction costs.

Other social structural factors (that are not necessarily gender-based) were also major obstacles. Weak farmers’ organizations meant that farmers were not efficiently or effectively organized; likewise, weak market associations often failed to fulfill big orders placed by clients. Land available for potato production is often limited, and farmers need to participate in group-selling of potatoes if they want to sell to the private sector. However, in some cases where potential markets were identified, a lack of organization or in-fighting within groups and associations often prevented farmers from capitalizing.

Below we discuss gender factors that structure benefits from and participation in ware potato markets. These include the nature and size of market, marital status and type of marital union, who owned the plot, nature of decision making, and bargaining within households.

Nature and size of market

As mentioned above, women mostly participated in small ware potato sales and consequently had less income from ware potato markets. In FGDs women often mentioned that because the money made from selling potatoes was meager, it was difficult to invest in “development” of the family and household (i.e. investment); therefore the money was used to meet immediate family needs, such as buying food and clothing.

However, apart from individual sales at local markets or to vendors, farmers also belonged to associations through which they marketed their ware potatoes to private companies or other large buyers. Women farmers who belonged to a potato association that had been started to assist farmers with marketing mentioned that, before joining associations, they felt “oppressed” when marketing potatoes. They were not able to benefit from potato farming because vendors often bought ware potatoes at artificially low prices. However, after joining the association or farmer clubs these women were happy with potato prices and could also more easily access distant markets.

However, group marketing may not benefit women if gender norms that structure markets are not addressed. For example, while private companies bought potatoes from farmer groups and associations, private involvement did not necessarily benefit women, especially since these buyers did not recognize women's roles in potato production. One private sector company that intended to start trading with farmers' groups indicated that it did not have expertise on gender issues and mostly signed contracts with household heads or groups. Because they did not deal directly with farmers, the company's representatives did not know how the groups operated or whether women were group members. Many women were not able to join associations because they could not afford the fees demanded by the associations. In addition, in many communities covered by the study, men comprised the bulk of group members. It was often mentioned that when a man was a member of the group, his wife was also automatically a member even if she did not attend group meetings or benefit directly from group activities. Women did not necessarily feel that they benefitted from crops sold to private companies, especially when the income was paid directly to the male household head.

Marital status and type of marital union

Group marketing benefitted both men and women in the sense that they were able to access higher value markets. However, focus groups participants were quick to point out that women growing potatoes on their own were benefiting more than those who were cultivating together with their husbands because husbands often had the final say on how "family money" was used. In discussions, single women often mentioned that their experiences were different from those who were married because, as single women, they had full control over income and resources and could use proceeds from potato markets to build houses as well as invest in household needs.

It is clear that the ability to participate in the market and benefit from increasing yields depended on social structures and decision-making power within a household. This is not to say that single women were necessarily better off than married women, since they faced obstacles in terms of access to quality seed and chemicals. However, women who farmed on their own and had access to quality inputs stood a better chance of benefiting from their labors, as they had more say over decisions about the sale of crops and use of income.

The type of marital union could also influence how much one participated in and benefitted from markets. For example, in uxori-local matrilineal communities, men expressed uncertainty over their ability to fully benefit from improved production technologies and markets. In one FGD, men stated that

Participant: The woman takes everything to the market and when you look for the money...you will be afraid to ask her because since you are staying at her home you are afraid that she will chase you away if you ask her. (Man FGD participant from Chisendera, Dedza, 1 December 2013)

Participant: After farming when the man tries to contribute how they should use the money the woman will say, "Don't tell me what to do the land is not yours". I have seen this in two marriages [in this village]. In the end the money will not

be used in the way that both parties want (Man FGD participant from Mpalale, Dedza, 4 December 2013)

Also in Dedza district, participants in a women's FGD stated that men were not committed to investing in their marital homes because of the fear of losing everything in the event of a divorce. For example, men were not committed to making long-term investments—such as building houses—as they could be kicked out of the house if they divorced. Thus, while in almost all group discussions the ability to buy houses and livestock was mentioned as one of the key benefits from potato marketing by both men and women, other key social arrangements may prevent these benefits from accruing to both men and women.

Plot ownership

The definition of crop ownership within the family influenced who participated in ware potato markets and benefitted from them. The use of money earned from marketing depended on who owned the potatoes. Often women had more say over using the money earned from potatoes grown on plots they controlled, while men had overall control over the income from the “family plot”. ‘Family plots’ were plots controlled and managed by the husband and where women and children contributed labour. Women distinguished between their money and the family's money: If it was their money, they would use it to buy soap, salt, relish, or cloth wrappers and fertilizer; when it was the money from the family plot, their ability to influence decisions depended on whether their husband allowed them.

There were two major reasons cited for why a husband and wife would have separate plots of land on which they cultivated different crops: 1) A woman may want to have access to personal income that she could control, and 2) In many cases it was a form of social security, i.e. protection against husbands spending all the family money and leaving their wives with nothing to fall back on. As one woman FGD participant said

We grow the crops together with the men and when we are working there is peace in the family. But when we harvest, that is when the trouble starts. You will not even see him showing you the money, saying, “My wife this is the money that we were struggling to get while we were laboring, waking up early together to do the watering”. He will just get the money and spend it with prostitutes and you and the children will stay at home miserable and when you speak out you will get beaten up. So what can I do? That is why some of us think that it is better to grow crops in my field so that I can have something for the children (A woman FGD participant, Kambilonjo, Ntcheu, 29 October 2013)

Compared to women cultivating the same plot as their husbands, women cultivating their own plot seemed to be more empowered to make decisions about how to use their money. However, farming one's own plot was not always beneficial for women. A lack of cooperation between husband and wife could result in unfavorable outcomes, such as the husband stealing the woman's crops or the husband spending the income from his crops on himself while expecting his wife to use her crop income to provide for the household needs. In some cases, women farming on their own could not afford to

purchase equipment like knapsack sprayers and inputs like fertilizer, often leading to poor yields.

Owning a crop and being responsible for its marketing did not always mean that women benefitted from the proceeds. Some women who were responsible for marketing potatoes both at home and at nearby markets mentioned that they gave up all their earnings to their husbands:

Participant: When we go to the market and we come back with the money you will count the money and give it to him and men will keep all the money and when you ask about the money they will beat you up. (Woman FGD participants, Mukoko, Dedza, 5 December 2013)

Both men and women often mentioned that men were the heads of the household and pointed to this as the explanation for why women gave up earnings whilst men did not. Intimate partner violence was often mentioned by women as the reason for why they did not benefit from farming—these women said they were afraid to voice their opinions or challenge their husbands' decisions on how proceeds from marketing could be used. Sometimes women gave up their right to control income as a way to maintain harmony within the family and avoid physical violence. As a result, women often preferred to farm crops like groundnuts, which they were allowed to control the earnings from (potatoes often being regarded as a man's crop).

As was mentioned above, men often made decisions about the expenditure of earnings from the family plot. In some discussions, men said that they spent the money in ways that were good for the "family" and mentioned that they would consult their wives regarding what should be bought; yet they also said that they had ultimate decision-making power because women would buy "unimportant" items like cloth wrappers, buckets for fetching water, and plates. Whilst both men and women agreed that the money should be used to buy fertilizer, seed, and other essential household items, they both would accuse the opposite sex of misusing the money:

Participant: People work together, but things fall apart when the money comes. Some men choose to keep the money and use it themselves (A man FGD Participant, Kambikonjo, Ntcheu 29 October 2013)

Participant: A budget will be made before the money comes, but when the money comes there will be quarrels and all the plans are thrown out by men. (Woman FGD participant, Kamenya, Dedza, 4 December 2013).

Participant: The men suppress us.

Participant: The men will misuse the money.

Participant: When the men get money, they may use the money to buy beer instead of doing things at home. And when the woman asks about the money he will say, "I got the money because I am the head of the house". (Women FGD participants, Mpalale, Dedza, 4 December 2013)

When husbands sold crops alone, they often made decisions about how to use the earnings without consulting their wives. Meanwhile, women who sold crops from the family plot and spent the earnings without first consulting their husbands were accused

of behaving badly. However, when both the husband and wife traveled together to sell crops at the market, decisions over the use of earnings were often made jointly; women mentioned that in such situations the money was usually used to buy fertilizer and seed. On one hand, both men and women stated that as household heads, men should make decisions about household expenditures. On the other hand, women mentioned that this practice (where men made the decisions, sometimes without even consulting the wife) was unfair. Women described not benefitting from potato sales as “painful”.

Women participants mentioned that, recently, men were not traveling to the market alone as often, since they would misuse the money and bring nothing home. But women participants also mentioned that when they accompanied men to the market, they did not always participate in the actual sale of the crops. Women might stand at a distance in deference to the man while he sold potatoes. When husband and wife marketed crops together, women were often in charge of keeping the money because men could not be trusted.

Thus, women’s ability to benefit from the sales depended largely on their husbands’ discretion, whilst men’s ability to benefit did not depend on their wives. In addition, men were also able to participate in the marketing of potatoes as intermediate buyers even when they themselves did not cultivate any crops. Because the market is men-dominated, women are socially pressured to keep away altogether due to fears that, once in the market, women would engage in extramarital affairs.

Discussion and conclusions

We share the opinion that the definition of “access to markets” should not be limited to the ability to access the physical market, since many countries in Africa have a large number of independent traders buying at the farm gate (Chamberlin and Jayne, 2013). In Malawi, while seed was mostly sold in the village, ware potatoes were also mostly sold to vendors who came to buy from the farmers at the farm gate. Thus, for seed and ware potatoes in Malawi, in terms of access, it may be critical to explore social factors that restrict men and women from participating in the market, rather than focusing on obstacles related to poor infrastructure—an approach criticized by Chamberlin and Jayne (2013) as “infrastructural determinism”. In line with the Real Markets Approach, “non-market determinants of the ability to command goods on the market, ownership of resources and terms on which people come to the market and how these influence their ability to trade” (Mackintosh, 2013) should also be investigated.

Although when coining the concept of “Real Markets” Mackintosh was discussing national and global markets, this study has demonstrated that her conceptualization can also be applied to local informal markets—as these, too, are shaped by social, non-market relations, such as gender relations. For instance, social norms that regarded men as more intelligent than women, or men as the household heads, meant men were able to participate more freely in the market as well as benefit more. Manda and Mvumi (2010) had a similar finding in Binga, Zimbabwe, where men rather than women participated in markets and managed household finances from bulk sales because they regarded themselves as more educated and experienced than women. However, in Malawi, in some instances women did not regard their lack of participation in lucrative markets as

a result of being less intelligent than men, but rather as a result of being “tied” by social and other factors that made them defer to men.

Women were more engaged in ware potato marketing than in the selling and buying of seed. The oft-cited reason was women’s lack of knowledge about quality seed. However, a study by Mudege (2008) in Zimbabwe notes that knowledge claims are often claims about power and control over resources. The same dynamics may be operating in Malawi, where seed fetches a higher price than ware potatoes.

In a study of markets, Block (1990) introduced an economic concept of a continuum of “marketness”. Block (1990) defines marketness as the extent to which price are the dominant factor in economic transactions such as those that take place in the market. He stated that when there is high marketness, price and profit-making dominates markets; however, where low levels of marketness exists nonprice considerations dominate economic transactions and, “economic behavior tends to become more embedded in a more complex web of social relations” (Block 1990:53). However, in Block’s conceptualization actors can easily move along the continuum, rationally adjusting their behavior depending on their needs and whether at that moment they find it better to prioritize economic goals or non-economic goals. While in this study farmers exhibited a higher level of “marketness”, choosing to sell to local markets and also other private buyers in groups in order to maximize their profits, relations of trust were still important, particularly when buying and selling seed. Nevertheless, it is important to note that gender relations in some cases shaped what women could and could not do, so their ability to move up and down levels of “marketness” was limited. For example, even when women mentioned that they often made less profit than they could, they still continued to sell their potato in less lucrative markets because of gender-related obstacles, which ensured that more lucrative markets were reserved for male heads of households. However, because of competing interests between men and women, gender power relations are changing, with women increasingly challenging men’s market dominance; for example, the demand by women to have their own plot is an attempt by them to penetrate the market in their own right.

Other studies have identified an aversion by men to women earning and controlling more income than men. For example, Bertrand *et al.* (2015) note that while the number of women in the US workforce earning more money than men has increased, women often adopt compensatory behaviors in the home (such as taking on more domestic chores) to placate their men. According to Bertrand *et al.* (2015), this indicates that, while changes in women’s economic positions through participation in labor markets are indeed occurring, “slow-moving identity norms shape behavior”, since changes in behavior result in higher social costs than people are willing to bear. The same was observed in Ntcheu and Dedza, where women often gave their husbands money from the sale of crops and men were also often allowed some leeway even with woman-owned crops. While women are increasingly participating in potato marketing and production, norms that govern how benefits are shared are changing slowly and some men still resort to violence to keep women from benefiting equally.

Not only the ability to participate in the market as a seller of seed potato or ware potato matters, but also the ability to participate in that market as a purchaser of seed, as well as the ability to afford other resources (such as fertilizer). As sellers of seed, women

were often not operating from a position of power, but often as “stress sellers”, selling seed to buy food and meet other household needs while men sold because they had excess seed they could not store safely or utilize.

What are the implications of this study in terms of integrating gender into market interventions?

From this study it is clear that gender mediates men and women’s ability to participate in and benefit from both ware and seed potato marketing. Markets were also gendered at local levels (e.g. the increasing demand by women to have their own plots because of disputes arising from marketing, a new phenomenon). Thus, it is clear that an intervention that seeks to improve benefits from the market but does not address underlying social structures (such as gender) may end up benefiting one group of people more than another, in this case men over women. In addition, women could not afford to pay a premium price for seed because of a lack of access to essential resources. In this respect, seed interventions that are premised on the market may fail to benefit women. Potato seed interventions need to take a two-pronged approach, one that focuses on commercialization as well as trains women and poor men on conserving seed. This would address the bottleneck that women experience when trying to access good quality potato seed.

Lack of knowledge about quality seed was mentioned as preventing women from participating in seed marketing and seed purchase. However, the issue is not about women lacking knowledge, but rather about *why* they did not have the knowledge they needed to be able to effectively participate in markets. For instance, the fact that extension officers trained more men than women in marketing and profit calculation could have been because of the perception of marketing as men’s responsibility. There is a danger that knowledge related to seed markets and marketing in general may end up being concentrated among men, leaving women to miss out on income from seed sales. Therefore, women need to be included in trainings on identifying quality seed and, to some extent, on the marketing and production of quality potatoes. Women need to learn the art of negotiating for prices, as indicated by their oft-mentioned refrain that private traders were stealing from them. This may imply that strategies to integrate farmers into markets need to be carefully managed and include raising awareness among implementers of their own biases and gender stereotypes. This can be done by adding gender modules to trainings for extension officers and other partners involved in extension.

In line with approaches elsewhere in Africa, in Malawi both the private sector and government believe that farmers’ groups are better able to negotiate with traders and obtain favorable conditions. However, results in Malawi do not always support this assessment. In fact, farmer’s groups did not have the capacity to assess markets and negotiate with buyers, and often were not able to control their own members in terms of marketing. Results from Ethiopia (Bernard and Spielman, 2009) showed that the poor were excluded from marketing cooperatives. In Malawi it is clear that although groups were generally inclusive, women were not always able to join groups due to high joining fees. Thus, although the groups are not performing well in terms of marketing, there is a potential danger that when structural failures that make groups unable to engage effectively with markets are addressed, women may be left out.

Private sector companies may need to explore the role of ICT systems in order to make marketing more gender-responsive. For example, as noted, when husband and wife belonged to the same group, when the money was paid into the group account it was often then given to the husband who was regarded as the head of the household. This had negative implications—in households where husband and wife were not collaborating, the woman would not receive the money. Therefore, where private companies are purchasing from farmers, they should explore possibilities of using ICT technologies—such as mobile money transfer—to ensure equity. ICT-based models of payment could enable women to have access to money from their “own crops”, as they would receive payment for crops sold directly through their mobile phone. The feasibility of ICT-based payment approaches in Malawi, however, remain to be seen.

In addition to gender-related issues, structural issues such as the weakness of farmer trading associations also need to be addressed. Guei *et al.* (2011) illustrate the importance of developing farmer groups’ capacities to build a functional business unit that will help them build strategic partnerships and exploit market opportunities. Without this capacity, farmer associations in Malawi will not succeed, for they will not be able to challenge the way the market works and change it to benefit them. This applies to both seed and ware potatoes, but is particularly valid for seed potatoes. It has been noted that the private sector is not motivated to develop vegetative propagated planting material, since this is usually of low market value and smallholder farmers may depend more on their own saved planting material than on purchase planting material (Guei *et al.*, 2011). In addition, there is a need for awareness-raising among farmers of the importance of selling only quality seed at the market in order to stop the spread of disease.

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