

Cassava market development: a path to women's empowerment or business as usual?

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Throughout sub-Saharan Africa there are a number of initiatives aiming to improve the effectiveness of staple crop value chains as part of a broader discourse around markets and poverty reduction. Staple crops, such as cassava, are often considered as an entry point for targeting market interventions to the rural poor, particularly women. However, initial findings from fieldwork in Nigeria and Malawi show a much more complex picture of the role of cassava and cassava markets in men and women's livelihoods, which varies by location, ethnicity, and life-stage of individuals. The concept of women's empowerment, as defined by access to resources, agency, and achievements, is used in this analysis to understand these dynamics. The analysis reveals gender inequalities that can limit the ability of women to benefit from growing market opportunities. Simply targeting value chains that involve the participation of women may not benefit women de facto over time. These initial findings stress the importance of questioning our assumptions in development discourse on markets, gender (in)equality, and poverty alleviation.

Keywords: cassava, cassava processing, women, gender, markets

AGRICULTURE, AND IN PARTICULAR SMALLHOLDER agriculture, has been increasingly recognized as a way to address issues of poverty and food and nutrition insecurity, as the sector both feeds the population and employs the largest number of people in developing countries (World Bank, 2008). In this context, agricultural commercialization through value chain upgrading has featured prominently in development discourse, with an increasing focus on staple crops. In sub-Saharan Africa, cassava is one crop that has been receiving such attention. Women in particular are

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also assumed to benefit from market opportunities because of their strong affinity with the crop. On the other hand, extensive scholarship and experience in the field of gender and equality have provided considerable evidence of the constraints women face in access and participation in markets. However, there is less information on how these critiques apply to commercialization processes around staple crops, particularly cassava.

This paper raises a number of issues around women's participation in, and benefit from cassava markets arising from an initial analysis of fieldwork findings. These require further study and attention, but nevertheless provide some important insights. The first section will briefly cover the narratives around cassava, including its debateable characterization as a 'woman's crop'. This assumption will then be interrogated using field experience and studies in Nigeria and Malawi that show a more nuanced division of labour in cassava value chains that varies according to gender and other factors of social difference, involving men and women in different ways. The differences in men's and women's participation in cassava markets are then explored using Kabeer's (1999, 2005) empowerment framework, which includes access to resources, women's agency, and achievements or livelihood outcomes.

Changing and gendered narratives of cassava

Contemporary views on economic development in sub-Saharan Africa frequently advocate supporting smallholder farmers through commercial agriculture; namely by aiming to increase the amount of crops smallholders grow, harvest, and sell to markets (DfID and SDC, 2008; FAO, 2012; CAADP et al., 2015; World Bank, 2008; RNRAT, 2004). These views form a dominant narrative in international development, where smallholder farming and agricultural commercialization is often regarded as a solution to underdevelopment, poverty, and food insecurity. Low-value commodities and durable, often staple crops (low agricultural input requirements and drought tolerant), are being promoted as they are considered to be the most relevant and accessible to smallholders in poverty. Cassava is one such crop, which has been promoted in sub-Saharan Africa as a 'poverty fighter' (NEPAD, 2004). Since the mid-1990s, cassava has been increasingly promoted as an important source of income and food for smallholder farmers (IFAD and FAO, 2000), as exemplified through a number of development initiatives (e.g. the Pan-African Cassava Initiative (PACI) launched by NEPAD and IITA in 2004; the Cassava: Adding Value for Africa project; and the Regional Cassava Processing and Marketing Initiative (RCPMI) with IFAD in West Africa).

Development narratives are highly gendered. Institutes such as the World Bank and FAO, for example, have drawn attention to issues of gender inequality as part of a discourse that aims to justify targeting women in agricultural initiatives, particularly within a market context (World Bank, FAO and IFAD, 2009). This narrative comes from a long history of gender scholarship that has worked to raise the importance of women's roles in agriculture in the context of rural development.

A significant body of work started in the 1970s with the seminal work of Ester Boserup (1970), *Women's Role in Economic Development*. Boserup examined gender roles and the sexual division of labour in agriculture, comparing the relative contribution and division of tasks between men and women, highlighting the dual roles of women in reproduction and production. This laid the foundations for examining gender in the context of agriculture and economic development.

The roles of women and men in cassava production and processing in sub-Saharan Africa have been examined in literature since the 1990s. A number of studies focused on women's important role in cassava production and post-harvest activities, particularly in processing, which have led to the description of cassava as a 'women's crop' despite the involvement of men, particularly in production activities (Nweke, 1994; Afolami and Ajani, 1995; Enete et al., 2002). However, this association remains in the media: for example, a news piece by van Vark (2013) and a blog by Phipps (2014). The link between women and staple crops is also reinforced through the association of women with household food security, leading to a logic that implies that new commercial opportunities for staple crops can increase women's direct benefit.

These gender divisions between tasks and crops can be useful in simplifying the context of rural agriculture, conceiving them as binaries of female/subsistence crops versus male/cash crops. However, these binaries overlook the power relationships that influence individual constraints, participation, and benefit from markets. It also ignores the intersection of gender with other types of inequalities. This subsequently raises the question of whether and how women can capture additional benefits from new cassava markets.

Methods and scope of the paper

This paper presents initial findings from fieldwork undertaken as part of the Cassava: Adding Value for Africa (C:AVA) project (2008–14). The C:AVA project promoted opportunities for smallholders to gain additional income in cassava markets in Ghana, Tanzania, Uganda, Nigeria, and Malawi, supported by a grant from the Bill & Melinda Gates Foundation. Partial funding for the research was also supplied from the European Union and the CGIAR Research Program on Roots, Tubers and Bananas. The project has completed phase one, which aimed to develop new value chains for high quality cassava flour (HQCF) and support existing cassava value chains, to create opportunities for smallholders for value addition. This involved three key intervention points in cassava value chains: 1) ensuring a consistent supply of raw materials through working with cassava producers; 2) developing viable intermediaries acting as secondary processors or bulking agents in value chains; and 3) encouraging market demand (Adebayo et al., 2010: 3).

In-depth qualitative research was conducted in C:AVA project areas in two of the project countries, Nigeria and Malawi. In Nigeria these were Ogun and Ondo states in the south-west region. In Malawi, the study areas included communities from the northern (Nkhata Bay), central (Nkhokotakota), and southern regions (Zomba

and Mulanje). Cassava producer and processing groups were used as the basis on which to select individuals, as they were expected to have been exposed to new market opportunities. Focus group discussions were held in 2010 and 2014 with men and women group members separately and 50 in-depth individual interviews were conducted with male and female cassava producers and processors in 2011–12 and 2014 in each country. The farmer/processor groups and individuals were selected randomly from a list of communities visited for the baseline study with representation from each region. Follow-up interviews were conducted with over 50 per cent of the individuals in the first round. Focus groups and snowball sampling techniques were used to select 20 interviewees that were non-members, or recent members, of cassava groups. The findings also draw on field experiences of the C:AVA project monitoring and evaluation team who conducted regular field visits to project locations during the duration of the project.

Cassava value chains in the study area

Nigeria and Malawi were selected as case study countries because of their significance in terms of the size and range of cassava markets, and therefore demonstrate different lessons from cassava commercialization. Nigeria has a long history of processing cassava products for local markets. *Garri* is the most popular cassava product and is a staple food in West Africa and in the south-west region. *Garri* processing involves grating, pressing, fermenting, and frying cassava. *Garri* is widely traded in local markets by women. Among other major products consumed at the household level in south-west Nigeria is *fufu*, a sticky or heavy dough made from fermented cassava paste, and to a lesser extent *lafun*, which is sun-dried cassava (IFAD and FAO, 2000:24). In Malawi, cassava is mainly prepared as chips or flour, also called *makaka* or *kondowole*, for home consumption (Pauw et al., 2010). These products are referred to as 'local cassava products' in this paper.

Cassava value chains typically involve cassava production by smallholder farmers, and processing for local cassava products is undertaken at household level or among processing groups. Processing at the household level is undertaken for home consumption, although some of the products can also be sold locally. Processing groups process local cassava products for sale and is an approach supported under C:AVA. Processing groups have a range of different structures. For example, leadership in some groups source markets and negotiate prices on behalf of their members, which is evident with HQCF in Malawi. In other groups, members process and sell individually, which is more frequent in the study areas in Nigeria where *garri* and *fufu* are processed.

Cassava is sold in a range of different markets in Nigeria and Malawi, including those for fresh roots or processed products, industrial use, or local markets. Value chains involving processing at household or group level often use simple and hand-operated equipment when processing local cassava products for the markets. Other value chains involve cassava producers who sell to small and medium-sized enterprises (SMEs) who hire employees to operate more advanced processing equipment for a variety of different cassava products.

The C:AVA project also supported HQCF value chains in both countries. HQCF can be processed in two ways, involving different actors. Firstly, HQCF can be processed through sun drying, which refers to a process requiring equipment for grating or squeezing cassava roots to remove moisture, along with drying in the sun. Participation in sun drying value chains is characterized by processor groups, evident in Malawi. HQCF can also be dried using flash driers (a more advanced technology) undertaken by larger SMEs and factories, which use their own cassava roots or purchase from farmers for processing.

Approach/framework

This research makes use of Kabeer's (1999, 2005) definition of empowerment, which involves the ability to make choices from a prior state of which choice was previously denied, along with the ability to choose differently and an awareness of alternatives. Kabeer's concept of empowerment is explored through three interrelated dimensions: resources, or pre-conditions including human and social resources; agency, including processes by which choices are made (that result in a livelihood strategy); and the achievements that are the outcomes from agency. This is used in conjunction with key concepts from the livelihoods framework, including livelihood strategies and outcomes (Chambers and Conway, 1992; Carney, 1998; Scoones, 1998), along with intersectional equalities, which refers to inequalities occurring on multiple lines, including social/identity, economic, spatial, and temporal inequalities between individuals and groups (Kabeer, 2010).

According to Kabeer's framework (1999, 2005), resources include financial, natural or physical/technical, social, and human resources, and influence how men and women participate in, and benefit from, markets. Policies, institutions, and social norms structure the rules of access, entitlement, distribution, and exchange of resources, which both reflect and reinforce the roles and responsibilities of different household members. Agency is defined as the ability to define one's goals and act upon them. This can play out in the form of decision-making, bargaining and negotiation, deception and manipulation, subversion, and resistance, and is exercised by individuals or collectives. Importantly, agency can lead to more transformative processes of empowerment when it involves not only exercising a choice, but doing it in a way that challenges existing power relations (2005: 15). Kabeer also adds additional elements to agency which are helpful in our understanding of empowerment: firstly the difference between 'passive' forms of agency (action taken when there is little choice), and 'active' agency (purposeful behaviour), along with 'effectiveness' of agency (efficiency in carrying out their given roles and responsibilities), and agency that is 'transformative' (ability to act on the restrictive aspects of these roles and responsibilities in order to challenge them) (Kabeer, 2005: 16). Finally, achievements are a result of resources and agency, which are the outcomes of the combination of resources and women's agency, such as income, food security, healthcare, and education.

This framework is applied to understand gender relations in the context of cassava production and processing. We argue that the level of women's empowerment

is directly linked to participation and benefit from cassava markets, and influences, and is influenced by, the outcomes and impact of market interventions (such as C:AVA). This means that narratives involving cassava are based on unrealistic assumptions that conflate women's participation with benefit, and ignore important power dynamics at the household level.

Gender division of labour in cassava value chains

The gender division of labour in cassava value chains reveals complex differences in men's and women's roles that differ according to context. In south-west Nigeria men and women in Yoruba communities (the dominant ethnic group in the region) (i.e. the husband and wife) cultivate cassava independently on their separate plots. If the household is polygamous, each of the wives and husband will have their own individual plots. Among Yoruba communities, women typically provide unpaid labour on their husband's plots. Activities related to cassava include weeding and carrying the cassava roots from the field to the homestead, when required by the husband or when cassava is used for home consumption. Men often provide oversight on their wives' plots, without participating in labour, particularly when this involves hiring labourers (who are predominately male) as men are considered to have greater authority than women over labourers.

For planting cassava on my farm I hire labourers. My husband arranges the labourers for the cassava harvested on my land. Men monitor the hired labourers. I can't because they will cheat me. On his land I help him with maize and cassava because it's easy to do. I also carry the cassava from the field (female processor, Ogun, Nigeria).

Following the production stage, men's and women's cassava-related activities diverge in south-west Nigeria. Men typically uproot and sell their cassava roots once mature. The main buyers are local female processors, including their wife or wives, who then sell local cassava products such as *garri* or *fufu*. Increasingly, they are also selling to SMEs that process HQCF, for which there is a growing demand. Women are more likely to use their cassava, and purchase additional roots from their husbands, to process local products for home consumption and sale (note that in south-west Nigeria, HQCF is largely processed at the factory level and not in individual processor groups as in Malawi).

However, the gender division of labour differs in the south-west region according to ethnicity. Interviews with Edo men and women who migrated from Benin indicate that their farming and cassava practices differ from the Yoruba: they largely undertake cassava production on shared plots between husband and wife, with separate household gardens for women and household food security, in some instances. They are also more likely to share tasks between husband and wife and use labour (at a reduced cost) from the migrant community. Cassava roots are sold to SMEs and processors occasionally but the main market was *garri*. 'With the Benue people, farming is no joke, it's a tradition. The husband supports the wife.

Probably the wife gives money to the husband but I don't know' (female processor, Ogun, Nigeria).

Processing groups in south-west Nigeria that process *garri* and *fufu* are made up of largely independent processors. Each individual typically sources their own roots and pays a fee to use processing facilities, where men from the communities are hired to operate processing equipment such as graters and mechanical pressers on their behalf. These facilities are owned by men in the majority of cases. These groups are primarily formed around marketing, and it is mandatory to be a member in order to sell local products on the market. Members also make bulk root purchases in smaller informal groups.

In the study areas in Malawi, men are involved with cassava production. In this context, men and women have shared plots and women may have a separate smaller plot for household food security, similar to migrant communities in south-west Nigeria. Cassava is grown on shared plots and on the household plot. Men are also involved with planting and weeding cassava with their wives when there is a lot of work to do. Management of maturing cassava is mainly the responsibility of women, particularly on household food security plots, as well as carrying the roots to the homestead (Kaitano and Martin, 2009). There were no reports of men using cassava from food security plots to sell, but there was recognition that it was possible in some families. Men's main roles are in supervision and transportation of cassava products (roots and processed products) to the market when using bicycle or vehicles. Similar to south-west Nigeria, men and women also participate in different cassava markets. Selling of cassava fresh roots is mainly done by men, although there are exceptions particularly in southern Malawi.

Similar to Yoruba households in south-west Nigeria, processing of cassava in Malawi is done almost exclusively by women, which is supported by strong cultural perceptions on gender roles in processing, as demonstrated in the quote below. In the northern region women process *kondowole* at the homestead for household consumption or as dried flour or chips for sale, whereas in the southern region women process cassava at home or in processing groups to make *makaka* for household consumption as well as for the local markets.

Women and girls are the ones who do the processing work. This has been passed from generation to generation. There is a belief that men's hands and legs will swell if they are involved in some of the processes of fermenting cassava. Men find the processing of cassava 'yucky' and therefore this is considered women's work and a proper man should never consider doing it (focus group Nkhata Bay, Malawi, in Kaitano and Martin, 2009).

Processing groups in the study areas in Malawi processed local products and sun-dried HQCF. They also are predominantly female, with male involvement mainly in the operation of machinery and often the management of the associations. Groups require membership fees and provide a number of benefits for women including joint bulk purchases of cassava roots, labour (paid for, but more easily sourced and reliable), and marketing.

There are indications of increasing male participation in cassava processing over the time of the project in Malawi. This included marketing decisions and in some cases in processing itself as women's labour became insufficient to carry out all the tasks. Groups processing HQCF report that some men were participating, but often through hiring labourers to do the work. This was reported to be due to the increasing profitability of cassava products and new markets through HQCF. The quote below illustrates this dynamic, where a man describes how he assists his wife in peeling and transporting cassava which are traditionally female tasks:

For peeling cassava I will join my wife in doing this. I didn't do this four years ago but then I saw when I left things to my wife it takes a long time. I also help transport cassava from field to the house (male producer and equipment operator at processing factory, Zomba, Malawi).

I do the peeling but my husband will do the *makaka* and *kondowole*. Before he wouldn't do this. It's because it is getting a better market and I need the help (female processor, Zomba, Malawi).

These examples demonstrate the complexity of men's and women's labour contributions in cassava production and processing and how it can change with increasing markets. While the strong role of women in cassava processing and production cannot be disputed, men also play a role, particularly in production for certain markets which questions the labelling of cassava as a women's crop.

Resources

Key resources for cassava market participation include land for production, labour (which can be hired and practice varies across contexts and households), and transportation to the market. Access is highly gendered. Among the Yoruba in south-west Nigeria, where men and women farm on separate plots, women's plots are typically smaller than men's plots. Women's plots are allocated by the male head of household who traditionally inherits the land according to customary patrilineal inheritance patterns. Women are also restricted to limited land sizes owing to fiscal and labour constraints, as the quote below demonstrates. Men are perceived to have greater access to credit and labour, including their wife's unpaid labour. Migrant households also face constraints in accessing land as they are required to pay rent, whereas Yoruba families pay a minimum amount or it is free, because 'it is their land'. Lack of land ownership for women and migrant communities also affects their ability to obtain credit. 'As women, we have no money for labour so we have to weed by ourselves, whereas men hire labour for these activities. One woman here has three hectares and undertakes the land clearing herself' (female focus group, Ondo, Nigeria).

The study found that migrant families drew on labour resources from other members of the community, utilizing their social capital based on their identity as a foreigner. This labour was paid, but at a minimal cost. The lack of resources is

also another reason why the gender division of labour is less stringent in migrant communities, as financial constraints mean that tasks, including some processing activities, have to be shared despite the gendered perceptions of work.

Interviews and focus group discussions indicated that larger land sizes and greater ability to hire labour enabled men to sell cassava in bulk compared to women. SMEs in particular prefer to procure roots in large quantities and deal with fewer suppliers as time spent in negotiation is a transaction cost to businesses. This was found to particularly affect communities around plants where bulking agents did not operate as they are aggregating roots from further distances which is more profitable. Selling in bulk also enabled men to obtain a large, lump sum of money in one transaction. In contrast, women's involvement in processing local cassava products is related to the resources available to her as an individual (along with agency which is described in the next section), instead of being primarily responsive to the market. Processing activities for consumption and sale rely primarily on women's own labour in the majority of cases. As a consequence, processing in small quantities is the only feasible option for many women who cannot afford to hire labour or greater land areas to sell roots directly.

My husband can get funds for expanding but I can't. I can't uproot cassava and sell it because people won't buy my small amount of roots. I can't get a loan I just have my income from *garri* sales (female processor, Ondo, Nigeria).

We process according to how much money we have. It isn't about the price we get (female processor, Ogun, Nigeria).

In addition, increasing competition in local cassava product markets in the last decade has meant that women are now often selling products to customers on loan, which is paid back at a later date or in instalments. This makes it difficult for a woman to invest, scale-up her processing activities, and repay her creditors (including her husband). 'I can wait six months for payment and sometimes people pay me in small portions' (female processor, Ogun, Nigeria).

In Malawi, gendered access to resources is more complex as it occurs within the household unit on shared plots. In terms of land, inheritance in Malawi is patrilineal in the north and matrilineal in the south. There are a number of consequences of patrilineal systems in terms of land access which are widely documented as having a number of impacts on women's land access and market participation. However, while access to land is notably different in matrilineal areas in the south, authority over the plots and decision-making on the use of resources and marketing is held by men, which is also the case in patrilineal areas. In this context, women's access to resources is more dependent on intra-household bargaining because resources are 'shared', in contrast to south-west Nigeria where decision-making can take place independently. However, both systems operate within the limits of established gender norms, which tend to favour men.

The smaller and largely food security oriented plots allocated to women enable women in Malawi to have some control over cassava processed for the home and income generation. Access to the shared plot depends on agreement with the

husband. Other sources of cassava roots can include roots sourced in bulk through cassava groups, but depends on women's access to capital. Constraints in the latter two sources limit women to selling small amounts of processed products along with selling roots directly to SMEs. 'I have never sold to (name of SME association) but I sell to vendors once in a while. As vendors buy even small amounts' (widow, Zomba, Malawi).

In the study areas in both countries, it is evident that the gender division of labour is influenced by differences in access to resources, which leads to participation in different cassava value chains. However, resources provide only a partial explanation of trends.

Agency

This section explores women's agency and women's choices and motivations in cassava production and market participation.

Cassava and women's livelihood motivations

The primary motivation for cassava production, processing, and marketing for women in the study areas is to meet the dual objectives of household food security and income generation. While these goals are also shared by men, there are differences in responsibilities and relative contributions between men and women.

In terms of food security in the study areas, men and women both allocate their labour to cultivate cassava used for household consumption. However, there are indications that women's motivations, time, and labour are oriented more towards cassava production and processing for household consumption, compared with men. For example, in Nigeria, while crops for household consumption are grown on men's and women's plots, women also allocate their labour to male plots (especially for crops consumed in the household), but the husband's labour is not reciprocated on her plot. In Malawi, women often ensure that there is enough cassava for home consumption by keeping separate plots or household gardens that are specifically designated for producing household consumables that are worked on by women.

I don't do weeding for him on his plots as I have to process cassava. But I help with vegetables because we have to eat them (female processor, Ondo, Nigeria).

Women think about crops to eat at home and men are not always thinking like this (female processor, Nkhokotakota, Malawi).

In terms of income generation, processing cassava is one of the primary ways women obtain an income in both countries. In comparison, men's interests focus on higher value crops that require more agricultural inputs, such as maize and tobacco in Malawi and yam in Nigeria. This also explains why men are becoming more interested in cassava with changing perceptions of its value.

Women's priorities of food security and income generation give rise to a reluctance to take risks with cassava in areas where they exert more control. For example, the

overall perspective of women in the study areas is a great hesitancy to use available credit for increasing their investment or changing crop portions that could enable them to benefit from economies of scale. The preferred strategy by women is to rely on the same cropping patterns annually and uproot cassava in small amounts gradually to provide a regular food supply and income stream throughout the year. 'I don't change the crops or the amount I plant because I believe in diversification. I don't want to take the risk if something fails' (female processor, Mulanje, Malawi).

This contrasts to strategies undertaken by Yoruba men in the study areas who prefer to sell in bulk, which is more conducive to agricultural investment and in meeting larger expenditures. However, as the quotes below demonstrate, individual strategies are influenced by their partner's priorities. This is problematic in contexts where women have low bargaining power.

Normally we [her and her husband's other wife] get cassava from our husband. But three years ago my husband sold his roots and didn't bring for the home. So I took cassava only from my own farm to eat (female processor Ogun, Nigeria).

I uproot gradually. Even if there is a good price for *garri* I will uproot gradually for food security. Because of this my husband doesn't do this method. He sells cassava roots to companies (female processor, Ogun, Nigeria).

There is indication that the changing dynamics in cassava markets could influence patterns of resource access related to women's lower levels of agency. This is particularly the case with the demand for fresh cassava roots from SMEs processing HQCF as it may influence how women source cassava roots for processing (and thus the amount of income that is more likely to be in their control). In south-west Nigeria women source a large portion of their cassava by purchasing it from their husband on credit, which is repaid following sale. In Malawi, women have to negotiate with their husband for access to roots (they may also prefer to process less). However, as men generally prefer to sell to SMEs, this can propel women to the open market for root purchases. In these cases, women's processing groups play an important role in enabling women to access roots on a more affordable basis. However, repayment terms may be more stringent compared to negotiations with the husband.

There are other examples from both countries that indicate lower levels of women's agency, which affects their ability to decide on their livelihood goals. Among Yoruba households in south-west Nigeria, for example, women expressed their obligation to contribute their labour to their husbands' plots or to process his cassava (unpaid or paid), which further constrains their time. Another indication of low agency is that a number of women interviewed were unable to manage male labourers because they feel they would be cheated compared to their husbands.

For doing labour on my husband's plot – I have to go. It is a must. But if I'm busy I will say I will join you when I am done. But I can't refuse to come. He doesn't pay me (female processor, Ondo, Nigeria).

Men have their roots too and women will process it for them into *fufu*. We will take it to the market. We take the money for the cost of processing like

water and labourers and give the rest to the husband. They don't pay our labour (female processor, Ondo, Nigeria).

At the same time, Yoruba women are found to have considerable control over the use of income from their processing activities. This enables women to make expenditures according to their priorities, often on household well-being. However, the overall perception of women in the study areas is that they are increasingly expected to meet household expenses in lieu of male responsibility. This is another indication of low agency.

Now you have more women taking responsibility for the household and they depend on *fufu* and *garri*. It depends on where the family is from and how the husband is that will influence her responsibilities (female processor group leader, Ogun, Nigeria).

My wife processes and sells *garri*. This is her business. I don't influence her in terms of buying or processing or whatever she does with income but when the child asks for money for food the child will go to the woman (male farmer, Ondo, Nigeria).

When you get married husbands are more caring of their wives but they change. For example, I haven't been given any money for the children for four months and I see this happen to other women. I don't know what he spends his money on (female processor, Ondo, Nigeria).

In Malawi, and among migrant communities in south-west Nigeria, decision-making on food security and income generation involves more complex negotiations between husband and wife in the context of 'shared' resources. It also involves negotiations taking place around a number of interrelated decision points, including planting and harvesting times that regulate income flows and food security, and budgeting harvests for home use and sale, along with to which markets the cassava (products) is sold. This can create conflicts between men's and women's interests, between income generation and food security goals, and control over income. The ability of women to use resources for meeting her priorities depends on relations with her husband, but there is recognition that men generally have greater authority over the overall farming system for the household.

I make farm decisions by talking to my wife, but I am the manager of the farm (male farmer, Zomba, Malawi).

For activities and using money I have to ask my husband for permission. We don't run out of food these days so there is no issue of him selling too much roots. But when we run out of food there may be a problem (female processor, Nhkotakota).

While women have greater authority over processing activities, the amount she sells is dependent on the amount of cassava planted (minus what is needed for the home), which is commonly decided by men. This is the case unless women have the financial ability to purchase roots elsewhere. In addition, women's authority

over processing may differ according to product. In Malawi for example, where HQCF is produced at a group level, men were observed discussing the amounts of HQCF they could process with group leaders (as limits may be imposed on members if the market is not sufficient), as opposed to their wives.

I will tell my husband if I sell *makaka* but I don't need permission. I have pots, I buy food and kitchen utensils with this money (female processor, Zomba, Malawi).

Most women process alone (without their husband) because of the culture. Women can't keep the money either because this isn't her home (female processor referring to women in patrilocal marriages, Nkhata Bay, Malawi).

Other factors influencing women's agency

In the study areas, men are found to influence women's choices and livelihood strategies involving cassava, both positively and negatively. Some examples are provided below.

Permission to process and reproductive responsibilities. Some women interviewed in the study areas, particularly among those of reproductive age, are not processing cassava for sale because their husband would not allow them. Women explained that these decisions are household specific and depend on the relationship between husband and wife (wives). Reasons for this are that their husband did not like them working and spending time at the processing site and away from the homestead, even if nearby.

There are three reasons why a woman would not process *garri*: 1) the husband doesn't allow her; 2) the woman is pregnant or has small children (health costs due to the exposure to heat and smoke, or lack of time to leave the house to process); and 3) no money (Nigeria).

Women's reproductive activities also inhibit women's participation in cassava markets in terms of time available and processing in groups outside the homestead. Reproductive responsibilities are the main reason cited by women who are not participating in cassava groups. In these cases women self-exclude from processing, are instructed by their husbands to stop processing, or the processing centre does not allow children.

Financial support. The role of men in the provision of emotional and financial support is important in enabling women to process cassava for sale, particularly when newly married. Successful female processors commonly have husbands that allow them to travel outside their home and community. Some women are also given loans or gifts from their husband for basic processing equipment or supplied with cassava roots, particularly when newly married.

I saved up money with my food selling business to buy the sieve and plastic bowls for processing cassava. I went to my husband and asked if he could give

me some of his roots to process and sell. I wouldn't have been able to do the *garri* if I did not have his roots. I didn't have to pay him back. Maybe only three men in ten would be good like this (female processor, Ogun, Nigeria).

Livelihood achievements

Field research indicated that cassava plays an important role in women's livelihood strategies and enables them to contribute to dual objectives of food security and income generation. The benefits of cassava processing for income generation (local cassava products in both countries, along with HQCF processed by groups in Malawi) are clearly articulated by women. This is expressed in numerous accounts of income being used to purchase household food items, particularly proteins and relish, along with school fees, where other household members benefit. Food security is supported through strategies of harvesting on a piecemeal basis by women, which regulates income over time and ensures a continuous food supply. These strategies contribute to a number of important development outcomes such as food security and children's education. However, due to household gender relations, women's control over income through cassava processing is not guaranteed. However, these are examples of more 'passive choices' based on social norms regulating women's responsibilities over food security which constrain market participation, and indicate a lack of more transformative empowerment that challenges inequalities.

Outside of accepted gender roles, women overall have limited influence over market participation of their husbands, indicating lack of agency and empowerment. Men are benefiting more directly from income generated through fresh root sales which also contributes to household income, but in these instances women have less control over its use. This can be problematic in contexts where men's interests are not coinciding with household needs or when women are increasingly responsible for household expenditures. It also raises questions over how women can maintain a proportion of cassava produced to ensure their income from processing and household consumption, with increasing demand for cassava roots for HQCF and other products from SMEs.

In addition, constraints on women's access to resources, time, and household responsibilities related to context-specific socio-cultural norms make it difficult for women to expand their businesses, be price responsive and sell to larger companies demanding larger quantities.

When I take *garri* to the market I use the income to pay for urgent expenses. So to process again I have to reduce the amount I process because I don't have the money. I could use credit but I don't want to because they will hound you to pay back on a weekly basis and I don't want this as prices for *garri* will fluctuate and I don't know if I can pay back.

However, processing groups offer women an alternative source of support for processing activities in this context. A group setting can provide easier access to labour and credit, along with larger buyers, which is evident in both countries

among the different cassava products. However, group arrangements and capacity to meet women's needs vary considerably between groups. In addition, men are also involved with cassava processing groups, including overall management/ownership of processing centres, operating equipment, and in terms of HQCF, even arranging sales at the centre. In these cases, men (often with higher levels of agency) may find it easier to access new markets and negotiate with buyers, but in this process they may also take ownership, and further reduce women's ability to make independent decisions and choices within the groups. Therefore while processing groups are an important channel for women's market participation, they operate mainly within the boundaries of socially acceptable gender norms. However, as collectives of women, they can provide considerable influence that has the potential for more transformative actions.

Conclusions

While narratives around cassava as a 'women's crop' can bring positive attention to the needs of women in market initiatives, it can conflate cassava market participation and women's empowerment and assume that by virtue of women's strong role in cassava markets that market growth will de facto benefit women. Market-based interventions are often based on these assumptions, but often operate in ways that replicate power relationships and gender norms that continue to constrain women's ability to take advantage of new market opportunities. As a consequence, the notion of cassava being a women's crop distorts perceptions and ignores male authority and privilege that is evident in the study areas in Nigeria and Malawi. Without challenging gender inequalities and strengthening women's agency, market initiatives will fail to contribute to processes of women's empowerment and promote transformative change.

In the two case study countries, we see that men, along with women, participate in different ways in cassava production, processing, and marketing, with variation according to product and local context, due to differences in empowerment. These differences often result in women being less able to take advantage of market opportunities, and create the risk that interventions creating new or larger market demand could benefit men more than women. However, the data also demonstrates the importance of intersection of gender with other factors of social difference such as ethnicity, which positions individuals and households in different ways in agricultural systems and market participation.

Market interventions must take into account the difficult and challenging subject of gendered power relations and social difference which constrain the benefit of some social groups from agricultural markets in developing countries more generally. Ignoring these realities can result in missed crucial opportunities to make a real difference in people's lives. When these assumptions are interrogated, project design can be improved for better outcomes for all. A thorough gender and social difference analysis that critically examines empowerment processes in value chains can inform intervention design to lead to more transformative change, and

subsequently more positive outcomes including poverty reduction. This should focus on projects that aim to increase access to resources for cassava processing by challenging social norms that regulate unequal access. Women's active agency should be promoted, which could be facilitated by strengthening the capacity of women's processing groups. This can enable women to participate and scale up their processing activities, particularly in the provision of shared labour, access to credit, and social capital more generally, along with providing opportunities for the collective to challenge oppressive gender norms that can be more difficult at an individual and household level. Future research and practice should focus on how these more challenging and complex issues can be addressed to bring about more transformative change towards gender equality.

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